Community Pharmacy Weight Management Project

Stages One and Two

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Executive Summary

Introduction

There has been a dramatic increase in overweight and obesity worldwide especially over the last two decades. The Australian Diabetes, Obesity and Lifestyle Study reported 67% of adult men and 52% of adult women in Australia were overweight or obese; 20-35% of children were classed as obese. This has serious detrimental implications for the health of future generations, and for the health system, which will be burdened with cost of care.

Purpose of Research

Managing the obesity issue has involved a range of health professionals, including doctors, dieticians, exercise physiologists, physiotherapists and psychologists. Community Pharmacy has, until recently been underutilized in the treatment and prevention of obesity despite the network of pharmacies representing a substantial primary healthcare resource. Over the last decade the community pharmacy profession in Australia has been undergoing a paradigm shift in the focus of its practice. Community pharmacists are extending their role from a “dispenser of medicines” to become more the provider of a broad range of cognitive or enhanced pharmacy services (EPS). The issue being can community pharmacy provide a weight management EPS that could be integrated with the healthcare system and help treat the increase in overweight and obesity.

Objectives of the Project:

The stage one objective was to undertake a critical “literature review, policy review and mapping process” to identify;

- A potential role of community pharmacists in weight management.
- A professional EPS that can be integrated with the healthcare system to improve weight management in the community.

- The impact such a service would have on community pharmacy, and value of the professional service offered.

The stage two objective was to blend the findings of the critical literature review with the NHMRC clinical practice guidelines and other Government policies for the management of overweight and obesity, and develop a community pharmacy weight management model.

Stages three and four will be the implementation and evaluation of a future CPWMP and are not part of this project.

**Summary of the critical literature review.**

The findings of the critical literature review suggest that a Community Pharmacy Weight Management Program (CPWMP) can be successful for community pharmacists and the overall healthcare system in treating clients who are overweight and obese if the following key recommendations are addressed:

- Remuneration for the community pharmacist to undertake this EPS must cover the additional workload involved in supporting this program. This improves the likelihood of the program being adopted, implemented, and sustained in community pharmacies. Payment for the program may be a combination of client payment, private health insurer rebate and government rebate.

- The CPWMP must address business and professional needs of community pharmacists so the pharmacist can see benefits beyond the direct payment. The programmes service delivery must use the existing Quality Care Pharmacy Programme (QCPP) platform as its base.
- Training and accreditation of the weight management EPS is essential to maintain consistency, quality and remuneration. It also overcomes pharmacist barriers of lack of knowledge and confidence to implement the program. Only accredited pharmacists should be able to undertake the program and receive remuneration for performing the service. This assumes trained and accredited pharmacists will deliver a demonstrably better service to clients than non-trained and accredited pharmacists. The pharmacy industry (PGoA, PSA, and Australian Association of Consultant Pharmacy (AACP)) would be responsible for the development and subsequent training and accreditation for the programme.

- The program has the potential to be an all encompassing healthy lifestyle program focusing on weight but because of the increased contact with a pharmacist also managing clients diabetes, hypertension, hypercholesterolemia and other associated obesity related problems, which needs to be considered in the product costing.

- The program must include a medication review, focusing on drugs that may cause weight gain. If a GP referral exists for a review then payment as a home medicines review (HMR) can occur, if the pharmacist is accredited in HMR’s.

- The pharmacists’ role must be one of weight management program coordinator and facilitator for the client. Managing the program and client but referring when necessary and putting the client in contact with other healthcare professionals when required or requested. This necessarily involves a repositioning of the role of the pharmacist in the mind of the community. The client’s General Practitioner (GP) will supervise the overall programme.

- Workload and time constraints within the pharmacy can be catered for in the program by it being structured as a “by appointment only” service.

- For a program to be successful in treating overweight and obesity it needs an integrated collaborative healthcare team approach. Someone has to manage and
organise this team. It is envisaged that the pharmacist will be the central figure in the program. The pharmacist is ideally placed being one of the most trusted professionals and often knowing about a client’s medical history and social circumstances as well as being the most readily accessible healthcare professional in the team and thus often most visited. Pharmacies are visited more often than GPs. Again this is enhancing and expanding the role of the pharmacist in the mind of the community.

- Collaborations with other healthcare professionals will be sought to form a pool of accredited weight management healthcare professionals including GP’s, specialists, dieticians, physiotherapists, psychologists and exercise physiologists where these healthcare professionals can be readily contacted to be part of an individual clients program when required. They will have had prior accreditation with the program. This gives a seamless supply of healthcare for the client. The pharmacist will be the central figure to coordinate the healthcare team for the best client healthcare outcome. Because all healthcare professionals work within the framework of the weight management program the message and service is consistent and quality of service is more assured. The programme would look to the Australian Division of General Practice (ADGP) and the Department of Health and Aging (DoHA) and other relevant professional bodies to support, develop and to accredit healthcare professionals involved.

- A client’s progress and program will be followed and mapped by a weight program diary where each healthcare professional can keep track of the client and stage of program they are at. It allows each member to see what other team members are requesting and results the client is attaining. It will have provision for referrals and written instructions and notes to each member of the team, while setting out the program and client goals.
- Client health outcomes will be measured by change in the following objective clinical tests: waist circumference, weight, body mass index, blood glucose level and blood pressure. These were chosen because they are simple but valid tests, readily available in a cross section of community pharmacies.

- As suggested by the Change Management and Community Pharmacy project the weight management program has to be assessed by the Characterising Opportunities Filter to enable the Guild to ensure it is a key future opportunity. At present the envisaged weight management EPS is seen as key future opportunity.

If the above key recommendations are addressed and met then the potential benefits from this CPWMP are:

- A far-reaching and widely accepted weight management program due to the utilisation of the powerful community based pharmacy health network.

- Allows pharmacy to tap into a growing health and lifestyle market in the community.

- Increased numbers of overweight and obese Australians having access to consistent, evidence based, integrated healthcare system weight management program.

- A community pharmacy based EPS that has been well planned and remunerated and therefore well adopted, implemented and sustained by community pharmacy.

- Improvement in healthy outcomes for the overweight and obese clients participating and better management of diabetes, hypertension, and hypercholesterolemia and other obesity related health issues.

- Decreased costs to the healthcare system due to reduced mortality and morbidity attributed to the overweight and obese Australian population.
Achieving these benefits requires the Pharmacy Guild of Australia (PGoA) and Pharmacy Industry to act on the following recommendations beyond the scope of this project:

- Manage stakeholder (e.g. ADGP and the DoHA) expectations and negotiate for a formalised collaboration on the structure, content and accreditation of the programme. The pharmacist to be the central figure, managing the clients weight management as part of a healthcare team but under supervision of a GP. To present pharmacy as a supplementary source of weight management, to help the overburdened health care professional.

- Negotiations to provide funding for the program, beyond client payment, to keep the program cost below the price point (around $500) while still ensuring adequate funding for the program. The source of funding is not critical. The Pharmacy Industry’s role is to deliver this funding or pharmacists are very unlikely to adopt the program.

- Generate the perception in the community that your local pharmacist is the logical first source of health advice. That a client’s relationship with their pharmacist is similar to that with their GP. That is the pharmacist becomes a trusted service provider to them individually. The issue is not that people trust pharmacists but that they trust their pharmacist.

- Once the program has been designed and tested, undertake a national and statewide training and accreditation program for the weight management program, with provision for program facilitators to assist with ongoing training and accreditation and sustainability of the program. This is envisaged to be part of the roll out of the program.

- Work with Pharmaceutical Society of Australia (PSA) and other stakeholders to approve the relevant competencies that pharmacists are to be trained and
accredited in, to ensure an accredited pharmacist can deliver real value through the program.

- To influence the National Health and Medical Research Council (NHMRC) next review of weight management to be conducted in 2006 to ensure that the role of pharmacy is recognised and formally established.

- To work with university and other pharmacy education institutions to increase the levels and quality of practical clinical training in EPS like weight management to ensure more future pharmacists are highly motivated to perform EPS that enhance professional activities and job satisfaction. Through this to raise the public perception of pharmacists in weight management.

- To negotiate to get the program endorsed by relevant client and professional organisations.

- To brand the program well so clients (market profile) and pharmacists (industry profile) know exactly what it is and what it entails (clearly defined) and to generate market demand for the program.

- Undertake a structured and systematic marketing of the weight management program to three major areas.

  1. The healthcare system: particularly those professionals working in this area so the program is seen as a help for overburdened healthcare professionals. Not competition or to diminish any healthcare professional’s role in weight management but to provide a parallel source of support for clients.

  2. The community pharmacists and the pharmacy industry to gain an understanding of the program and increase acceptance. Also to leverage off the current community perception of pharmacists as being trustworthy to pharmacists being a much more active and stronger service provider.
3. To the clients themselves, highlighting the importance of the client pharmacist relationship and the role of the pharmacist as a university trained health professional and their ability to manage a program such as this, and how this fits into the broader healthcare industry.

- To gain support and backing for the weight management program from pharmacy industry organisations such as the PGoA, PSA and AACP, all of which will be important for accreditation and training aspects of the program and to give pharmacists confidence in the program
- To provide the required infrastructure for the weight management program to develop to its full potential.
- To undertake strategies to bring about the change required in the profession to lend itself to an environment conducive to EPS and improving the profile and future of community pharmacy.

This has the potential to be very positive for community pharmacy as long as there is the genuine willingness of community pharmacy to undertake this brief.

**Conclusions and Recommendations: Community Pharmacy Weight Management Program Models:**

The second stage of the CPWMP was to integrate the conclusions of the critical literature review with NHMRC guidelines and other Government policies on overweight and obesity to develop a CPWMP model. To develop and construct an overall model the conclusions and guidelines were divided into three broad groups that related to the future CPWMP. These groups were; clients, community pharmacists, and the pharmacy industry/healthcare system. The major key issues were divided up pertaining to their relevance to each of these groups.
From this work the following were designed:

- One overall model to express the overall Community Pharmacy Weight Management Model.
- Elaborations of each specific major key issue or element of the overall model to develop a more detailed understanding of such key issues as:
  - Pharmacist’s relationship with the program
  - Training and accreditation aspects of the program
  - Remuneration
  - Clients and client recruitment
  - Program Content for the Client and Pharmacist
  - Pharmacy Industry and Healthcare system
- An implementation model: Two implementation processes that must occur in parallel
  - Practical Implementation. This is the refining of the program and model to get it ready for use in community pharmacy.
  - Pharmacy Industry Implementation. Showing the important issues the pharmacy industry must resolve if the weight management program is to be a success,
- A financial analysis via interactive spreadsheet.

It is the management of these issues that are crucial to the overall success of the program.
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<td>ACPP</td>
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<td>Australian Division of General Practice</td>
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<td>Australian Medicines Handbook</td>
<td>AMH</td>
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<td>Agouti-related protein</td>
<td>AgRP</td>
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1 Introduction:

Obesity is an increasing problem in modern society with a global epidemic of obesity in many countries, including Australia.\textsuperscript{1} Locally, the Australian Diabetes, Obesity and Lifestyle Study reported 67\% of adult men and 52\% of adult women in Australia were overweight or obese.\textsuperscript{2} Further, obesity is on the rise having reached epidemic proportions in adults and it is now affecting children with 20-35\% being classed as obese.\textsuperscript{3} This has serious detrimental implications for the health of future generations, and for the health system, which will be burdened with rising costs.\textsuperscript{4, 5}

1.1 Purpose of Research

Managing the obesity issue has involved a range of health professionals, including doctors, dieticians, physiotherapists, exercise physiologists and psychologists. Community pharmacy has, until recently been underutilized in the treatment and prevention of obesity despite the network of pharmacies representing a substantial primary healthcare resource.\textsuperscript{6} Over the last decade the community pharmacy profession in Australia has been undergoing a paradigm shift in the focus of its practice. Community pharmacists are extending their role from a “dispenser of medicines” to become more the provider of a broad range of cognitive or EPS.\textsuperscript{6-12} Community pharmacists are already established trusted health professionals in their local area. They have the potential to provide weight management programmes to the people who most need them as well as being able to manage other disease states, associated with obesity such as, diabetes, hypercholesterolaemia and cardiovascular problems such as hypertension. However, community pharmacists may only have the capacity to be a referral point and provider of health information and some health promotion on health lifestyles. The challenge is to see which role is the more realistic for community pharmacy to undertake. Also to ascertain what impact this EPS will have on community pharmacy and the healthcare system as well as treatment of overweight and obese clients.
1.2 **Objectives of Research:**

To take up this challenge there are questions that need to be answered including:

- What is the potential role of community pharmacy in weight management?
- What is the value of the professional services offered?
- Can the service be integrated within the healthcare system to improve weight management outcomes in the community?
- What impact would such a service have on community pharmacy?

The first stage of this project was to undertake a comprehensive literature, and policy review of existing community pharmacy programmes including weight management both in Australia and overseas. Also non-community pharmacy based weight management programmes and health promotion programmes were reviewed to accomplish this task.

The second stage of this project was to develop a pharmacy weight management model. This was achieved by using the literature review and blending its findings with NHMRC guidelines and other Government policies on overweight and obesity. In doing so, an implementation plan, resources to assist pharmacies in a large-scale trial of the model and draft service guidelines were also developed.

1.3 **Stage One: Critical Literature Review**

At the outset this project needed to have firm project management to achieve the tight time line necessary to complete the project in its allotted time frame (10 weeks), once official expert advisory group (EAG) approval was established.
1. Introduction

Preliminary work on the critical literature review involved defining the key areas of the research. It was a short phase but necessary as errors here would limit the success of the final model (by limiting the scope of the model). Conversely, too broad a range of study areas and the model would not have the required level of focus. There was some literature review research in this phase, as well as extensive discussions with and between specialist consultants and the EAG. The output of this phase was a list of study areas and a question in each area that focused the extensive literature review research. Eleven key questions (appendix one) were developed to focus the research and a researcher was assigned to each question. As well as these questions, six consultants specialising in the following fields guided this research:

- Community Pharmacy:
  - Julie Stuurstraat, BPharm MPS, MBA. Experienced owner proprietor of community pharmacies, other commercial businesses and a medical supply company in Perth, as well as being a management consultant to pharmacists through Prn Management Services and implementation services for QCPP.
  - Graham Greenhill, FPS Consultant Clinical Pharmacist and founder of Medication Management. An innovator in medication reviews initially offering consulting services to community pharmacy and then with HMR’s.
  - Keith MacAulay, BPharm MPS. Experienced owner proprietor of community pharmacies. Involved with PSA projects specifically with continuing education, enhanced pharmacy services and other professional initiatives.
1. Introduction

- Population Health Promotion: Associate Professor Billie Giles Corti. Who is actively involved in Population Health Promotion and Evaluation and has a specific interest in the evaluation and development of obesity health promotion.

- Psychology: Dr Sue Byrne. BA (Hons), DipEd, BSc (Hons), MPsych/PhD (Clinical), DPhil (Oxon). Who has a particular interest in eating and weight disorders and has a strong background in both research and clinical work in this area.

- Obesity: Margaret Hays APD, Diabetes Educator. Practicing dietician specialising in diabetes and practical solutions for the overweight.

With initial input and guidance from Professor Tim Davis Endocrinologist and diabetes researcher and practitioner (School of Medicine and Pharmacology, University of Western Australia).

Discussions also took place with a community pharmacist focus group and other experienced pharmacists and practitioners who have worked on similar projects in community pharmacy or who are providing a weight management service at present.

Once the critical literature review began, project management comprised; initially asking the researchers to submit a dot point summary of an outline of their work. Progress reports were then asked of the researchers on a weekly basis. These comprised submission of the number of references reviewed, time spent on the research and with specialist consultant and finally insights made about their question. This allowed research and budget to be kept on track.

This literature review covered all areas asked of the critical literature review in the terms of the original tender document. The critical literature review was conducted by Database search of:

- Medline (1966 to Week 4 May 2005);
1. Introduction

- Pubmed;
- International Pharmaceutical Abstracts (1973 to May 2005);
- Cumulative Index of Nursing and Allied Health Literature;
- psychINFO (1872-Jun 2005);
- Cochrane Library of Systematic Reviews (to 1st quarter 2005);
- Australian Public Affairs Information Service;
- Australasian Medical Index;
- guild.org.au/public/researchdocs/;
- Pharmaceutical New Index;
- Health and Medical Complete;
- NHMRC Clinical Practice Guidelines: For the Management of Overweight and Obesity in Adults/Children and Adolescents;
- Aboriginal and Torres Strait Islander Health;
- Scholar.google.com.

A range of search terms were used that included:

Services, pharmaceutical and weight control; services, pharmaceutical and obesity; pharmacist and weight control; pharmacist and obesity; community pharmacy and weight control; community pharmacy and obesity, cognitive services, pharmaceutical care services, obesity/in adolescence; obesity/in infancy and childhood; obesity/in infant and child; obesity/prevention and control; obesity/therapy; individualised; value; expertise; primary care; smoking cessation; telephone counselling; metabolic syndrome; metabolic syndrome obesity; polycystic ovary syndrome; polycystic ovary syndrome/diet therapy; polycystic ovary syndrome/prevention and control; pharmacy; public health; Aborigine, obesity, overweight, treatment/therapy, treatment efficacy, behaviour therapy, pharmacotherapy, cognitive behaviour therapy, meta analyses, systematic reviews, attitudes, incentives, gender
issues, obesity management, weight management, commercial weight management, weight loss, commercial weight loss programmes, weight watchers, jenny craig, healthy eating.

While the researchers were aware of discussions with the community pharmacy focus group and anecdotal reports on issues, this review’s findings, conclusions and recommendations could only be made from evidence based peer-reviewed papers published in the English language, indexed in journals and e-journals found in the databases listed above.

1.4 Stage Two: Model Design

The model development integrated the conclusions of the critical literature review, the NHMRC guidelines, other relevant government polices and input from the specialist consultants. The major key issues then being divided between three broad groups; clients, community pharmacists and the pharmacy industry/healthcare system. These three groups identified as the major stakeholders, contributors, developers and end users of the final CPWMP. A number of models were designed around the specific key issues identified by the critical literature review. Final development of the overall model and its components were refined by further discussion with the community pharmacist focus group. Further input from the specialist consultants, was sought and the models were finalised.

The overall programme model and other components were developed with the future in mind. Thus it was necessary to ensure that the model is robust and will be able to give valid results in stage three (implementation) for a useful evaluation to be made in stage four. Its design results in both health and pharmacy based outcomes that can be tested by a robust Randomised Control Trial (RCT) for the implementation process. Strong endpoints and outcomes will be the goals of the trial, from which a solid statistical analysis can take place. For example, changes in measurable health outcomes such as waist circumference, body weight, BMI, blood glucose level and blood pressure can be analysed statistically to show if the programme will have a significant impact on management of the overweight and obese.
From the development of a strong programme and model best practice recommendations of Cochrane Collaboration review “Improving health professional’s management and the organisation of care for overweight and obese people” (Issue 1, 2005) and the Health Technology Assessment publication of “Systematic review of the long-term effects and economic consequences of treatments for obesity and implications for health improvement”. (Health Technol Assess (England), May 2004, 8(21) iii-iv, 1-182) can be followed. Both pay particular attention to recommendations for what new studies need to include in this field to improve on the quality and limited research available. These are:

- RCTs needed in primary care in high risk groups,
- Sufficient power,
- Adequate client follow up, including numbers recruited and duration of follow-up (structured and long-term). Analysis by intention to treat,
- Include cost-effective analysis to give a clearer understanding of incremental cost-effectiveness,
- Blind outcome assessment,
- Clarification of inclusion criteria and definition of what being obese and overweight is,
- Use of objective process and health outcome measures,
- Comparability across groups at baseline,
- Clarification of randomisation for RCTs.
Stage One: Critical Literature Review.

2 Defining Obesity.

Overweight and obesity are worldwide problems associated with significant morbidity and mortality. The World Health Organisation (WHO) reported more than 1 billion adults as overweight, and at least 300 million of those are obese. An increased risk of other medical conditions, such as type 2 diabetes mellitus, hypertension, and coronary heart disease is associated with overweight and obesity. An association also exists between obesity and cancers of the bowel, breast, endometrium and prostate, and gall bladder disease. Overweight exacerbates osteoarthritis, particularly of weight bearing-joints, and respiratory problems, including obstructive sleep apnoea. Many infertile women with ovulatory disorders are overweight or obese and even a small reduction in weight increases the likelihood of pregnancy. A recent study found that obesity in middle age increases the risk of future dementia independently of co-morbid conditions.

In Australia, it was estimated that 67% of adult males and 52% of adult females were overweight or obese in 1999-2000. The prevalence of obesity in adults has more than doubled from 1980 to 2000. It is currently estimated that 20-25% of children and adolescents in Australia are overweight or obese, with the prevalence of overweight doubling and obesity trebling in the 10 years between 1985 and 1995.

2.1 Aetiology

Regulation of body weight is highly complex and tightly controlled. A complex system of feedback signals acts to regulate body weight. Appetite and food intake are regulated peripherally by adipose tissue and the gastrointestinal tract, and signals are relayed to the hypothalamus. Meal-to-meal (short-term) signals such as cholecystokinin have been known for decades however, a more recent discovery involves leptin, a hormone synthesised in fat, which acts as a long-term afferent signal to suppress food intake and increase energy.
It is thought that leptin may act to stabilise body weight before a major change in weight occurs. When leptin concentrations fall with weight loss from caloric restriction or rise with overfeeding, changes in signaling from central hypothalamic centers integrate with other input signals (e.g., from insulin and ghrelin) and activate systems to restore body weight to baseline. These counter regulatory systems may explain why many obese clients are unable to sustain long-term weight loss with calorie restriction alone. Leptin concentrations seem to be high in most obese people (reflecting their high fat mass) and they fall with weight loss, indicating some resistance to the central effects of leptin in obesity. Although a rare congenital leptin deficiency has been identified, the majority of obese people have high circulating leptin concentrations due to normal ob genes and reflecting their high fat mass.

Neurotransmitters involved in the loss of body weight include peripheral hormones regulating appetite (insulin, leptin), gastrointestinal peptides (ghrelin, peptide YY, glucagon-like-peptide-1 and cholecystokinin) and the anorectic hypothalamic neuropeptides (the melanocortins and serotonin). Hypothalamic peptides involved in increased food intake include neuropeptide Y (NPY) and agouti-related protein (AgRP), which are inhibited by leptin and insulin, and activated by ghrelin. Research into the underlying cause of obesity may lead to more effective treatments in the future.

Environmental factors include an increased sedentary lifestyle (increased television viewing, computer/video games), decreased physical activity, and increased consumption of high-energy foods and sugar-containing drinks (especially in children). However, not everyone in this undesirable environment becomes obese, which indicates a genetic influence. Studies in twins and adopted children have provided some confirmation of genetic influence. Some genes have been identified, including genes encoding leptin, the leptin receptor, pro-opiomelanocortin and the melanocortin-4 receptor. Some individuals are biologically prone
to morbid and prolonged obesity, such as those with endocrine or medical disorders like Cushing’s syndrome, Prader-Willi syndrome and hypothyroidism.\textsuperscript{14}

Medications, such as anticonvulsants, antipsychotics, benzodiazepines, corticosteroids, insulins, sulfonylureas and tricyclic antidepressants, may also cause weight gain.\textsuperscript{14}

Other factors to influence weight gain include stage of life e.g., pregnancy or menopause, and life events such as retiring from sport, marriage, holidays and quitting smoking (ex-smokers can gain 5-6kg in the first year).\textsuperscript{14}

Overweight and obesity may be due to a number of different factors, including environment, genetics, psychological factors including stress, medications, stage of life and life events.\textsuperscript{14}

\textbf{2.2 Classification}

Obesity is the abnormal accumulation of body fat in proportion to body size.\textsuperscript{19} Overweight individuals have body fatness between normal and obese.\textsuperscript{19} Assessment of body fat and associated risks involves consideration of the following:\textsuperscript{13, 16}.

\textbf{2.2.1 Body Mass Index}

Indirect assessment of body fat is achieved by using body mass index (BMI), which is valid in all but the very muscular, the very young and the very elderly. BMI is calculated by dividing body weight (in kilograms(kg)) by the square of the height in meters (m). The WHO classification of weight by BMI in adults of European descent is seen in table 1.
Table 1: Classification of weight using BMI for Caucasians.\textsuperscript{14}

<table>
<thead>
<tr>
<th>Classification</th>
<th>BMI (kg/m\textsuperscript{2})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&lt;18.5</td>
</tr>
<tr>
<td>Normal Range</td>
<td>18.5 to 24.9</td>
</tr>
<tr>
<td>Overweight</td>
<td>≥25.0</td>
</tr>
<tr>
<td>Pre-Obese</td>
<td>25.0 to 29.9</td>
</tr>
<tr>
<td>Obese I</td>
<td>30.0 to 34.9</td>
</tr>
<tr>
<td>Obese II</td>
<td>35.0 to 39.9</td>
</tr>
<tr>
<td>Obese III</td>
<td>≥40.0</td>
</tr>
</tbody>
</table>

There are some differences in the suggested BMI ranges for individuals of Asian or Polynesian descent because the relationship of BMI to total body and visceral fat varies between ethnic groups.\textsuperscript{21} Asian and Indian groups should be classified as overweight at a lower BMI of ≥23kg/m\textsuperscript{2} and obese at ≥25kg/m\textsuperscript{2} as morbidity and mortality occur at lower BMI.\textsuperscript{14} While African-American groups and Polynesians tend to have a lower percentage of body fat than people of Caucasians at the same BMI. Different weight range classifications are yet to be identified for Aboriginal and Torres Strait Islander groups.\textsuperscript{14}

BMI is recommended as a measure of overweight and obesity in children and BMI-for-age percentile charts are available from the United States (US) Centers for Disease Control and Prevention website. BMI greater than the 85\textsuperscript{th} percentile suggests overweight and BMI greater than the 95\textsuperscript{th} percentile suggests obesity.\textsuperscript{18}

2.2.2 Waist circumference

Distribution of body fat is also an important parameter for assessment of risk of diabetes, hypertension or heart disease in both men and women.\textsuperscript{19, 21} Central abdominal fat, especially visceral fat, is recognised as a risk factor for the metabolic syndrome.\textsuperscript{19, 21, 22} Measurement of waist circumference, either alone or in combination with other metabolic factors, is used to assess the risks associated with obesity or being overweight.\textsuperscript{14, 16}
Table 2: Waist Circumference as a determinant of increased risk of co-morbidities.

<table>
<thead>
<tr>
<th>Waist Circumference</th>
<th>Increased risk</th>
<th>Substantial risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEN</td>
<td>94cm</td>
<td>&gt;102cm</td>
</tr>
<tr>
<td>WOMEN</td>
<td>80cm</td>
<td>&gt;88cm</td>
</tr>
</tbody>
</table>

Children and adolescents also show a strong correlation between abdominal fat and risk factors for coexisting diseases (e.g., adverse lipid and glucose profiles and hypertension) however, no internationally accepted criteria for waist circumference is available for this group.\(^{21}\)

Waist circumference provides an alternative measure of obesity and correlates reasonably well with BMI, but appears to be a better indicator of visceral fat, type 2 diabetes and cardiovascular disease.\(^{2}\) It is also seen as a far easier and less complicated measurement to use in practice.

### 2.2.3 Metabolic syndrome

The metabolic syndrome (also known as syndrome X, insulin resistance syndrome, and the deadly quartet) consists of a cluster of risk factors for cardiovascular disease and diabetes, namely central obesity, elevated triglycerides, low high-density lipoprotein (HDL)-cholesterol, hypertension and fasting hyperglycaemia.\(^{22}\) The metabolic syndrome is associated with a greatly increased risk of diabetes and cardiovascular disease.\(^{22}\) Many definitions of the metabolic syndrome exist however, the International Diabetes Federation (IDF) has recently issued a global consensus statement presenting a new world-wide definition, with central obesity as a prerequisite for the metabolic syndrome.\(^{23}\)

The measure of central obesity was a waist circumference with an upper limit of 94 cm (males) and 80 cm (females) for Europeans, with different upper limits for Chinese and South Asians (90 cm (males) and 80 cm (females)), and Japanese (85 cm (males) and 90 cm (females)). The definition agreed upon was\(^{23}:\)
Central obesity plus any two of the following factors

- Increased triglycerides >1.7mmol/L
- Low HDL-cholesterol <0.9mmol/L (males), <1.1mmol/L (females)
- Raised blood pressure ≥130/85mmHg
- Raised fasting plasma glucose ≥5.6mmol/L or pre-existing diabetes mellitus or pre-existing abnormal glucose value.

This new definition emphasises the fat around the stomach area as being the significant indicator for the metabolic syndrome.

The metabolic syndrome is also present in obese children and adolescents, and increases with worsening obesity.22

2.2.4 Summary of classification of obesity

A weight management programme must clearly define inclusion and exclusion criteria as a guide to whether a client is overweight or obese and qualifies to undertake a weight management programme. These parameters also allow the success of a participant and therefore the programme to be measured, hopefully with positive changes shown. The minimum but priority parameters that a weight management programme must include are waist circumference, and body mass index (weight). Other parameters that can also be followed for a further degree of overall health improvements are blood pressure and blood glucose measurements as well as blood cholesterol measurements.
3 Weight Management Approaches.

The treatment of overweight and obesity involves lifestyle changes, pharmacotherapy, and, if necessary, surgery. Whilst an initial weight loss may be readily achievable, maintaining weight loss for more than 2 years is achieved by only a few. The management needs to be long-term to be effective. Even a relatively modest weight loss of 5 to 10% will substantially decrease the risk of mortality and disease, with reductions in blood pressure in both hypertensive and non-hypertensive individuals and improvements in blood lipids.

Lifestyle changes involve diet, physical activity and behavioural modification with the aim of reducing energy intake (i.e., limit fat intake & possibly carbohydrates with a high glycaemic index) and increasing energy expenditure (e.g., increased physical activity).

3.1 Nutrition and diet

The most important factor associated with weight loss through dietary measures is a reduction in total energy intake. The NHMRC overweight and obesity clinical guidelines make the following points concerning weight reduction:

- A reduction of 2000 to 4000 kilojoules (470 to 940 calories) per day from the normal intake can lead to a weight loss of 0.5 to 1 kg per week (depending on age, gender and activity levels), up to 2 to 6 kg after one year. Waist circumference can be reduced by 2 to 5 cm.

- Restrict the percentage of fat and other high-energy foods in the diet.

- Increase the amount of high-fibre, high-water contents food, such as fruit and vegetables.

- Maintain three balanced meals daily with low-fat, low-energy snacks between meals.

- Alcohol consumption should be reduced to assist weight loss.
Low energy diets provide 4000 to 5000 kilojoules (940 to 1175 calories) per day and may result in a weight loss of 7 to 13kg and a significant decrease in abdominal fat after six months treatment. They are not recommended for continuous long-term treatment of overweight and obesity. Close supervision is essential.

Very low energy diets (VLEDs; Optifast®) usually provide about 1700 to 3300 kilojoules (400 to 800 calories) per day. Individuals with severe obesity may be considered for treatment with VLEDs, which are used as the only source of nutrition for 8 to 16 weeks. Close monitoring is required. Energy is present mainly as protein, and they also contain appropriate vitamins and minerals. VLEDs supplied through pharmacies are in the form of balanced liquid meals. The expected weight loss over a 12-week period is 15 to 25kg. VLEDs may be useful to induce rapid weight loss and motivate very obese clients however, in order to sustain weight loss after VLEDs are stopped; follow-up with behavioural therapy (BT) or appetite suppressants may be required.

The challenge is to find new eating patterns that can be sustained over the long-term resulting in a permanent degree of weight loss.

### 3.2 Physical activity

A substantial increase in physical activity is required to achieve and maintain weight loss. Adults should start with regular moderate intensity exercise for at least 3 to 5 hours per week (e.g., brisk walking for 30 to 60 minutes a day). The intensity of exercise should be increased only when cardiovascular fitness improves. To maintain weight loss, maintain exercise for at least 80 minutes every day. Apart from maintaining weight loss, physical activity will improve cardiovascular fitness and other measures of well being. The focus should be on adding more movement and activity into daily routines.
There are a number of ways to introduce physical activity into daily routines and any programme must take into consideration the initial fitness, health status and personal preferences of the participant. To maintain physical activity, long-term positive client preference is paramount. For immobile or obese clients activities that reduce weight bearing such as swimming or cycling should be considered initially. The programme can then be modified as the individual’s fitness, confidence and proficiency at doing physical activity increases. While immediate weight loss benefits are more likely to occur with diet therapy, physical activity is associated with improvements in metabolic health and helps protect against diabetes and cardiovascular disease. For long-term weight maintenance (>2 years) physical activity tends to produce longer lasting weight loss. The NHMRC guidelines for the management of overweight and obesity in adults (2003) state that “exercise is the best determinant for long-term weight loss”.

3.3 Pharmacological management

Expert opinion has suggested that pharmacological therapy may be considered for those with a BMI above 30kg/m² who have failed to achieve their weight loss goal through lifestyle changes (diet, physical activity and BT), and in those with a BMI greater than 27kg/m² and with co-morbid risk factors. Lifestyle measures should be continued during use of pharmacologic therapy as the effect of pharmacotherapy is unlikely to persist once treatment is discontinued. The pharmacologic agents with marketing approval in Australia to aid weight loss are either appetite suppressants (diethylpropion, phentermine, sibutramine) or agents which inhibit nutrient absorption (orlistat). Other agents, which may promote weight loss, but are not approved for this use in Australia, include the serotonin reuptake inhibitors (e.g., fluoxetine), bupropion, metformin, topiramate and venlafaxine. Sibutramine and orlistat are the most studied drugs and the only ones approved for the long-term treatment of obesity. In order to maximise their effect, use should be
combined with lifestyle changes involving dietary, physical activity and behavioural modification.\textsuperscript{14, 16} No drugs are currently approved for use in childhood obesity.

3.3.1 Noradrenergic agonists

\textbf{Diethylpropion (Tenuate\textsuperscript{®}) and phentermine (Duromine\textsuperscript{®})}, by stimulating adrenergic pathways and suppressing hunger, have been shown to produce weight loss of 6 to 7kg (double the weight loss with placebo).\textsuperscript{14} Because studies are lacking to show safety and efficacy when used for longer than one year, they are currently indicated for short-term use only.\textsuperscript{14, 21} Increased blood pressure and tachycardia may be adverse effects of these agents.\textsuperscript{14, 16} Mild to moderate side effects of central nervous system stimulation (e.g., insomnia, nervousness, euphoria) have been reported with phentermine and there have been some reports of pulmonary hypertension and psychosis with use of diethylpropion.\textsuperscript{14} These medications are now considered to be second-line to the newer agents however, they may be used when other treatments are ineffective or when additional weight loss is required for medical reasons.\textsuperscript{16}

3.3.2 Noradrenaline and serotonin reuptake inhibitors

\textbf{Sibutramine (Reductil\textsuperscript{®})} is an inhibitor of noradrenaline and serotonin uptake and is also a weak inhibitor of dopamine re-uptake. It produces weight loss by increasing satiety (by decreasing appetite) and also has a small thermogenic effect (increasing energy output).\textsuperscript{14, 16} Sibutramine has been shown to produce weight loss of 5.6kg (4.3kg more than placebo), and improve some accompanying risk factors (i.e., central obesity, lipid profile, blood glucose in diabetics) after one to two years of treatment.\textsuperscript{14} Combination with lifestyle changes, including diet, may result in a substantially greater weight loss.\textsuperscript{14, 16} It may take up to a month for weight loss to occur, and increases in heart rate and blood pressure commonly occur.\textsuperscript{16} Safety of use beyond two years has not been
established. Use is not recommended in clients with arrhythmias, congestive heart failure, coronary artery disease and stroke, and caution is recommended in those with a history of hypertension.\textsuperscript{14} Venlafaxine also has also been used, but is not approved for this indication and trial data is lacking.\textsuperscript{16, 21}

### 3.3.3 Lipase inhibitors

**Orlistat (Xenical\textsuperscript{8})** inhibits lipases in the gastrointestinal tract lumen thus preventing hydrolysis of dietary fat (triglycerides) and reduces fat absorption by approximately 30\%.\textsuperscript{19, 27} When combined with a low-energy, low-fat diet, orlistat can produce an average weight loss of 8.4kg (range, 6 to 13kg) (1.1 to 4.5kg above placebo) and improve some accompanying risk factors (such as blood pressure, central obesity, total cholesterol, LDL-cholesterol, LDL/HDL ratio, fasting blood glucose, insulin levels and triglycerides) after one to two years of treatment.\textsuperscript{14, 16, 24} Dietary changes are responsible for two-thirds of this weight loss.\textsuperscript{14} Gastrointestinal side effects are common and can be controlled by modification of dietary fat intake.\textsuperscript{24} Absorption of fat soluble vitamins may be reduced and supplementary multivitamins are recommended.\textsuperscript{24}

In Australia, the National Drugs and Poisons Schedule Committee have recently rescheduled orlistat from Schedule 4 (prescription only) to Schedule 3 (pharmacist only). Reasons for this include:

- Publication of the XENical in the prevention of Diabetes in Obese Subjects (XENDOS) study\textsuperscript{28}, which showed that orlistat plus lifestyle changes over 4 years resulted in greater reduction in the incidence of type 2 diabetes in obese subjects and improved weight loss when compared with placebo plus lifestyle changes. Orlistat was safe and well tolerated over 4 years.\textsuperscript{24}
• Recognition of the client’s ability to identify obesity and of the pharmacist’s expertise to provide accurate advice on treatment, identification of co-morbid conditions and monitoring for adverse effects and misuse of orlistat.\textsuperscript{24}

\subsection*{3.3.4 Serotonin reuptake inhibitors}

Serotonin reuptake inhibitors (SSRIs) are usually used for the treatment of depression and are not approved for the treatment of obesity.\textsuperscript{14} However, observational data from clients treated for depression has suggested that treatment with SSRIs may result in weight loss. SSRIs may sometimes result in weight gain.\textsuperscript{19} Fluoxetine has been the SSRI most studied. A meta-analysis of RCTs of medications for obesity found a mean placebo-subtracted weight loss of approximately 3.3kg with fluoxetine.\textsuperscript{14, 29} However, weight loss appears to be transient and, even with continued therapy, significant weight regain occurs after the first six months.\textsuperscript{14} When used in non depressed individuals for weight loss, the dosage required is usually high and adverse effects are common.\textsuperscript{16}

\subsection*{3.3.5 Other agents}

A number of medications marketed for indications other than obesity are currently being investigated for use in weight loss including bupropion, metformin (in overweight non-diabetic adults and children), and topiramate. Investigational medications include leptin and leptin analogues, rimonabant (an inhibitor of the cannabinoid-1 receptor), amylin (a protein secreted by pancreatic beta cells) and AOD 9604 (a fragment of the growth hormone molecule).\textsuperscript{21}
3.3.6 **Inappropriate agents**

Medications in this category include:

- **Dexfenfluramine and fenfluramine**—Due to their association with valvular heart disease, these medications are no longer available.

- **Bulk laxatives**—Bulk laxatives induce satiety and help with weight loss, but are usually ineffective alone.

- **Other laxatives**—Stimulant and purgative laxatives are often abused to produce weight loss, and may result in bowel damage and electrolyte imbalance.

- **Diuretics**—May be used to achieve rapid weight loss by fluid loss, particularly by sports individuals, however electrolyte imbalance can occur.

- **Thyroxine**—Use of thyroxine to increase the metabolic rate is inappropriate, usually ineffective and dangerous. Serious adverse effects, such as arrhythmias, goitre and hypertension may occur.

3.3.7 **Complementary therapies**

A wide range of complementary/alternative treatments are available which claim to assist with weight loss however, in the main, there is a lack of data to prove their efficacy and safety. In 2003, a review of weight-loss supplements and alternative treatments by the NHMRC concluded that no non-prescription supplements (excluding orlistat) demonstrated sufficient evidence of long-term weight loss and lack of significant side effects.
Complementary treatments for weight-loss can be divided into three groups as follows:

1. Supplements with a theoretical rationale and some supporting evidence.

2. Supplements with a theoretical rational but no acceptable evidence.

3. Supplements with no theoretical rational and no acceptable evidence.

**Supplements with a theoretical rationale and some supporting evidence:**

**Brindleberry** (Garcinia cambogia/indica) is an extract from the rind of the citrus fruit Malabar tamarind, with the active ingredient hydroxycitric acid. It is claimed to inhibit de novo fatty acid synthesis and food intake, and is marketed as an appetite suppressant and fat store inhibitor. A recent systemic review of rigorous trials, systematic reviews and meta-analyses on the effectiveness of dietary supplements in reducing body weight found conflicting results and concluded “overall, the evidence for G. cambogia is not compelling.”

**Caffeine/guarana and ephedrine:** Caffeine is found in coffee, tea, cocoa and cola drinks, and is the active ingredient in guarana. It increases alertness, decreases fatigue and may increase availability of free fatty acids for oxidation and, thereby, give greater potential use of fats in the energy cycle. Caffeine has also been shown to increase the metabolic rate for up to 24 hours after ingestion. It has also been shown to decrease the perception of work effect. A number of studies have examined the effect of caffeine on weight loss in humans, mostly in combination with soluble dietary fibre and chromium or ephedrine. Only the caffeine/ephedrine combination showed increased weight loss. One double-blind placebo-controlled study which looked at the effects of caffeine (200 mg daily)
and an energy-reduced diet found weight loss with caffeine to be no greater than diet alone.

The combination of guarana (which is high in caffeine) and ma huang (Ephedra sinica, containing ephedrine as the primary active ingredient) has been effective in producing more weight loss than placebo however, side effects such as dry mouth, insomnia and headache cause many study participants to withdraw. Large amounts of caffeine may cause cardiac arrhythmias.

A recent review of E. sinica and ephedrine studies found a modest short-term weight loss compared with placebo however, psychiatric, autonomic or gastrointestinal symptoms, and palpitations were side effects of concern.33

**Chitosan** is an aminopolysaccharide derived from the powdered shells of marine crustaceans. Its proposed action is to bind to dietary fat and thereby reduce fat absorption. A recent systematic review was conducted of fourteen RCTs of chitosan with a minimum duration of 4 weeks in adults who were overweight or obese and/or had hypercholesterolaemia at baseline.34 The results indicated that the effect of chitosan on body weight was minimal and unlikely to be of clinical significance.

**Chromium** is a trace element involved in the control of blood sugars. Theoretically, chromium might help weight loss by enhancing insulin-stimulated synthesis of the appetite suppressing serotonin or by stimulating protein synthesis and hence energy use. A recent meta-analysis which included ten double-blind RCTs found that the small reduction in body weight (0.08 to 0.2kg per week) caused by chromium picolinate over 6 to 14 weeks, although statistically significant, was not clinically meaningful when compared with results obtained through an energy restricted diet (5000 kilojoules per day resulted in a weight
loss of 0.5 to 0.6kg per week). There are some safety concerns regarding chromium supplements as excess amounts may cause renal impairment. The United Kingdom (UK) Foods Standards Agency Expert Group on Vitamins and Minerals recently suggested a cancer link and advised people not to take chromium picolinate.

**Supplements with a theoretical rationale but no acceptable evidence:**

**Capsaicin** is the major pungent ingredient found in hot chillies and peppers. Afferent neurones in the mouth are activated by capsaicin and release neuropeptides, including cholecystokinin which is thought to suppress appetite. Capsaicin may also increase the secretion of adrenaline which stimulates gluconeogenesis and lipolysis, and increase oxygen consumption, thermogenesis and gastric emptying rate. Capsaicin is proposed to cause weight loss through reduced energy intake and increased energy output.

**L-carnitine** is a non-essential amino acid supplied by a normal diet, mainly meat, but also synthesised by the liver, kidneys and brain from methionine and lysine. Carnitine transports fat into mitochondria for energy production and the rationale for use in weight loss is that administration of carnitine will increase fat metabolism. Carnitine has been promoted as a ‘fat burner’ or ‘fat-loss’ agent.

**Dietary fibre:** Pectin is a form of soluble dietary fibre. High fibre foods are filling and can lead to early satiation during meals and snacks. They also have a lower energy density. Although fibre supplements have not shown evidence of producing weight loss, it is known that a diet high in fibre may show a positive effect for weight loss. Guar gum is another viscous fibre which a recent meta-analysis suggests is not effective in reducing body weight.
**Iodine:** Fucus vesiculus is a form of seaweed or kelp. Seaweeds are rich in iodine which increases thyroid response, so these products are promoted as increasing the body’s metabolism, thus burning more energy, which is supposed to cause weight loss. Large doses may cause hyperthyroidism.

**Ginkgo:** Ginkgo biloba is the ancient maidenhair tree whose leaves contain flavonoids. It may be promoted for stress relief or for cerebral insufficiency in older people, but it is also present in some weight-loss products. It is proposed that ginkgo reduces food intake via an anxiolytic effect.

**Supplements with no theoretical rationale and no acceptable evidence:**

This group includes grapeseed extract, lecithin, horse chestnut (escin), soybeans and sweet clover (isoflavones), inositol, St John’s wort, and many others. Although there is no convincing evidence for the effectiveness of any of these products at present, the rationale for the use of some of these substances is reasonable and further investigation is warranted. It may also be possible that when a single ingredient appears to be ineffective, a combination of ingredients may provide a synergistic effect. Complementary therapies are popular because they are viewed as ‘safer’ than prescription medicines and there is no need for medical consultations.

**3.4 Psychological management**

There are two evidence-based psychological treatments for adult overweight and obesity they are, behavioural therapy (BT) and cognitive behavioral therapy (CBT). These may be used either as stand alone treatments or in conjunction with pharmacotherapy (most commonly for moderate to severe obesity, or for overweight with additional risk factors. Each of these treatment approaches will be outlined
and research looking at the effectiveness of these treatments in long-term weight management summarised.

### 3.4.1 Behavioural therapy

BT has been established since the late 1960s as an effective psychological treatment for obesity \(^ {35}\) and is now accepted as a necessary component of any successful weight management programme. \(^ {36}\) The aim of BT is to modify the unhelpful learned behaviours that have led to and maintained the obesity, and replace them with new healthier behaviours. Behaviour modification strategies are used in order to achieve a negative energy balance, that is, an energy intake (in the form of calories consumed) that is less than energy output (in the form of physical activity). This energy deficit is achieved through the selection and consumption of more appropriate foods in more suitable portions to reduce caloric intake, and an increase in both formal and lifestyle activity to increase energy output.

Behaviour therapy is usually conducted in groups of around 10-20 people. Participants usually attend weekly sessions (lasting for 1-2 hours) for a period of 16-24 weeks. \(^ {37}\) The sessions are usually highly structured and presented in the form of pre-planned “lessons.” There is a strong emphasis on education with regard to nutrition, physical activity and the role of learned behaviours. The availability of treatment guides such as the LEARN (Lifestyle, Exercise, Attitudes, Relationships and Nutrition) manual \(^ {37}\) has meant that BT for obesity has been widely disseminated and is readily accessible either in a therapist-client context or as a self-help manual.

Over the years BT has become more multifaceted and comprehensive in nature so that it now incorporates a wide range of strategies and techniques. The
foundation of any behavioural weight management programme would, however, usually include the following:

**Goal Setting and Reinforcement:**

Clients are encouraged to set realistic targets for weight loss. These goals may be short term (e.g., a weekly weight loss of 0.5 to 1.0 kg), medium term (a desired goal weight of approximately 5-10% reduction in body weight), and/or long term (continued weight loss and/or eventual new weight stabilization). Goals may also include specific increases in physical activity. Clients are encouraged to plan small rewards for themselves on achieving their set goals.

**Self monitoring:**

Self monitoring is the cornerstone of behavioural weight management methods. This technique involves the detailed daily recording of all food and fluid intake, and the circumstances under which they occur. Calorie expenditure through physical activity can also be recorded. The increased self-awareness promoted by this technique enables the client to gain insight into, and modify, unhelpful food and exercise related behaviours.

**Stimulus Control:**

Stimulus control techniques are designed to decrease the number of cues in the client’s environment that may trigger overeating or inactivity. For example, clients are helped to restrict the context of food consumption by considering when, where and with whom food is bought and eaten. Stimulus control may also focus on increasing healthy behaviours through the use of appropriate exercise cues, such as leaving walking shoes in a prominent position when going to bed to encourage the likelihood of exercise the following morning.
Problem Solving:
Formal problem solving strategies are taught to assist clients to manage difficulties that may be associated with unhelpful eating and exercise behaviours. Problem solving involves a number of steps including problem definition, generation and evaluation of possible solutions, and selection and implementation of the most appropriate solution.\textsuperscript{35}

Other Behavioural Techniques:
Additional techniques sometimes included in BT programmes for weight management include assertiveness training and relapse prevention strategies.\textsuperscript{35}

Treatment Outcomes for BT
Behavioural treatments for obesity have been evaluated more than any other treatment\textsuperscript{35, 36} and the efficacy of BT is well established in the short term. Treatment outcomes are traditionally measured by weight change, although other measures such as cardiovascular risk factors, quality of life and physiological measures, for example, blood pressure, high density lipoprotein cholesterol are sometimes used.\textsuperscript{40} Clinically significant weight loss in the region of 5-10\% of initial body weight has been consistently demonstrated in BT outcome studies.\textsuperscript{41} Most of this weight loss occurs in the first 20-24 weeks of treatment, and after this point weight loss tends to taper off, or “plateau”. Long-term follow-up studies, however, consistently show that this initial weight loss is generally not sustained. Incremental weight regain following treatment completion appears to be a shortcoming of all BT programmes. Generally, almost half of the weight lost in treatment is regained within the first year-post treatment and after 3-5 years the majority of clients (in the range of 80-85\%) have returned to or exceeded their pre-treatment weight.\textsuperscript{42-44}
Concerted attempts have been made to increase the amount of weight lost in BT programmes, by adding various treatment components such as social support; exercise, financial incentives and dietary restrictions to traditional BT. Results have been equivocal. For example, in social support strategies, spousal involvement has been shown to improve, have no effect or reduce the amount of weight lost over participating alone. Participating with friends may significantly assist weight loss and reduce the likelihood of dropping out. Most published studies have found that BT combined with exercise does not increase weight loss any more than BT provided alone. Providing financial incentives appears to increase compliance with scheduled physical activities, but does not improve treatment outcomes over BT alone.

The use of dietary restrictions has also had limited success. For example, adding a very low calorie diet (VLCD) to BT (less than 800 kilocalories per day) increased weight loss, however, this loss is highly likely to be followed by increased post-treatment weight gain, nullifying early treatment effects. Similarly, BT plus the provision of food may also increase weight loss over BT alone, but by two years follow up the difference is not maintained. The use of diets emphasizing calorie and fat restriction in combination with BT appears to produce better post-treatment weight loss than those which focus on fat restriction alone.

Efforts have also been made to develop strategies to maintain the weight loss in BT programmes. These have included relapse prevention training, extended therapist contact, monetary incentives, the provision of food, telephone contact, social support and access to personal trainers. None of these factors has been successful in the longer term.
**BT plus pharmacotherapy**

In the community pharmacy setting it is likely that the first point of contact for initiating weight management discussion may be when a client presents a prescription for weight-loss drugs. The treatment outcomes for pharmacotherapy used in addition to BT therefore warrant further description.

The Australian Medicines Handbook (AMH) recommends that behaviour modification should accompany the prescription of sibutramine or orlistat. It has also been suggested that the addition of pharmacotherapy to BT should form a stepped-care approach, whereby the least aggressive intervention (BT) is tried first, and if unsuccessful, is augmented with more aggressive interventions (drug therapy). Nevertheless, very few studies have examined the effects of the addition of drug therapy to BT alone. Most trials evaluating sibutramine or orlistat have used relatively weak lifestyle modification programmes with little therapist contact over short periods. Nevertheless, such studies have found an additive effect of combining these drugs with lifestyle modification on weight loss. Furthermore, the more intensive the lifestyle programme, the better the results achieved. The superior effect of combining these treatment approaches has been found for follow ups of up to two years.

Although there are no published studies investigating the addition of pharmacotherapy to BT, one study did demonstrate better treatment outcomes for the addition of BT to pharmacotherapy than for pharmacotherapy alone. Adding BT to sibutramine led to significantly greater weight loss than the prescription of sibutramine alone (11.0% of body weight vs. 5.8% of body weight) after 12 months. This same study also found that adding a low calorie diet to BT and sibutramine produced the best results (17.7% of initial body weight lost after 12 months). These outcomes present a strong argument for the
use of BT in conjunction with pharmacotherapy, over the use of pharmacotherapy alone.

3.4.2 Cognitive behavioural therapy

Some BT programmes have included cognitive elements while retaining a focus on behavioural change to achieve weight loss. Such programmes have not demonstrated any associated improvement in treatment outcomes.\textsuperscript{50} Recently however, CBT has emerged as a new treatment approach to obesity borne out of the general shift from behaviorism to a more cognitive-behavioural paradigm to comprehensively conceptualize and treat disorders.\textsuperscript{60} While some BT programmes include cognitive components and BT shares some common therapeutic techniques with CBT, several important features differentiate “true” CBT from BT.\textsuperscript{56} At its core, CBT is based on a cognitive formulation of the mechanisms that are working to perpetuate the problem (in this case, obesity). While BT aims to achieve behavioural change (decreased caloric intake and increased physical activity), CBT also emphasizes the need for cognitive change, by focusing on clients’ thought patterns, attitudes and beliefs about weight, shape and eating and exercise behaviour. In a CBT framework it is the individual’s internal thought processes, not simply external behaviours that are of central importance in weight management difficulties. For enduring change to occur the cognitive processes that are serving to maintain the problem must be addressed. For instance, concerns about body image are common among overweight/obese individuals and living in a society that values thinness perpetuates a negative body image for most obese individuals.\textsuperscript{61} So, using this example, challenging a client’s belief that a non-ideal appearance equates to personal inadequacy would be an essential step in dealing with body image dissatisfaction issues.\textsuperscript{62}
CBT programmes use a combination of cognitive and behavioural techniques to identify and change unhelpful cognitive processes and unhealthy behaviours, although some CBT programmes de-emphasise weight loss as an explicit goal in favour of promoting greater psychological and physical well-being. Modest weight loss (or the prevention of otherwise expected weight gain) is, however, usually anticipated as a consequence of the cognitive and behavioural changes implemented.

In the last four years a new variant of CBT developed specifically to target the mechanisms that underpin obesity and to overcome the long term failure of BT has emerged. This treatment takes a much longer-term view of weight management and ultimately has weight stabilization, rather than weight loss as its goal. The programme, under current evaluation at the University of Oxford, requires that CBT for weight management be divided into two equally important phases, with a focus on weight loss in the first phase and on maintenance of the new lower weight in the second phase. Compared to standard BT for obesity, this CBT is comparatively more intensive. It is reasoned that this relatively long term intensive approach to treatment is necessary for clients to acquire the necessary cognitive and behavioural skills required to achieve lasting weight control. Clients are treated individually in one-on-one therapy sessions using flexible modules targeted at the client’s own level of progress. Treatment sessions are delivered weekly over approximately 11 months, and a treatment manual is readily available.

**Efficacy of CBT**

Little outcome data is yet available on the efficacy of these new CBT approaches in the management of overweight and obesity. This is to be expected given its recent genesis, its long-term approach to weight management, and the consequent
need for evaluation over a 3-5 year period to determine its enduring effectiveness as long term weight management treatment. The outcomes from the Oxford University programme under current evaluation are expected to be available later this year.\textsuperscript{63} There is, however, one treatment outcome study that provides promising evidence for the long-term utility of CBT.\textsuperscript{64} This study directly compared CBT with more traditional BT over 13 weekly sessions. Although clients in the CBT group did not lose as much weight as those in the BT group at the end of the treatment phase (2.7kg vs. 5.56kg), they continued to lose weight for the duration of the 12 month follow up. In comparison, the BT group evidenced a trend to regain weight. At the end of the follow up period clients in the CBT group had lost an average of 10.06kg compared to an average of 4.46kg in the BT group.

\textit{Caveats on treatment outcome data}

In describing treatment outcomes, several important points that may affect the generalisability of the research findings to a community pharmacy setting should be noted. First, the method of recruitment of participants should be taken into account. In the research summarised above, subjects have been recruited in two main ways: either directly from the community using media advertising (newspaper or radio), or from clinical settings (e.g., clients attending weight control clinics). Each of these methods may result in the recruitment of subjects who may be more highly motivated to comply with treatment than most overweight and obese people in the wider community. Thus, the generalisability of the results that have been obtained is not clear. Second, individuals who volunteer for treatment trials (which are usually conducted in tertiary clinical or university-based settings) may have a history of more severe obesity than women who try to lose weight using more “everyday” methods. They may have already tried several other less demanding weight loss programmes unsuccessfully and be
applying as a ‘last resort’. Thus these participants may have greater difficulty in losing weight than members of the general community. Both of these factors may result in a more pessimistic view of overall treatment outcomes for BT and CBT.

The gender composition of the samples used in the above studies is also worthy of note. The research samples are overwhelmingly, although not exclusively, comprised of women. This raises an important question relating to the reasons for such gender inequity in participation. Estimates of weight status in Australia suggest that a greater proportion of men than women are overweight (67% and 52% respectively). It can therefore be safely assumed that the gender imbalance is not simply reflective of societal demographics. Rather, it may reflect a difficulty in engaging men in weight management programmes. One reason for this may relate to men’s tendency to underestimate their body size and weight status. It has been found that overweight/obese men are more likely to underestimate their weight status than overweight/obese women and to perceive themselves as light regardless of their weight status. Overweight men may therefore not see any personal relevance in advertised weight loss programmes. It is also possible that men do not relate well to the format or content of current weight management programmes. In any event, a best-practice model should be mindful of the need to optimize male participation and to develop strategies that increase the relevance of current treatments for men.

Another issue of note in published studies of psychological treatment of obesity is attrition rates. Of the studies reporting attrition data, on average, around one quarter of participants dropped out in the active treatment phase while almost 30% dropped out or were un-contactable in the follow up phase. Attrition leads to potential biasing of results since it is usually participants who are less successful who tend to withdraw from treatment and follow up. Their absence in
analysis can lead to a favourable treatment bias. Using an intention to treat analysis (whereby drop outs are included and are assumed to have returned to their baseline weight in any statistical analysis) corrects for this bias, however, many studies have not undertaken this type of analysis. Aside from the statistical implications of attrition this point is also relevant in developing a community pharmacy model of weight management. Specifically, it should be remembered that attrition is inherent in psychological treatment and means to minimize it should be a factor in developing a best practice model.

Finally, it should be noted that the overwhelming majority of studies investigating psychological treatment for obesity and overweight have focused exclusively on adults. Early intervention could prevent many of the problems associated with adult obesity and paediatric interventions should therefore be investigated as the entry point for obesity prevention and management programmes. The inappropriateness of surgery and pharmacotherapy for children, promotes BT or CBT (as well as diet and lifestyle changes) as the only viable paediatric treatment option. However, there are different factors involved in the development and maintenance of paediatric obesity, which make its inclusion in an adult community pharmacy model problematic. For example, paediatric treatment models need to take a more systemic approach to weight management with an emphasis on family intervention. Elucidating and incorporating these differences into the current model is beyond the scope of this review. It is likely that a separate paediatric model needs to be developed and tested. Further investigation of causal pathways to the development and persistence of childhood obesity is required in order to develop a satisfactory paediatric model of weight management.
3.4.3 **Issues of delivery in community pharmacy setting**

The community pharmacy setting presents significant challenges for the delivery of BT and CBT. Some key issues that need to be considered follow:

**Environmental issues:**

*Privacy*

Discussing personal weight issues in a community setting may be confronting to clients. There needs to be some attention given to how the physical environment could facilitate or hinder discussion of sensitive weight-related issues, and what modifications may need to be made to accommodate the need for privacy. Particularly, capacity to weigh and/or measure clients with discretion should be considered.

*Logistical issues*

Environmental issues also encompass the practical difficulties in delivering group or individual therapy sessions in the midst of the community pharmacy. It is possible that using the pharmacy after hours to provide counselling could alleviate some of the practical difficulties encountered during business hours, but it may be necessary to consider other means of delivery of such services. Such means may include, but are not limited to: referral to other treatment providers, use of computer and video based treatment options, self-help and guided self-help. These possibilities are discussed in the next section.

**Personal and interpersonal issues:**

*Pharmacist issues*

These relate to the skill level and motivation of the pharmacist to provide counselling on weight management issues. There is evidence that increased
remuneration is a key facilitator for pharmacists to provide additional counselling to clients.\textsuperscript{6, 10-12, 68} In addition to these considerations, the time a pharmacist may have available to counsel clients may also be limited. Providing additional support to target clients will clearly have an impact on the time constraints of pharmacy staff. The impact of any weight management programme on staffing levels and availability clearly needs to be addressed in any model.

\textit{Skills of the pharmacist}

The effective provision of comprehensive BT and/or CBT requires a well-trained health professional, available to clients on at least a weekly basis over several weeks.\textsuperscript{61} There is more positive treatment outcomes when trained therapists are involved compared with lay people trained by therapists.\textsuperscript{69} While pharmacists may have the knowledge to provide basic counselling tips such as those listed in professional development modules\textsuperscript{70}, it is unlikely they will have the therapeutic skills to deal with the complex motivational, attitudinal and cognitive dimensions of a sustained weight management programme.

\textit{Motivation/time constraints of the pharmacist}

It has already been acknowledged that the main barriers to pharmacists becoming more actively involved in other health interventions are time constraints and insufficient remuneration.\textsuperscript{71} Given the existing defined role of the community pharmacist, some attention should be given to the motivation of the pharmacist to extend his/her role to counselling clients on weight management issues, and the time available to provide such counselling. These constraints clearly create barriers to community pharmacists counselling clients comprehensively in weight management. Possible alternatives include referral of clients or provision of self-help manuals.
The client-pharmacist interaction

The interpersonal context of BT and CBT requires an alliance of trust be built between therapist and client. This raises the issue of the comfort level of clients in discussing weight issues with pharmacy staff? One recent UK study\textsuperscript{72} found that three quarters of the general public are in favor of expanding the community pharmacist’s role to providing ‘healthy living sessions’ and ‘support for other health professionals’. However, it should be noted that this feedback was provided by a general community sample and did not specifically target obese/overweight clients.

Obese individuals are more likely than non-obese individuals to perceive the attitudes of health professionals towards them as negative\textsuperscript{73} and they may therefore be reluctant to discuss the difficulties they are experiencing with their weight with a pharmacist. Community feedback needs to be sought to determine the proposed target group’s attitude towards provision of weight management information from pharmacists. Furthermore, negative attitudes by healthcare providers towards obese people are also prevalent.\textsuperscript{74-76} Compassion and empathic support are essential to all elements of treatment of for obesity\textsuperscript{77, 78}, and it will be crucial for pharmacy staff to be able to demonstrate these skills in engaging this client group, regardless of the level of contact they have.

Ensuring this skill will require further training and coaching of community pharmacists.

Other delivery options for a weight management programme

Given the barriers to delivery of a complete weight management programme within the pharmacy setting, the other opportunities for delivery of such a
programme must be canvassed. This may be through referral, the use of technology such as the internet or video or via self help manuals.

Referral

Referring clients to a weight management programme will enable them to access the specialist skills of a trained therapist and will obviate the need for pharmacists to develop such skills. Referral will also ensure that pharmacists’ time availability is minimally impacted. It is important to note that an organized system of referral to an established evidence-based weight management programme will be more efficient and effective than an ad hoc approach to client referral. A specific evidence-based BT/CBT programme supporting pharmacies is the logical corollary of this point, although the use of existing programmes should also be investigated for inclusion in the model. Notwithstanding the impetus for, and value of, referral there may still be opportunity for pharmacists to provide some of the more fundamental elements of a BT programme, in combination with referral. For example, providing educational information and self-monitoring forms, and regular weighing/measuring could be conducted by pharmacy staff with minimal impact on time and reduced need for up-skilling.

Computer-based treatment

The increase in ownership of and access to home computers and use of the internet has created another avenue for easy delivery of cost-effective psychological treatment for weight loss. It is estimated that two thirds of internet users seek medical and health information online, suggesting a level of acceptance of using this medium for health related purposes.
Results from existing studies do indicate qualified promise for the use of electronic media for weight management counselling purposes. For instance, receiving internet-based weight management BT has been shown to achieve greater weight loss than simply accessing weight management websites.\textsuperscript{80} Furthermore, giving the user contact with a therapist via email has also been shown to produce superior weight loss results than providing prescriptive tutorial-based online BT and access to message boards.\textsuperscript{80} In both of these cases, however, the weight loss achieved was modest, averaging around 4kg, for follow ups of six and 12 months respectively. In addition, bi-weekly internet-based post-treatment support has been found to be less effective than monthly in-person support. Internet users maintained around only half the weight loss of those participating in in-person follow up.\textsuperscript{79} Hence, while the internet may facilitate easy access to cost effective weight loss programmes, the available research outcomes so far suggest it is not the optimum delivery channel.

\textit{Video based treatment}

One study has found that BT delivered by videotape was as effective in achieving weight loss as BT delivered in a group format.\textsuperscript{81} Although these results are from only one study with a small sample size, this finding suggests that videotape use of BT could provide a cost-effective delivery means for a CPWMP and could be further evaluated. The use of interactive television to provide BT has also demonstrated similar results to standard BT. However, the delivery cost was higher on a per-person basis for BT via interactive television than standard BT, which would reduce its viability as a delivery format in a community pharmacy model.\textsuperscript{82}
**Self help**

Self help BT would be of great potential benefit to a CPWMP, given the ease with which it could be provided, the number of people who could be treated simultaneously and the minimal impact it would have on pharmacy time and training. However, little is known about the effectiveness of self-help treatment for obesity. The only available data come from a study that evaluated the use of guided self-help against traditional group BT.\(^{83}\) In the guided self help version, participants received ten 15-20 minute individual support sessions with a physician over a one year period, while using the LEARN manual as self help treatment. Results found guided self help to be as effective for weight loss in obese women (who were simultaneously taking fenfluramine) as standard group BT over the same period. Given its potential utility in a community pharmacy setting the effectiveness of self help for weight management merits further investigation for inclusion in the CPWMP.

### 3.4.4 Summary of psychological management in weight programmes

BT should be an integral part of any weight management programme, including pharmacotherapy, for mild to moderate obesity, although attention needs to be given to increasing its long-term effectiveness. As more outcome data become available regarding its efficacy, the inclusion of CBT should also be considered in a community pharmacy model. Means of minimising attrition and engaging males in treatment should be considered in developing the model.

The optimum channels for delivering BT or CBT in a community pharmacy setting will need to be considered carefully. The use of computer/video delivery and guided self help manuals provide solutions that help overcome some of the challenges the community pharmacy setting presents to BT. These options are only supported by empirical evidence, are cost effective, allow a large number of
people to access treatment easily, and do not overly impinge on pharmacy time and labour constraints. It must be recognized that in their current format these channels do not provide optimum results when compared with face-to-face individual treatment options. However, guided self-help, (either using self-help manuals or video therapy) is more effective than “pure” self-help and may still be practical for a pharmacy setting. These delivery formats may be highly useful media for the delivery of a weight management programme via community pharmacies.

Alternatively, an organized system of referral to a BT programme supporting any pharmacy led initiative could also deliver the benefits of face-to-face BT with minimal impact to pharmacy time constraints. The cost implications of developing and running such a programme, the number of people who could be treated at one time and the ease with which clients could access it could be problematic and would have to be evaluated.

Even with minimally increased contact with the target client group, training of pharmacy staff in interpersonal skills such as empathy will be important to engaging clients and ultimately to the success of a CPWMP.

3.5 Surgical management

Bariatric surgery may be considered for clients with obesity and significant co-morbidities, and only if non-operative measures of weight loss have failed.\textsuperscript{14, 16, 21} Surgery is the most effective of the current therapies and includes gastric banding or stapling and gastric bypass.\textsuperscript{14, 16, 21} Weight loss can vary from 16 to 43\% (from 22 to 63kg) and can be reasonably maintained for three to eight years after surgery.\textsuperscript{14}
3.6 Summary of weight management approaches

There is no single effective treatment of the overweight and obese. It is evident that all successful weight management approaches build from four main very important and essential areas:

- **Diet/Nutrition:** a change in food (energy) intake generally a reduction,

- **Physical Activity:** changing energy expenditure usually an increase,

- **Behavioural or lifestyle modification** consisting of behavioural and/or cognitive behavioural therapy,

- **Pharmacological intervention** at a stage when the first three have been tried with limited success or also when co-morbitities and BMI of the patient allow for pharmacotherapy use.

Surgical management is best reserved for the morbidly and severely resistant obese and as such is last resort treatment.
4 Non-pharmacy based weight management: Public Health Promotion Programmes.

Health Promotion is the science and art of helping people change their lifestyle to move toward a state of optimal health, enabling people to increase control over and to improve their health. Many health promotion programmes are conducted but examples of some targeted areas are; Smoking, Asthma, Heart Health and more recently a Healthy lifestyle. Health promotion is one means whereby governments and health organisations can begin to try and offset the growing obesity epidemic.

A high level of uptake by consumers and evidence of a change in behaviour are desirable outcomes for a public health programme, but for any programme to work, it must first be implemented successfully so that the intervention can take place. From studying barriers to implementing health promotion programmes in the general practice in the primary care setting, and those in the community pharmacy situation, it can be seen that the two situations have similar barriers. It should therefore follow that strategies used in the general practice setting to overcome these barriers could also be applied to community pharmacy. Hence, where GPs were involved in administering the intervention for the public health programmes reviewed, the failure or success of the reach, adoption and implementation stages of the GP component of the intervention were focused on specifically.

Five major public health programmes were studied. Depending on the size and scope of the programme, a number of different strategies where used by these programmes and are reviewed. The programmes reviewed include 10,000 Steps Rockhampton, the Quit anti-smoking campaign and the National Tobacco Campaign, Heartmoves, the Active Script programme, and Stay on Your Feet (SOYF).
4.1 Review of the strategies used in non-pharmacy based public health programmes

4.1.1 10,000 Steps Rockhampton

10,000 Steps Rockhampton was a two-year multi-strategy physical activity intervention project based in the community of Rockhampton in Queensland, funded by Queensland Health. Its main message to the citizens of Rockhampton was to take the challenge to increase their cumulative activity each day to achieve 10,000 steps on a pedometer as a part of everyday life. The main objective of this public health initiative was to create a sustainable model for promotion of physical activity in the community. It had a specific focus on reaching and engaging socioeconomically disadvantaged and sedentary men, women, elderly and unemployed citizens.85

Initial uptake of the project in the community was very positive.86 An e-mail from one of the primary investigators on this project (Associate Professor Elizabeth Eakin (eeakin@qldcancer.com.au) 2005 May 6 (cited 2005 May 26)) indicated that a paper describing overall outcomes of the project is currently being reviewed for journal publication. The website87 for the Centre for Social Science Research at the Central Queensland University suggests that the project was an exemplary model of an effective multi-strategy, multi-level physical activity project. The results have meant that Queensland Health have extended their funding for the expansion of the project. The current aim of the 10,000 Steps research group is to see the uptake of the programme nationwide while it continues its research, development, distribution and support of new and existing support materials, including web-based support for the programme.87
A multi-strategy, multi-level approach was used where all strategies were implemented concurrently which it was hoped would produce a synergistic effect. The multi-level approach included the following:

- Local media campaigns to raise awareness of the low levels of physical activity in the community, raise awareness of the programme and its activities and profile community role models. This included repeated promotion over the length of the project via television, newspaper, radio, internet, posters and brochures.
- Promotion of physical activity through general practice and other health services.
- Promotion of physical activity at work-sites.
- Working with local government to develop environmental supports to promote active living within the community, e.g. development of specific walking trails and 10,000 Steps local signage indicating number of steps as well as metres to get to a destination.
- The establishment of a community fund to support community-based initiatives and competitions to increase physical activity.
- Involvement of other health professionals including pharmacists, mental health specialists, physiotherapists, dieticians and veterinarians.

Other interesting strategies included:

- Using a “prescriptive” and focused message as the title for the project for marketing purposes i.e. 10,000 Steps rather than a generic title e.g. Active Australia.
- The use of a pedometer as a motivational tool and a tool to encourage individual goal setting and self-monitoring.
Designing the intervention as an accumulation of daily activity i.e. every step counts, rather than an extra “exercise programme”.

Encouraging people to walk their dogs more often.

For the general practice “level” of the programme to be effective, it required successful implementation in the general practice setting. The strategies used to encourage GPs to disseminate physical activity counselling included the following:

- The project was developed and implemented in collaboration with the Rockhampton Division of General Practice. Maintaining support throughout the project was an important factor in the project’s success.
- A GP worked closely with the project team to develop and pilot intervention materials and actively promote the project to GPs.
- Local media coverage and information in Division newsletters was used to increase the awareness of the GP to the importance of physical activity promotion in primary care.
- GPs were trained in physical activity counselling techniques in workshop sessions.
- General practices were visited to explain the role of the GP in the programme and explain the use of support materials.
- Brochures, posters, physical activity counselling tip sheets to assist the GP and pedometers to be made available for loan were provided to general practices.

There was a high rate of adoption of the project by GPs, and their implementation of the support materials was reasonably good. The number of GPs who loaned pedometers was higher than expected but it was observed that practices with
better systems in place were better able to incorporate pedometer loans into their procedures i.e. a receptionist or nurse to take responsibility for loans. Citizens of Rockhampton were 31% more likely to receive GP advice about physical activity during the trial.\(^8^8\)

The investigators of the project believe that the importance of engaging local and state health organisations should not be underestimated as these bodies may have the greatest potential to initiate and provide ongoing support to a project. They also state that the role of the media may also be an important partner in this regard.\(^8^8\)

**4.1.2 The Active Script programme**

The Active Script programme has been trialed in New South Wales (NSW) and Victoria following the trial of a similar concept called the “green prescription” in New Zealand.\(^8^9\),\(^9^0\) The aim of the Active Script is to encourage increased physical activity. The primary intervention is the GP writing a prescription for physical activity for the client.\(^8^9\)-\(^9^3\)

The New Zealand experience appears to be worth investigating as it is still continuing, is well published and appears to be achieving reasonable results. A paper published in 1998 \(^9^1\) reported the findings of a trial which compared clients who received verbal advice about physical activity to clients who received verbal advice plus an exercise prescription. It was concluded that a written goal-orientated exercise prescription plus verbal advice about increasing physical activity was a useful tool to motivate clients to increase their levels of physical activity.

In 2000, a paper was published \(^9^2\) that described another attempted evaluation of the Green Prescription. However, this trial was terminated due to inadequate
recruitment and protocol departures. The paper does highlight some important points for consideration for the implementation of the Green Prescription by GPs. The main factors were that the study attempted too much, training of the GPs was inadequate, and GP barriers to implementing the intervention. These barriers included the perception that few clients would be motivated, and too much paperwork was required. However, GPs did note that these barriers diminished once the GP was familiar with the routine. GPs also commented on increasing demands on their time and resources and the extra burden that implementing difficult interventions placed on them. The following recommendations were made as a result of this failed general practice research project:

- Delay evaluating the effectiveness of the intervention until its use is established;
- Keep the design as simple as possible; and
- Researchers should work with GPs rather than through administrative intermediaries.

The Green Prescription intervention published in the literature in 2003 involved the following:

- GPs were offered four hours of training on motivational interviewing techniques to give advice on physical activity using the Green Prescription. This is a lesson learnt after inadequate training was identified as a reason for failure in the attempted implementation of the Green Prescription published by Gribben et.al.  
- Clients were assessed prior to seeing the GP for their stage of decision making towards behavioural change.
- The GP set definite goals with the client to achieve an increase in physical activity.
- A copy of the green prescription was faxed to the local sports foundation who then made at least three telephone calls to motivate and support the client and give other specific advice to help the client increase physical activity.
- Quarterly newsletters were sent to participants.
- Feedback was provided by the GP practice.

This study was effective in increasing the level of physical activity and quality of life over 12 months. It has become a sustainable intervention in general practice. This study notes that some other studies did not show a change in outcome in the long term and this may be attributable to the fact that the client prompted the intervention and this study used the client’s own GP rather than a visiting activity specialist.\textsuperscript{90}

In NSW, the Active Practice project\textsuperscript{89} was a controlled trial of physical activity promotion in general practice and NSW Health supported the project. The trial compared the increase in physical activity of clients who were given a prescription for physical activity to those who received a prescription plus an information booklet sent to them as follow-up. The information booklet was matched to the stage of decision making for behavioural change of the client. The trial concluded that a prescription supplemented with other written material was required to influence the physical activity levels of clients.

A paper\textsuperscript{90} summarising the Victorian experience in implementing the Active Script programme can be used to assess reach, adoption and implementation of the intervention by GPs. The primary aim of this programme was to increase the
number of GPs regularly giving physical activity advice. The programme reported a net health gain. Reach to GPs was modestly successful and the programme enjoyed a reasonable level of adoption and implementation. The following strategies were used:

- A central working party consulted with all participating Divisions of General Practice to produce acceptable resources and intervention materials.
- GPs were trained through seminars and practice visits.
- Resources were supplied.
- Awareness was raised through newsletters.

The paper made the recommendation that continual follow-up reminders are required to sustain the implementation of an intervention over time. The paper stated that this is in line with the literature, which indicates that a one-off training opportunity is insufficient to maintain GP’s use of resources for a programme.

4.1.3 Heartmoves

Heartmoves is a programme developed by the National Heart Foundation (NHF). It aims to encourage low to moderate intensity exercise for all ages and fitness levels including people with risk factors for cardiovascular disease, stable cardiovascular disease or type 2 diabetes. A secondary aim of the programme was to promote the integration between health professionals and the fitness industry. An evaluation of the programme was completed in 2004 and due to the success of the programme, it continues to run today. Successes of the programme identified by the evaluation included; an 80% retention rate of participants participating in classes at 6 months, high satisfaction ratings by participants, an increase in the number of low to moderate intensity fitness classes
offered by the fitness industry in the study area, and the programme was acceptable to health professionals.

Strategies used in the evaluation phase of the programme included the following:

- Increasing the awareness of the public about the programme. This included media releases, posters, shopping centre and Seniors Expo demonstrations of exercise classes, and t-shirts were made available for sale to participants. The majority of the participants heard about the programme through media or friends/family.

- Working with health professionals. Information workshops were provided to explain the use of the Active Script for referral of clients to the programme. Active Scripts were issued to GPs, nurses and physiotherapists. Continuing education points were awarded for attendance at a workshop.

- Working with fitness centres. Training for fitness leaders was provided at the standard cost for a training session. The fitness centre charged the participant for the group exercise class.

Implementation of the intervention to GPs in the evaluation phase of the programme included the following:

- A GP working group identified a number of issues to address prior to the programme commencement. These included lack of GP skills for appropriate exercise referral in at risk client groups, insufficient knowledge about the services that they could refer their clients to, concern about the performance of fitness centres, lack of feedback from fitness leaders about clients that had been referred in the past, and concern about the number of messages that GPs are expected to remember to deliver to their clients.
4: Non-Pharmacy Based Public Health Promotion Programmes

- A workshop explained the programme and the training given to fitness leaders about at risk client groups, provided training about appropriate physical activity for at risk groups and the use of the Active Script, and provided a list of available fitness services. This addressed most of the concerns mentioned above. GPs who didn’t attend the workshop were delivered materials by a drug company representative on a routine visit to the practice.

Proactive referral by GPs was reported to be disappointing. GPs reported that they got little feedback from fitness leaders even though there was a feedback form for this purpose. The low proportion of proactive referrals may have been due to only some GPs being adequately trained with respect to the programme, and lack of reminders for GPs to use the programme. It was proposed that referrals be incorporated into enhanced primary care planning to increase the number of proactive referrals by GPs.

The current programme appears to include an increased number of resources for consumers and health professionals. The NHF has a specific section on its website for the programme which provides information about the following: how to join a Heartmoves programme, purchasing an exercise video/digital video disc for use at home, how fitness leaders can enrol for training for the programme, and the availability of a multimedia training compact disc for purchase by health professionals.

4.1.4 Stay on Your Feet

Stay on Your Feet (SOYF) was initiated on the North Coast of NSW in 1992. It was a four-year health promotion programme aimed at reducing the number of falls amongst the older population. The programme demonstrated considerable
health gains.\textsuperscript{96} In 1998, the Western Australian (WA) DoHA commenced a five year state-wide falls prevention programme\textsuperscript{97} based on the North Coast of NSW model.

The goal of both programmes was to reduce falls by 10\%.\textsuperscript{96, 97} The NSW programme reported a 22\% decrease in the number of self-reported falls. Reach of this programme exceeded expectations leading researchers to recommend that the strategies used were effective in communicating the prevention of falls message to consumers.\textsuperscript{98} The five-year WA programme however did not achieve its aim with fall hospitalisation increasing significantly by 3\%. A number of reasons for the statistical failure of the programme have been suggested, however it has been recognised that the programme has had some success in increasing awareness in the community about this problem and further funding has been given to the project for a further 4 years (2004-2007).\textsuperscript{98}

SOYF was implemented along five lines of strategy. Each strategy involved numerous activities. Each major strategy was phased in over the length of the programme. The strategies are outlined briefly below.\textsuperscript{96, 97}

- Raising the awareness of the problem and preventability of falls with the elderly population. This was primarily achieved with mass media advertising and distribution of specially developed resources. Mass media advertising included television, radio, print, and milk cartons. Expos and stalls at relevant events were also used. Other resources included information booklets, newsletters, calendars and fridge magnets. A trademark cartoon was used to assist with recognition of the programme.\textsuperscript{97} Advisers were also trained to give information about general falls prevention, medication and home safety. Some information was also aimed at adults with older parents. Promotion through
newspaper, television and radio was found to be effective. The SOYF WA programme particularly mentions the use of unpaid media including articles in free newspapers and newsletters and media coverage on commercial television, radio and newspaper in response to various press releases.

- Community education. This involved training local people to run classes. Participants paid for classes and leaders of the classes were paid for their time. Examples of classes included gentle exercise, walking groups and decorating a walking stick.

- Policy development with government and non-government groups. This included identification and rectifying of potential falls hazards by local councils and incorporation of improvements to housing plans by the Department of Housing to make new dwellings for the older person as fall-safe as possible.

- Home safety measures. This included development of a home safety checklist for older people to self-administer, and participation of hardware stores in promotion of safety products for the home.

- Working with health professionals. This involved GPs and community health nurses and is discussed in more detail below.

The target population group was specifically considered in the implementation of strategies for this programme. The aims were to empower older people and involve older people as active participants of the programme. Focus groups of older people were used to identify community needs in decreasing the risk of falls. Older people were trained as advisers and as community education group leaders. Older people found this approach to be highly credible and acceptable.
For the 2004-2007 period of the SOYF WA project, older people have particularly been consulted in the formation of a social marketing strategy. This has primarily involved the use of focus groups. Decisions based on such groups have included the preferred message for a media and information campaign and the type of information material. There was little interest in fact sheets, folders and information kits and mixed views about the use of the internet for this population. A detailed step-by-step approach in a booklet was the preferred option but reminders were also considered to be useful.  

**Working with health professionals strategy**

For the working with health professionals’ strategy to be fully successful, it required successful implementation by GPs and community health nurses. Barriers identified by GPs prior to the intervention included lack of specific resources to help them intervene in this area, lack of time, lack of skills in this area and lack of remuneration. GPs also expressed doubts about their efficacy as a health promoter.  

It appears that the NSW programme experienced gradual improvement in GP and community health nurse reach, adoption and implementation of the programme. It was found that the most important intervention to achieve the cooperation of the health professionals was to employ and train a GP and community health nurse to take the message to their peers. This strategy was clearly more acceptable than someone from another discipline delivering the information and added some sustainability to the programme. In contrast, it appears that the SOYF WA programme did not employ this strategy. Many areas for improvement were identified for the “medicines phase” of the programme which included the involvement of pharmacists. It is also noted that one reason stated for the “failure” of the programme was that the programme was “overly focused
on GP involvement at the expense of other allied health professionals”. 98 It appears that GP and pharmacy reach, adoption and implementation for the SOYF WA 1998-2003 project was suboptimal. 97, 98 Some areas for the successes and failures in this phase of the programme are outlined below.

- In the NSW programme, a GP was employed to develop a quick, easy and effective falls intervention (however this was only done in the latter half of the project). This measure achieved a higher level of GP involvement. The intervention was piloted by ten GPs and further refined. One especially favoured intervention was a client questionnaire which would introduce the topic of falls to the client in the waiting area.96

- In the NSW programme, information evenings for GPs were conducted in conjunction with the Divisions of GP and continuing education points were awarded for attendance and these sessions were relatively well attended. Intervention packages were demonstrated and distributed at this time. These evenings aimed to increase the skills of the GP in this area and enhance their view of their potential value in this health promotion area. These aims were reported to have been met. Further intervention packages were distributed to and explained at GP practices.96

- In the SOYF WA 1998-2003 programme, researchers felt that brochures and other information could have been more widely distributed to health professionals. It is not stated how the support materials were delivered to health professionals.97

- In the SOYF WA 1998-2003 programme, it appears that no information sessions on skills associated with or implementation of the intervention were offered to GPs or pharmacists. In contrast, it is noted that physiotherapists and podiatrists were provided with specialised professional development with the provision of continuing education
points as part of this intervention and there was a very positive response to attendance at this education event.\textsuperscript{97}

The conclusion from the NSW project was that any intervention needs to be closely tailored to fit in with what GPs perceive as appropriate entry points and with the many other demands on their time.\textsuperscript{96}

The conclusion from the SOYF WA 1998-2003 programme with respect to the “medicines phase” was that there needed to be continuous delivery of the programme.\textsuperscript{97} A summary of the programme states that GPs are overwhelmed with projects seeking their involvement.\textsuperscript{98} An idea proposed to make GPs more involved was to link the intervention to the enhanced primary care package.\textsuperscript{97}

\subsection{4.1.5 Quit anti-smoking campaign and the Australian National Tobacco Campaign}

Tobacco control campaigns were initially developed in some states during the early 1980s. The North Coast “Quit for life” programme \textsuperscript{100}, closely followed by the Sydney “Quit. For Life” programme \textsuperscript{101} primarily used the mass media education approach to successfully deliver the anti-smoking message. This approach was then adopted and refined by all states and territories in their own anti-smoking programmes. More recently, the federal government has pooled extensive tobacco control knowledge and resources from around Australia to develop a collaborative National Tobacco Campaign (NTC).\textsuperscript{102}

The prevalence of smoking gradually decreased in adults between 1980 and 2001 from 35\% to 23\%.\textsuperscript{103} This has been partially due to the success of these campaigns, but other legislative measures including banning the promotion of cigarettes, increasing the price of cigarettes, limiting the number of places where
tobacco can be smoked and restricting the access of adolescents to cigarettes, have also been major contributors to the decrease in the prevalence of smoking.\textsuperscript{102}

The North Coast “Quit for Life” programme\textsuperscript{100} was the first major anti-smoking programme in Australia. It showed a significant decline in the prevalence of smoking with the use of the media to distribute educational messages. If the media approach was supplemented with community programmes, it was found that the decline in the prevalence of smoking was still significant but also more sustained. The media approach included television, radio, print, stickers, posters, T-shirts, balloons and self-help Quit kits. Community programmes included quit smoking groups, kits handed out by doctors and Quit fact sheets. The most popular community interventions were those that didn’t require face-to-face contact.

The Victorian Smoking and Health programme provides all evaluations of their Quit programmes since 1985 on the internet.\textsuperscript{104} The website invites people to look through these evaluations to identify what worked and what didn’t. This suggests that today’s programmes have gradually built on knowledge acquired over the years. Many of the evaluations are interventions in particular settings or populations. Some findings that are potentially relevant to pharmacy or the proposed CPWMP are summarised below.

- A survey of callers to the Quit information line reported that this service was considered helpful by the majority of callers, hence this service was retained.\textsuperscript{105} (A Cochrane review of the effectiveness of a telephone hotline to assist people to stop smoking concluded that a proactive telephone counselling service can be effective compared to an intervention without personal contact. Successful interventions generally involved multiple contacts around the time of a “quit” attempt. The
evidence did not confirm or rule out the benefit of telephone counselling.\textsuperscript{106}

- Doctors believed that a booklet to give to the client was useful because the client could take it home and think about it and it would serve as a reminder.\textsuperscript{107}

- Presentation of the health arguments to educate a consumer to quit smoking appear to be the most influential.\textsuperscript{108}

- Two-thirds of pharmacists in a 1986 survey indicated that they did not have room in their pharmacy for a display stand of Quit materials.\textsuperscript{109}

- Of materials supplied to pharmacies, a Quit information strategies book was the most popular resource with consumers followed by a quit tips fact sheet and then a referral options sheet.\textsuperscript{109}

- In marketing a smoking cessation programme to GPs, an educational facilitator was found to be the most effective approach in getting the GP to implement the intervention. GPs also received training in how to use the intervention, which meant that they could use it correctly. Reminders to use the intervention tool were also considered important. However, this intensive marketing was not seen to be cost effective because it wasn’t significantly more effective than mailing the intervention to the GP, but intervention levels were low.\textsuperscript{110}

- Kits intended to be used by GPs were different depending on the stage of decision making for behaviour change of the client. A minimal intervention method for less motivated smokers involved the offering of simple advice to quit, a comprehensive self-help booklet and a 'help' card which personalised the client's risk factors and provided information about where the person could go for any future smoking-cessation advice.

More motivated people are given cessation advice within a structured
framework together with a 'contract card' whereby the client made a written contract to quit smoking by a certain date.\textsuperscript{110}

Since June 1997, the NTC has been the mass media led campaign in Australia.\textsuperscript{102} The strategy for this campaign was to use knowledge gained from the states and territories in previous campaigns but it also aimed to use a different educational approach. People rank the importance and urgency of acting on something on an unwritten personal agenda hence the aim of this campaign was to bring quitting smoking to today’s agenda, which equates to action. This campaign wanted to bring fresh insights to the benefits of not smoking so that the message was different to those delivered in the past and thus would gain adequate attention. The campaign also aimed to get the consumer to reassess the importance of and urgency of carrying out quitting smoking, reassess the personal relevance of quitting smoking, give the consumer the confidence in their ability to quit smoking and show the smoker that they will gain more than they lose from quitting smoking. This programme has been deemed as successful in that it has achieved high rates of recall and recognition, contributed to new learning, and increased the agreement of smokers with campaign attitudes.

The NTC now uses a website to provide comprehensive quit smoking information\textsuperscript{111} and the “Quit Coach”.\textsuperscript{104} The “Quit Coach” is an interactive computer programme which asks the smoker many questions, for example, how long they have been smoking, smoking habits, motivation to stop smoking, experiences in trying to stop smoking and other background information. This is a tool, which can provide comprehensive tailored information to the consumer who wishes to quit smoking.
The NTC also developed a strategy for communication of the anti-smoking message with people of a non-English speaking background. This included investigation of the social and cultural aspects of smoking in each community. Messages suitable for how an ethnic community views smoking were then produced and an appropriate message was delivered via ethnic media outlets and written materials in the other languages. It was found that in the case of the very visual approach used in the NTC, other ethnic groups could still understand the main messages of the programme through the pictures.

4.2 Application of successful public health strategies to the development and implementation of a community pharmacy weight management programme

4.2.1 Multi-level approach

The 10,000 Steps and SOYF programmes used a multi-level approach including media campaigns, promotion through general practice and other health professionals, involvement of local government and community involvement. Concurrent implementation of all levels probably produces the best result. All of these levels could conceivably be applied to a weight management project but this would mean a very large project which is probably beyond the scope of the proposed CPWMP.

4.2.2 Use of focus groups involving consumers

An intervention can be directed by getting consumers who are in the target population to be involved in focus groups. This may help to identify areas that need to be addressed, refine a programme before it is implemented and direct an acceptable marketing strategy.
4.2.3 Marketing

Ideas for marketing a programme include using a prescriptive title (10,000 Steps) and using a recognisable logo (SOYF WA)\(^97\). This could be considered for a CPWMP.

4.2.4 Using the media to raise the awareness of the message with consumers

The media was an effective means of raising the awareness of consumers about the project in the 10,000 Steps\(^88\), SOYF\(^96,\) \(^97\), Heartmoves \(^95\) and Quit/NTC\(^102\) programmes. In order to increase the acceptance of pharmacy by the consumer in the weight management area, and also increase the uptake of a programme by consumers, it would appear that media exposure is a powerful tool. As identified by SOYF WA\(^97\), there are many unpaid media opportunities if there is no budget for paid media. The use of the media needs to be considered in the context of pharmacy legislation about advertising a service.

4.2.5 Development of programme specific resources

All programmes reviewed developed specific resources to raise awareness about the messages of the programme. This included websites, posters, information brochures and booklets, t-shirts, fridge magnets and audiovisual material.

The provision of written information appears to be demanded by consumers and may ensure more success with an intervention. Booklets with step-wise information were reported to be the most acceptable resource to consumers in the Quit\(^109\) and SOYF WA\(^99\) programmes. The studies reviewed in the Green Prescription/Active Script area identified that written advice was superior to verbal advice \(^91\) and written advice plus extra follow-up information was superior to written advice alone.\(^89\)
4: Non-Pharmacy Based Public Health Promotion Programmes

The Quit programme found that presentation of the health arguments may be influential in educating a consumer to change their behaviour.\textsuperscript{107}

It appears desirable for informative support materials to be developed for a CPWMP. It appears that consumers prefer a booklet of information. Information could present the health arguments associated with the being overweight.

4.2.6 Continual reminders

The use of continual reminders about a public health message appears to be useful. The Green Prescription project published in 2003\textsuperscript{93} used regular newsletters, SOYF WA identified this as an important factor for sustainability of the message and the programme\textsuperscript{99}, and the Quit programme has used the media for this for nearly 20 years.\textsuperscript{102} In a community pharmacy setting, the use of visual materials such as posters could act as a reminder.

4.2.7 Tailoring the intervention to the client

Tailoring the intervention to the client was a regular theme in the programmes reviewed. The Active Script/Green Prescription used a goal-orientated approach tailored to the particular client.\textsuperscript{89, 93} The Active Script project in NSW\textsuperscript{89} gave clients materials tailored to their stage of decision making for behavioural change. One aspect of the Quit programme involved giving motivated clients smoking cessation within a structured framework and clients made a “contract” with the doctor to quit smoking.\textsuperscript{110} The “Quit Coach” is also a tailored intervention.\textsuperscript{104}

A CPWMP project could provide an intervention tailored to each individual client. Separate written support materials could be devised for each stage of decision making for behavioural change. Both would make the intervention more
labour intensive and complicated. Something similar to the “Quit Coach” could be considered but this would require considerable resources.

4.2.8 Promotion through general practice

Promotion of a weight management project through general practice is worth considering, however, as noted in many of the projects reviewed, GPs have many messages to deliver to their clients and hence would require regular reminders to suggest the service to their clients. If a formal referral process was set-up, GPs could reasonably expect some feedback from the pharmacist (as with the referral to the fitness leaders in the Heartmoves study and as with the HMR process), which would increase the labour intensity of the service for the pharmacy. Heartmoves and SOYF WA proposed trying to link these interventions into the enhanced primary care package to encourage referrals from GPs. This could also be considered for the CPWMP.

4.2.9 Implementation

The issues associated with reaching GPs and getting them to adopt and implement a programme were very similar across all programmes.

Barriers to adopting and implementing a programme reported by GPs were as follows:

- Too much paperwork.
- Too many demands on their time.
- Lack of skills to successfully carry out the intervention.
- Insufficient knowledge about services that they could refer their clients to.
- Lack of feedback from people to whom they had referred the client.
Too many messages to deliver to clients.

Lack of specific resources to help them intervene in a particular area.

Lack of remuneration.

These barriers are very similar to those reported by pharmacists.

Most programmes identified similar strategies in achieving reasonable reach, adoption and implementation of their project. They are:

- Using a working group of GPs to identify barriers and areas to address prior to developing the intervention.
- Using a GP to develop specific support materials and help to implement the programme so that it is suitable for and accepted by GPs.
- Raise the awareness of the GPs of a programme via regular written material
- Train GPs in the skills required for the intervention, and also in the use of programme specific materials. One-on-one training is probably the most effective, but also the most costly. Delivery of materials with no training doesn’t achieve good results. Use of a multimedia compact disc may be a more cost-effective way of training GPs, but there is no way of ensuring that this will change behaviour
- The intervention must be relatively simple and fit easily into a client consultation.
- Continual follow-up reminders are required to sustain the implementation of the intervention over time.
- Increase the confidence of GPs such that they can make a meaningful impact in a particular area.
All of the above can be applied in varying degrees, to the reach, adoption and implementation of a CPWMP.

4.3 Summary of non-pharmacy based public health programmes

This review of non-pharmacy based health promotion programmes that have had varying degrees of success has provided many ideas and strategies for community pharmacy in the development of a public health message. There are some important successful commonalities between programmes and the challenge is to determine whether these can be applied to community pharmacy. Most large-scale public health interventions appear to involve many strategies and activities within those strategies. If the programme is deemed to be a success, it is difficult to know which strategies made it successful. Therefore, choosing a successful strategy was difficult but choosing a strategy from a successful program was easy. No matter what the scale of the project, the strategies identified to achieve successful reach, adoption and implementation of a programme are very applicable to community pharmacy, and all should examined for relevance importance and inclusion.
5 Non-Pharmacy Based Weight Management: Commercial Weight Loss Programmes:

The purpose of this section is to determine the current major non-pharmacy based (commercial) models of weight management available in Australia and determine their success (aspects) rates, with a view to incorporating successful components into a weight management model to be developed for use in community pharmacy.

5.1 Current models of non-pharmacy weight management available in Australia

With the increasing prevalence of overweight and obesity in Australia, there is also an increasing number of diet and weight management choices available. Diet modification has included caloric restriction and/or changing relative proportions of macronutrients (fat, carbohydrate and protein). Unfortunately despite great popularity and billions of dollars spent on weight loss programmes, there is very little good quality comparative data on the safety and effectiveness of these diets.

The following models of weight management will be discussed;

VLEDs and VLCDs

- Dr Dean Ornish’s Very Low Calorie Diet
- Tony Ferguson Weight loss and Wellness Centre

Reduced Energy Diets

- Weight Watchers
- Jenny Craig
- Trimplicity
Other Diets/ weight management programmes

- Professor Trim’s (formerly Gutbusters Programme)
- Atkins Diet (very low carbohydrate, high protein)
- Zone Diet (high protein, low glycaemic load)

Extreme diets that deviate from the recommended daily requirements of macronutrients are not generally recommended by the NHMRC so these will be discussed briefly.

The acceptable macronutrient distribution ranges for fat; carbohydrate and protein are 20 to 35% of total calories, 45 to 65% of total calories and 10 to 35% of total calories respectively. Diets providing very low or very high amounts of protein, carbohydrate or fat are likely to provide low amounts of some nutrients and are not recommended long term.¹¹²

5.2 Very low energy diets

These diets consist of only 1.7 – 3.3 megakilojoules (400-800 calories) per day. Greater short-term weight loss compared with low energy diets can be achieved but similar long-term weight loss is seen. Success is more likely if behavioural or drug therapy is used as follow up.¹¹³ These diets are very restrictive resulting in sub-optimal adherence. They should be closely monitored and not used for extended periods.¹⁴

5.2.1 Dr Dean Ornish’s Very Low Calorie Diet

This is a vegetarian diet that includes a lot of exercise (amount not specified).¹¹⁴ It consists of a high carbohydrate, very low fat diet, that predominantly consists of fruits, vegetables, unrefined carbohydrates (i.e.
whole grains) and legumes.\textsuperscript{115} Dairy products are eaten in moderation and meats are discouraged.

5.2.2 The Tony Ferguson’s Weight Loss Programme

This is based on replacing 2 meals per day with pre-mixed formula food. The third meal consists of protein, vegetables and any extras from their list. The programme is a combination of a VLED and the ketogenic principle. Total daily carbohydrate intake is 50g. Enrolment in the programme involves purchase of a book and clinic visits (Penrith NSW) or support via email/website.\textsuperscript{116} This programme has a traditional base in community pharmacy. As the structure of the programme does not necessarily need the input of a pharmacist it seems that new outlets may not use a pharmacy base in the future. (For more information see Community Pharmacy Based Weight Management Programmes section)

5.3 Reduced Energy Diets

These diets include a reduction in calories of 500 to 1000 kcal per day of usual intake. The following 3 programmes include a moderately restricted diet and provide behavioural counselling, including recommendations for physical activity.

5.3.1 Weight Watchers

Weight Watcher’s weight loss programme\textsuperscript{117} is based on a low calorie points programme, which is individualised, based on initial body weight (and adjusted as weight is lost), increasing exercise and cognitive behavioural therapy (CBT) (analysis and management of feelings associated with food). Support is via weekly group meetings and weigh in. Weight loss goals are realistic and broken up into short-term goals (5 to 10kg increments)
especially if there is a lot of weight to be lost. The programme is nutritionally balanced and members can follow menu plans (including eating out), prepare own meal plans or purchase Weight Watchers food. Information on exercise incorporates points values so members are able to modify their food points based on amount of exercise undertaken. Weekly limits are placed on sugary foods and alcohol and saturated fat is limited. Switching to low glycaemic index foods is also encouraged. Education focuses on healthy lifestyle, understanding food labels and self-monitoring (daily food tracking, once weekly or regular body measurement e.g. waist). Emphasis is on making a 10% change (e.g. eating 10% less or exercising for 10% more, that is 33 minutes instead of 30 minutes) particularly when plateaus in weight loss are reached. Once goal weight is achieved there is a 6 weeks maintenance programme and free lifetime membership as long as weight remains within 1kg of goal weight. Rebates from health funds are also available (depending on individual fund and level of cover).

Weight Watchers is the only commercial weight loss programme whose efficacy has been demonstrated in a large, multi-site, RCT.118

5.3.2 Jenny Craig

Jenny Craig requires members to eat pre-packaged Jenny Craig food at each meal every day during the first half of the weight loss goal. There is transition to normal foods after that. Food is nutritionally balanced though some programmes go as low as 1000 calories. Individual weekly counselling is provided. The programme promotes lifestyle changes and provides education on meal planning, exercise and managing stress (i.e. motivation and behaviour change).118 Jenny Craig offers (as at April 2005) Gold Lifetime Membership (GLM) for $499 or Silver Yearly Membership for $199.
Adolescent membership (13 to 17 years) is $149. Refunds from Health Funds (depending on fund) of up to $200 are available. Fifty percent of the rebate is received on joining and the remaining 50% is available once goal weight is achieved.119

Table 3: Structure of Jenny Craig membership

<table>
<thead>
<tr>
<th>GLM</th>
<th>Silver Yearly membership</th>
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<tbody>
<tr>
<td>Weekly menus and individual</td>
<td>Personalised weekly menus</td>
</tr>
<tr>
<td>consultation</td>
<td>Weekly individual consultation</td>
</tr>
<tr>
<td>Guides and manuals (weight loss</td>
<td>Guides and manuals (weight loss hints and tips)</td>
</tr>
<tr>
<td>hints and tips)</td>
<td>Cookbook / recipe cards</td>
</tr>
<tr>
<td>Active lifestyle manual</td>
<td>Weight loss journals</td>
</tr>
<tr>
<td>Cookbook / recipe cards</td>
<td>Active lifestyle manual</td>
</tr>
<tr>
<td>Weight loss journals</td>
<td>“Client club” on web</td>
</tr>
<tr>
<td>Walking video</td>
<td></td>
</tr>
<tr>
<td>Motivational CD</td>
<td></td>
</tr>
<tr>
<td>“Client club” on web</td>
<td></td>
</tr>
</tbody>
</table>

Additional benefits with GLM occur after clients complete 1 year of maintenance these include 10% off food whilst maintaining goal weight and 50% off membership cost after completing 1 year of maintenance and lifetime return.

5.3.3 Trimplicity

This programme has been in existence for approximately 18 months with 11 centres in WA. Weight loss is based on following a nutritionally balanced diet from the 5 food groups. Participants can chose to eat a daily kilojoule allowance from each food group, daily foods from a food chart or follow a weekly menu, and a nutritionist determines this. Recommended weight loss is aimed at 0.5 to 1kg per week. Exercise is recommended as 30 minutes daily.

The format is weekly group meetings, which discuss motivational issues, healthy eating and lifestyle. Once ideal/ goal body weight is achieved a maintenance programme is available. Cost (as at April 2005) is $20
registration including first meeting and then $12 weekly. If within 2 kg of “trimframe” meetings are free.\textsuperscript{120}

5.4 Other Diets

5.4.1 The Zone Diet (moderate carbohydrate)

A diet based on a 40 – 30 – 30 system where participants eat 40% of their calories from ‘favourable’ carbohydrates such as vegetables and beans; 30% from low-fat proteins; and 30% from unsaturated fats, such as olive and canola oils, nuts and avocados.\textsuperscript{121}

5.4.2 Professor Trim’s (formerly Gutbusters Programme)

Dr Gary Egger started this programme for men in 1990 as Gutbusters. Gutbusters used waist measurement rather than weight as a measure of fat loss. It aimed to reduce waist size by 1% a week and the programme was designed to be as unobtrusive as possible, fitting in with client’s lifestyles. More than 70,000 men had completed the programme by the end of last decade, with waist size being reduced at least 7% in participants, and in 70% of men these losses were maintained or increased over a one year period.\textsuperscript{114}

Currently Professor Trim’s Programme is based on understanding and changing calorie volume (food/drink and physical activity). It is a 3-stage programme carried out over 12 months. Stage 1 is a 21-day programme using VLCD meal replacement powder to get quick results of around 5% weight and or waist loss. Stage 2 is an 8-week consolidation and continuing weight loss phase of the programme. Stage 3 is the ongoing weight loss and weight loss maintenance phase of the programme. Work books, food and exercise schedules, pedometer, video instruction, newsletters, toll free number and online support is also provided.\textsuperscript{122} Professor Trim’s programme is designed as
a do it yourself/self help programme, though people with health problems are recommended to see their local GP or preferably a local Professor Trim trained GP (list available on web site). Currently, there are no meetings, as yet in WA, though clients that want face-to-face support are encouraged to have monthly appointments with the GP.

Professor Trim’s does have association with the PGoA. (Personal communication via toll free number) (Table 4), and in 2003-4 it was made available from a community pharmacy in NSW.

5.5 Assessment of models of non-pharmacy based commercial weight management

There is a dearth of good quality RCTs performed on commercial weight loss programmes. Some studies are difficult to interpret especially regarding longer term outcomes as they are mostly carried out over 3-6 months and also have high dropout rates.

Two of the larger commercial weight loss programmes available in Australia include Weight Watchers and Jenny Craig. Both of these organisations belong to the Weight Code Administration Council of Australia. The primary goal of this council is to protect the interests of the consumer by regulating the weight management industry. All members must adhere to the code of practice.123

A recent study by Dansinger et al.121 compared adherence rates and effectiveness of 4 popular diets in the US (Atkins, Zone, Weight Watchers and Ornish) for weight loss and cardiac risk factor reduction. 160 overweight or obese participants aged 22 to 72 (average age 50 years) were randomised to one of the diets (i.e. 40 in each group). Participants were encouraged to follow their assigned diet for 2 months (to the best of their ability) and were then encouraged
to follow the diet according to their own self addressed interest level. Of note, this study only evaluated the dietary components and did not include other specific components that may be unique to each individual dietary programme.

With respect to nutrition the Atkins diet group aimed for less than 20g of carbohydrate per daily, with a gradual increase toward 50g daily. The Zone group aimed for a 40-30-30 balance of percentage calories from carbohydrate, fat and protein respectively. The Weight Watchers group aimed to keep total daily "points" in a range determined by current weight. Each “point” was roughly 50 calories and most participants aimed for 24 to 32 points daily. The Ornish group aimed for a vegetarian diet containing 10% of calories from fat. All participants were encouraged to obtain at least 60 minutes of exercise weekly.

The primary outcome of weight loss at 1 year was modest (about 5kg for those who stuck to the diets) and there was no difference between the Atkins (low carbohydrate, high fat approach), Zone diet (high protein, low glycaemic load), Ornish (very low fat diet) and Weight Watchers (low calorie portion size approach). The amount of weight loss predicted the amount of improvement in cardiac risk factors.

This study had a number of limitations including small sample size (40 participants in each group), measurements of dietary intake and adherence relied on self-reporting and are therefore subjective, and failed to provide meaningful comparison of efficacy of the 4 diets because of high attrition rates and poor adherence. Adherence rates were low for all 4 diets, especially for the more extreme Atkins and Ornish diets (48% and 50% discontinuation rates respectively). The main conclusion that can be drawn from this study is that

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adherence level rather than diet type was the primary predictor of weight loss (and coronary heart disease risk factor reduction).

A useful systematic review of some major US commercial and organised self-help weight loss programmes has recently been published. The programmes relevant to this research include Weight Watchers, Jenny Craig and VLCD programmes (e.g., Optifast). Study selection included RCTs of at least 12 weeks duration and assessed interventions as are usually provided to the public, stated number of enrollees and included a follow-up evaluation that lasted at least one year. They found that of the 3 RCTs of Weight Watchers (sponsored by Weight Watchers), the largest conducted by Heshka et al. reported a loss of 3.2% of initial weight at 2 years. In this study 423 participants were randomly assigned to attend Weight Watchers or to participate in a self-help intervention that included 2 visits with a dietician. The overall attrition rate was 27% at 2 years and was similar in both groups. Participants in Weight Watchers lost 5.3% of their initial weight at 1 year and maintained a loss of 3.2% at 2 years, compared with 1.5% and 0%, respectively, among those who received the self-help intervention (p<0.001 at both time points). Participants in Weight Watchers who attended the most group sessions over the 2-year study period maintained the largest weight losses at the end of this period; this finding highlights the importance of adherence to behavior strategies.

In the second study cited by Tsai et al. published in 2002, 48 women with a history of breast cancer were assigned to receive usual care, attend weekly group Weight Watchers meetings, undergo individual counselling with a dietician or receive both of the latter 2 interventions. The attrition rate was 19% across the 4 groups at 1 year (not stated whether rate differed among groups). No incremental
benefit compared with usual care or as adjunct to individual counselling was seen with Weight Watchers group.

In a third study (also cited in Tsai)\textsuperscript{125} published in 1998 (1 year after introduction of points programme), 80 women were randomly assigned to attend Weight Watchers or receive usual care. At 12 weeks attrition rates were 25\% and 65\%, respectively. Participants lost 7.5\% and 1.6\%, respectively, of initial weight (p<0.001). Follow up data were not collected.

The VLCD programmes (medically supervised) lost 15-25\% of initial weight but these programmes were associated with high cost, high attrition rates and high probability of regaining at least 50\% of lost weight in 1 to 2 years.\textsuperscript{125}

With regard to low carbohydrate diets, the evidence suggests that these are associated with greater weight loss when compared to a low fat diet in the short term (6 months) but this advantage appears to disappear by one year (though improvement in lipid profile was still evident).\textsuperscript{126} It has also been suggested that when lower carbohydrate diets result in weight loss it is likely due to restriction of calorie intake rather than carbohydrate intake.\textsuperscript{127}

5.6 Advantages and disadvantages of the various non-pharmacy based commercial weight management programmes

The VLCD don’t require any long-term dietary or behavioural changes to be effective in inducing dramatic weight loss, so the potential to regain weight at the end of the programme is high.\textsuperscript{128}

From the dietary point of view, VLCD are very restrictive and adherence is usually suboptimal and difficult to maintain in the long term. Replacing normal meals with formula food and/or liquid meals replacements may have a place in
the short-term use but in the long term does not teach people good eating habits. Atkins and Zone diets do not conform to healthy eating guidelines and would be difficult to maintain in the long term as indicated by the high drop out rates, seen in the studies discussed above. Weight Watchers, Jenny Craig and Trimplicity are all nutritionally balanced low calorie programmes, which aim weight loss at the recommended 0.5 to 1kg per week. Weight Watchers and Trimplicity provide food selection skills, which are important for maintaining weight loss from day 1 of the programme whereas with Jenny Craig, planning of own menus and food selection occurs in the longer term. The problem with this is that if the programme is not adhered to until planning of own menus is incorporated, not enough would have been learned about healthy eating patterns.

Advantages with Jenny Craig are that the pre-packaged foods take the guesswork out of choosing foods and help control and learn about appropriate portion size, which can be useful. Also, individual weekly sessions are good for people who dislike or find group weight loss meetings unacceptable. However, pre-packaged foods make it difficult to eat with others, and to dine out. If cooking for family, and using Jenny Craig meals, some of convenience aspects are lost. Also Jenny Craig is quite expensive compared to other models described (see Table 4) and there is no data available on successful long-term maintenance of weight loss.

Trimplicity and Weight Watchers seem to be very similar in their weight management strategies, though more information on Trimplicity (does not use point system) would be required to substantiate this.
Table 4: Comparisons of Non-Pharmacy Based Commercial Weight Loss Programmes

<table>
<thead>
<tr>
<th>Programme</th>
<th>Staff Qualifications</th>
<th>Diet</th>
<th>Physical Activity</th>
<th>Behaviour Modification</th>
<th>Support</th>
<th>Cost</th>
<th>Time it has been around</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Watchers</td>
<td>Company trained/ successful lifetime member</td>
<td>Low calorie, points programme, nutritionally balanced. Prepare own meals or Weight Watchers meals available from supermarkets</td>
<td>“get active”, “exercise express” booklets distributed as well as audiovisual aids. “Bonus buddy” pedometer optional extra</td>
<td>Booklets on feelings and food, life stages, motivation (CBT)</td>
<td>Weekly group meetings. 12 week programme and 6 week maintenance programme once at goal weight. Aim for 0.5 to 1kg weekly weight loss</td>
<td>Registration $33 and $16.95 weekly pay as you go (PAYG). Lifetime members free</td>
<td>42 years (1963)</td>
<td>19</td>
</tr>
<tr>
<td>Jenny Craig</td>
<td>Company trained</td>
<td>Low calorie diet of nutritionally balanced pre packaged Jenny Craig meals (+ own fresh fruit and vegetables). In longer term learn how to plan own meals</td>
<td>Audiotapes for walking. Encouraged in weekly meeting</td>
<td>Manual on weight loss strategies provided</td>
<td>Individual sessions, weekly contact. “Client club” on web</td>
<td>Upfront membership Gold: $449 Silver:$199 yearly Food $84-$105 per week</td>
<td>Approx 20yrs (1983)</td>
<td>13,19,24</td>
</tr>
<tr>
<td>Trimplicity</td>
<td>Company trained</td>
<td>Low calorie nutritionally balanced</td>
<td>Recommend 30 minutes/day</td>
<td>Included in meetings</td>
<td>Weekly group meetings. Aim for 0.5 to 1kg weekly weight loss</td>
<td>Registration $20, and $12 weekly (PAYG)</td>
<td>18 months</td>
<td>14 and personal communication</td>
</tr>
<tr>
<td>Professor Trim’s weight loss for men</td>
<td>Trained GPs and pharmacists</td>
<td>Meal replacements (KicStart VLCD) (especially in stage 1 +/-2) and low fat food options/planner</td>
<td>Audiovisual aids + pedometer supplied. Gym membership additional if desired</td>
<td>Included in kit, Professor Trim’s Waistline quarterly newsletter</td>
<td>3 stage programme, downloaded and sent in kits over 12 month period. Online support, toll free number and face to face 9 x monthly meetings where available. Aim to reduce man’s weight and/or waist by predetermined percentage and keep this off for life.</td>
<td>Stage 1 $145 Stage 2 $295 Stage 3 $55 per year Includes meal supplements audiovisual and workbooks</td>
<td>15 years originally Gutbusters (1990)</td>
<td>16 and toll free number</td>
</tr>
</tbody>
</table>
5.7 Opportunities and Limitations of non-pharmacy based commercial weight loss programmes

In determining the success of weight management programmes, consideration must be given to the definition of success from a health and client perspective. A 10% reduction in body weight has been suggested as a successful outcome for a weight loss program. Weight losses as little as 5-10% of initial weight can improve weight related complications including hypertension, type 2 diabetes and dyslipidaemia, even if the person is still overweight.\textsuperscript{131}

Some programmes may include a “quick start” component, which results in an impressive weight loss initially, and then the actual weight losing stage and finally a weight loss maintenance stage. Weight Watchers for example starts everybody on 18 points for the first week of the programme and then point value is determined based on individual body weight. Professor Trim’s includes a 21-day “Quick Start” programme based on meal supplements. Amount of weight loss in the quick start phase is usually a factor of adherence and degree of overweight.

Almost any diet can lead to weight loss over 6 months, but most individuals regain weight.\textsuperscript{132} It has been suggested that based on earlier experience with low fat diets and now diminished effects of low carbohydrate diets at 12 months, there is a need for additional RCTs that monitor weight for longer than 1 year.\textsuperscript{132}

Commercial weight management programmes are continually changing and most now include exercise and BT or CBT. This ongoing change can be important when researching the literature for comparative studies. Programmes such as Weight Watchers have modified their programmes to be more user friendly, which in turn may help adherence to programme. For example, portion control used to involve weighing individual food item, which may have been a deterrent to many people. The points programme was introduced in January 1997 allocating a point value to food. Participants are also able to calculate
point value of any food using the Weight Watchers point calculator, or hand held slide rule. Point value is calculated using serving size, kilojoules and saturated fat value. With the “Time for Success” programme portion control is simplified further using for example palm size and clenched fist size as measure of e.g. piece of steak (protein portion) and potato respectively. This is useful for helping with portion size determination, as a small-framed person’s portion would be different to a larger framed individuals, portion of food. Also information is updated regularly e.g. focus on reduction in saturated fat as opposed to total fats and value of low GI foods.

A recent review of the literature on factors associated with weight loss maintenance and regain focused mainly on behavioural and psychological factors. Successful weight maintenance was defined as weight loss maintained for at least 6 months, though in most studies examined this was > 1 to 2 yrs. It was found that successful weight maintenance was associated with more initial weight loss, reaching self determined goal weight, physically active lifestyle, eating regular meals including breakfast, healthier eating, control of overeating and self monitoring of behaviours. Internal motivation to lose weight, social support and good coping strategies and ability to handle life stresses and negative emotions were also important factors.

Weight control is a very complex process that depends on changing the whole personal life rather than changing single behaviours. Long term weight reduction was better in those who had made five or more behavioural improvements compared to those who had made fewer changes.

Obesity related behaviour can often be identified in client’s food choice, lifestyle / activity and eating habits. CBT is a method of behavioural change that enables and encourages the client to identify obesity related behaviour and take responsibility for implementing appropriate changes to prevent such behaviours. Self-monitoring (i.e. keeping a daily food diary that includes circumstances surrounding eating) increases awareness of obesity
related behaviour and can help identify triggers that can lead to inappropriate or overeating. Stimulus control then involves identification of these eating cues and implementing change to avoid future situations or actions that triggers these responses. 128, 129

5.8 Summary of non-pharmacy based commercial weight loss programmes

Of the weight management models discussed, the Weight Watchers model encompasses all the qualities of a good weight management programme. While the number of RCTs performed on weight loss programmes is limited. Weight Watchers is the only commercial weight loss programme shown to be successful in a RCT. 118, 125 (Sponsored by Weight Watchers).

Pharmacists frequently interact with clients in need of weight management (whether looking for medication or slimming aids as a response to obesity, or as a result of a secondary condition associated with obesity). 134 Population health studies statistics indicate that at least 50% of the population are overweight or obese and most people undertake insufficient activity and do not adhere to recommended dietary guidelines (i.e. eat insufficient fruit and vegetables). 134, 135

Obesity is a complex, multifactorial disease involving genetic, metabolic, physiological, lifestyle, environmental, cultural and behavioural influences. 128, 129 A successful weight management programme should aim to encompass and address all the underlying problems leading to development of obesity. Focus should be not only on dietary issues, but also on facilitating permanent behaviour and lifestyle change. 5, 128 This can be achieved by:
Appropriate, realistic goal setting:

Focusing on weight loss as well as behavioural/lifestyle change is important. For example, aiming to make a 10% change, be it in terms of exercise or portion size is an important decision. Achievable short-term goals and discouraging unrealistic target weights and expectations of weight loss can help maintain motivation.

Exercise/Activity:

Incorporated into daily tasks and geared to individual capabilities can improve compliance.

Ongoing (client) support:

Ongoing support is important in achieving long-term weight loss. This involves ongoing motivational and cognitive behavioural therapy. Relapse or weight gain is common during the weight loss process and if clients are taught to accept and cope with small lapses then full relapses can be prevented. 128

Incorporating these key points can only improve the success of any weight management model developed for use in community pharmacy.

Adherence to any proposed weight management model is an important predictor of success 121 and this can only be achieved if the eating and behaviour and lifestyle modification plan is one which can be maintained indefinitely. It should also teach clients how to select and prepare healthy food as well as maintaining the new weight.
6 Community pharmacy based programmes: Enhanced Pharmacy Services other than weight management

6.1 Review of major Australian community pharmacy public health promotion programmes and enhanced pharmacy services (EPS) other than weight management

Most health promotion programmes that currently run in community pharmacy can be classed as EPS as according to the NPDP definition because they require additional skills and knowledge and are provided to special sub-groups of clients by the pharmacist and staff. The uptake of supplying EPS has been slow. The role of an EPS provider has been adopted to varying degrees by community pharmacists using a range of models and strategies. In Australia, EPSs are being delivered in various chronic disease states such as asthma, diabetes, hypertension, hyperlipidemia, cardiovascular disease and via HMRs and smoking cessation and to a smaller degree weight management.

Relevant selections of community pharmacy based health promotion programmes are reviewed. Successful and unsuccessful strategies are discussed and the implications of the barriers and facilitators to these programmes reviewed with regards to developing a CPWMP.

6.1.1 Self Care Programme.

The NPDP reported that regular use of Self Care the programme has been adopted by only 25% of Australian pharmacies, although the market penetration varies from state to state (just below 40% in WA and just over 50% in Victoria). Pharmacists that use Self Care enthusiastically support the high standard of cards and leaflets provided for client education on medical conditions and medications, as well as staff education material provided in regular newsletters.

Major reasons for the relatively low adoption of Self Care, as assessed by state coordinators include:
Financial – the annual fee of $675 is perceived as a barrier. Additionally cards are provided to clients at no cost (i.e. an expense rather than a financial return). Greatest resistance comes from proprietors who have just purchased a pharmacy, perhaps because it is perceived as an additional financial burden at a time of greatest financial outlay and lowest return.

Competition - some pharmacy groups (e.g. Amcal, Chemmart) provide educational material that is perceived as either equivalent to Self Care or; as this material is already provided as part of the group fee structure, the purchase of Self Care is an additional and seen as possibly an unnecessary expense. Some pharmacist’s claim that other sources of information exist and are preferred, including Internet based material.

Need by Self Care to recruit members when community pharmacy ownership changes. When the annual membership of an existing member is due many pharmacies whose ownership has changed do not automatically rejoin.

Membership relies on a specific contact person in a pharmacy. Often one person in a pharmacy coordinates the purchase and use of Self Care, and if that person leaves (either as a proprietor or employee) enthusiasm for the programme may be lost. Anecdotally, trainee pharmacists are identified as keen supporters as the importance of written educational material is emphasised in their undergraduate training.

Spatial considerations related to return on investment. Some pharmacies state that lack of space is the reason for not using Self Care. It may be that limitations on space within a pharmacy magnify the importance of the financial return on space available. As Self Care is not generating profit there is less interest in its use compared to displays that return a profit.

Time to use Self Care. Time restraints lead some pharmacists to believe that using Self Care is difficult.
6.1.2 Community Pharmacy Asthma Care Model

Saini et al. 137 and Kritikos et al. 138 have published evaluations of their study of a community pharmacy based asthma care model. This was a successfully run health promotion programme through community pharmacy in terms of implementation in those pharmacies that participated in the asthma care model. Overall cost effectiveness of the programme from the point of view of the cost of asthma to the community was very positive for this intervention. In the Pharmacy Asthma Action Plan Project final report to the PGoA the barriers to the programme’s implementation into community pharmacy were financial, time constraints and the need for intensive training.136 When training was provided it enabled pharmacists to overcome further barriers of lack of confidence and resistance to a new concept.138 However, enthusiasm was high with regards to a role in a health promotion programme.138 The intervention group of 39 showed an $11 savings per month per client for costs of asthma medications, and $8400.10 monthly for overall decrease in severity. Annual cost savings due to an overall decrease in severity of asthma in the intervention group was estimated as $100 801.20. The programme showed the success of a specialised asthma EPS in community pharmacy. (114)

6.1.3 Home medicine reviews.

Operation of the programme:

Professional and political support for the HMR programme has come from the identification of medication misadventure as a high priority public health issue. The focus on risk management in the 1990s reflected evidence that drug-related problems adversely affect client outcomes and contribute significantly to increased healthcare costs. (116) The Safety and Quality Council report, Improving Medication Safety, published in 2002 estimated that approximately 140,000 hospital admissions annually were related to drug-related problems.139
HMR’s were formally designated ‘Domiciliary Medication Management Reviews’ as the review is undertaken at a place of the client's choice, usually their home as this allows access to medications, including over-the-counter medicines, vitamins, complementary medicines and nutritional supplements. Information provided when the programme was introduced in October 2001 stated that the process focused on assessing and improving medication management by the client in order to assist in the care provided by the GP writing a referral. HMRs provide the opportunity for the assessment of drug-related problems in the context of a Pharmaceutical Care model.\textsuperscript{140-142}

There was the potential for HMRs to be viewed as a prescribing audit, however this was addressed in written material An HMR review is more than a assessing a list of medications, as it focuses on how a patient or carer manages his or her medications by considering cognitive factors as well as psychological factors that affect medicine use.

Because of the potential sensitivity of GPs to the programme assurance was given in written material on HMR’s, during the implementation phase, that it was not an audit of prescribing. While the approach adopted by accredited pharmacists undertaking HMRs may vary an HMR involves a number of key aspects of medication management including the degree of understanding of indications for therapy, dosage regimens, correct medication use (e.g. inhaler medicines), assessing compliance, barriers to appropriate administration and advice on use of strategies to improve compliance (e.g. use of a dose administration aid), education on medical conditions, the rationale for using specific medicines, and evaluating the use of over-the-counter and complementary medicines for efficacy, and appropriateness with prescribed medicines.
Table 5 Home Medicine Review — Summary of activities

(Explanation of symbols: 🌲 = person responsible for initiating, conducting or leading the activity; ✓ = other individuals that may be involved in the activity; 🗂️ = recipient of relevant document)

<table>
<thead>
<tr>
<th>No.</th>
<th>Step</th>
<th>Activity</th>
<th>GP</th>
<th>Accredited Pharmacist</th>
<th>Comm Pharmacist</th>
<th>Consumer / Carer</th>
<th>Other Member(s) Of Health Care Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Triggering A HMR</td>
<td>Identify Potential Need For Service</td>
<td>🌲</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>Initiating A HMR</td>
<td>Determine Whether To Initiate A HMR</td>
<td>🌲</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Informed consent</td>
<td>Discussion during consultation</td>
<td>🌲</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Referral</td>
<td>Referral To Nominated Pharmacy (Provide/Transmit Referral Form)</td>
<td>🌲</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Coordinate HMR</td>
<td>Coordinate Time, Place And Appropriate Reviewer</td>
<td>🌲</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>Collection of information</td>
<td>Establish medication profile</td>
<td>🌲</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>Education and assistance with compliance</td>
<td>Identify need for education, advice and information</td>
<td>🌲</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>HMR report</td>
<td>Analyse information and develop management strategies</td>
<td>🌲</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Prepare report of findings and recommendations</td>
<td>🌲</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>If Necessary, Discuss Findings, Recommendations And Proposed Management Plan</td>
<td>µ</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Medication management plan</td>
<td>Discuss and sign off on agreed medication management plan</td>
<td>🌲</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Provide Copy Of Agreed Medication Management Plan</td>
<td>µ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Follow-up</td>
<td>Implementation of agreed actions</td>
<td>µ</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Follow-Up And Monitor Outcomes</td>
<td>µ</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HMR applies to clients in the care of their GP and is available once per year unless required earlier because of changes to the client's medication regimen or a change in the client's conditions (e.g. recent discharge from hospital involving significant
changes in medication). A client, a carer, or GP or another health professional may identify the need for a HMR including a pharmacist. The GP may forward the referral form to the client’s usual community pharmacy, or the client can be given the form to take to their community pharmacy.

GPs are requested to provide clients details and relevant clinical information to the pharmacist. This may include relevant laboratory results (e.g. international normalised ratio, serum electrolytes, plasma drug levels etc). GPs may use the HMR Referral Form, available from the HIC or one of their own design (usually computer generated, often provided by their Division of GP).

Risk factors for selecting clients for HMR include, but are not restricted to:

5 or more medications; 12 or more doses per day, significant changes in medications in the last 3 months; medications requiring therapeutic monitoring; symptoms suggestive of an adverse drug reaction; sub-optimal response to medicines, including non-compliance and inability to use medicine-related devices; suspected non-compliance or inability to manage medications (including physical and cognitive difficulties); clients attending different medical practitioners, both GPs and specialists; recent discharge from hospital.

Only accredited pharmacists are permitted to evaluate information gathered through a client interview and forward a written report to the GP detailing findings and recommendations. Where the accredited pharmacist cannot undertake the interview another pharmacist is permitted to gather this information, and this method is used in regional and remote centres that may not have ready access to an accredited pharmacist. Pharmacists are accredited through one of two professional bodies – the AACP or the Society of Hospital Pharmacists of Australia (SHPA) both of which
require the attainment of minimal standards of competence gained through additional training and testing through case study preparation or examination.

GPs are paid under MBS Item 900 (Medication Management) for writing the initial referral, consenting the client and preparing a Medication Management Plan (available from the HIC, or an equivalent designed by the GP). This plan is based on the written report prepared by the accredited pharmacist. A copy can be forwarded to the community pharmacy, especially where follow-up is required to reinforce information with the client.

Community pharmacies are currently paid $140 plus GST per referral. Contracted accredited pharmacists negotiate payment for the client interview and report preparation. Anecdotal evidence suggests the time spent by accredited pharmacists varies in relation to past experience, especially the ability to assess clinical information. This results in a wide variation in the per hour payment rate.

**Uptake of HMRs.**

Participation in HMRs by community pharmacies requires registration of the pharmacy with the HIC as an Approved Domiciliary Medication Management Review Service Provider. The uptake of approved community pharmacies was gradual after the programme commenced in October 2001, but once information reached community pharmacies this increased rapidly and by early 2003, 68% (3,362) of pharmacies in Australia were approved.\(^{143}\) By December 2004 the percentage of community pharmacies that have registered with the HIC increased steadily and state comparisons showed the participation rate ranged from 42% to 85%\(^{144}\):

- Northern Territory 42%
- ACT 56%
- NSW 75%
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- Queensland 76%
- WA 77%
- South Australia 78%
- Tasmania 82%
- Victoria 85%

Some community pharmacies, including those who have infrequent requirement for a HMR, have chosen not to register with the HIC as approved providers. Some pharmacies have agreements with other community pharmacies to use their accredited pharmacist and have the claim processed externally.

Uptake by GPs through claims under MBS Item 900 increased from a few hundred in the initial months of the programme to around 1,600 a month by January 2003, to a total of 16,665 claims. This represented total remuneration of $1.7million to GPs and $2.35 million to community pharmacies.\textsuperscript{143} By February 2005, 67,238 HMRs had been undertaken, an average of 1,681 per month. The uptake of HMRs continues to increase, the latest available data for the 12 months to February 2005 showing the monthly average had increased to 1844.\textsuperscript{144} In addition, the monthly average is now very consistent in comparison with previous years where monthly averages were subject to considerable variation. Interestingly, the uptake by State reflects a greater per capita participation in Queensland, South Australia and WA, with a relatively less uptake per capita in Victoria.\textsuperscript{144}

The uptake by GPs varies. While the national uptake is low, with previous estimates being less than 10% in 2003,\textsuperscript{143} the reported range by individual Division of GP is much higher at approximately 30%. In larger part this is a result of the effects of the Medication Management Review Facilitator Programme.\textsuperscript{143}
Evaluation of the HMR programme.

The results of the formal evaluation of the HMR programme were unavailable at the time this report was prepared. When available the report will provide information regarding the implementation of the HMR process, the role of GPs and community pharmacies, feedback from accredited pharmacists and the experience and outcomes for clients. The results of this assessment should provide valuable information to assist in further evaluation of barriers and facilitators to the uptake of new programmes by community pharmacies.

Barriers to HMRs:

While the formal evaluation of the HMR programme will elucidate barriers, anecdotal evidence from a small sample of community pharmacists, accredited pharmacists, GPs and facilitators in the PGoA and Divisions of GP suggest several barriers. Firstly, in the few months following the programmes introduction obtaining the services of an accredited pharmacist was difficult, probably because information regarding the programme was still being distributed and understood by the professionals involved.

Secondly, only a small percentage of GPs have participated in HMRs. Anecdotal evidence from accredited pharmacists and community pharmacists suggests that GPs using the HMR programme continue to do so because they are remunerated, receive positive feedback from their clients and appreciate the contribution made by accredited pharmacists in recommending prescribing changes and other strategies to improve the outcome of pharmacotherapy.

Anecdotal evidence from HMR facilitators, however, suggests that some GPs have taken a position to actively oppose HMRs as an intrusion by pharmacists in the medication management of their clients. Anecdotal evidence from a limited number of Division of GP pharmacist facilitators and GPs also suggests that the timeliness and
quality of reporting by accredited pharmacists has been a barrier to continuing use of
the programme. This suggests that, depending on the results obtained from GPs in the
formal evaluation process, greater emphasis may need to be placed on initial and on-
going training of accredited pharmacists in both clinical assessment, as well as writing
skills that meet the needs of GPs.

HMR facilitators and accredited pharmacists report that some community pharmacies
that have not registered with the HIC to participate in HMRs did not wish to
participate. Reasons included not being familiar with the programme (despite regular
information being forward by official organisations including the PGoA and articles
in pharmacy publications including the Australian Journal of Pharmacy and Australian
Pharmacist), disinterest in participating, a perception that after payment was made to
an accredited pharmacist the remuneration was insufficient for the time involved, and
an inability to locate an accredited pharmacist. As discussed previously, this latter
issue was a short-term impediment following the initiation of the programme. When
the HMR programme commenced any community pharmacy could register with the
HIC, however this changed later so that only pharmacies that had attained QCPP
status were eligible. This may have had a minor effect on pharmacy registration.

Facilitating factors supporting HMRs:
The MMR Facilitator Scheme has been a major factor supporting the implementation
and ongoing success of HMRs. It draws upon the experience and recommendations
contained in several evaluation reports of Medication Review Projects conducted in
Australia. Each evaluation reported positive outcomes and impact for consumers,
participating doctors and pharmacists.

To achieve the desired outcomes the PGoA provided funding for a part time MMR
Facilitator position in each of the 122 Divisions of General Practice. The facilitators
were to be pharmacists unless work force shortage resulted in non-pharmacists being recruited. The MMR Facilitators provide support, advice, education and information to pharmacists and GPs in their local area. MMR Facilitators are supported by a national and state infrastructure. State MMR Facilitators are located at the PoGA’s Branch offices in all states and territories. In addition to the facilitators in Divisions of General Practice two National Management Positions (one at both the PGoA and ADGP) are involved in programme implementation through the National Management Group.

The Facilitators Programme has been a key component of HMRs to support GPs and pharmacists in understanding and implementing HMRs. Other support has come from the AACP and its website provides information to community pharmacy on the availability of accredited pharmacists for sub-contracting purposes. This information is also available from the PGoA and facilitators in the Divisions of General Practice. A key element of the Facilitator Programme is the appointment of Programme Advisory Groups to provide input to the development of the role and function of facilitators within the Divisions of General Practice. Support by the Divisions is reported to have exceeded expectations. In addition, individual community pharmacists have promoted the HMR programme to GPs in their locality, as well as written referrals to GPs for clients with specific medication related issues.

The increasing number of HMRs conducted since its inception in 2001 supports the contention that payment plus administrative support are major reasons for the success of the HMR programme.

The success of this model points to the need for administrative support in the implementation of programmes involving pharmacists. Resources developed through the Facilitator Programme have also assisted pharmacists conducting HMRs. These include HMR Disease State Management (DSM) Guide, HMR Home Interview Form,
Fact Sheet on occupation health and safety issues, Fact Sheet and flow chart on the relationship between HMRs and Enhanced Pharmacy Care multidisciplinary care plans, and MMR Facilitator detailing cards for pharmacists and GPs. In 2003 the PSA published a very useful case-based reference, Medication Reviews: A Process Guide for Pharmacist soon after the introduction of the HMR programme.

Flexibility in undertaking HMRs has also assisted uptake. While the HMR report must be prepared by an accredited pharmacist to conform to HIC payment guidelines, a non-accredited community pharmacist is permitted to conduct the client interview and provide this information to an accredited pharmacist to undertake the clinical assessment and prepare the report for a GP. This ability provides an avenue by which regional and rural community pharmacists, who do not have ready access to an accredited pharmacist, can provide a service to clients and GPs.

The accreditation process, already in process for Residential MMR, provided the labour force of accredited pharmacists required for the conduct of HMRs. This availability has been facilitated for some years by the AACP, which has many pharmacists undertaking on-line accreditation. More recently the SHPA has offered accreditation through the US based Certification in Geriatric Pharmacy examination offered as a three hour examination offered bi-annually. Many accredited pharmacists contract to a number of community pharmacies to conduct HMRs under an agreed fee-for-service payment. Accredited pharmacists often work part-time on consulting work, often in conjunction with work at community pharmacies. Previous analysis has shown that community pharmacy relationship with an accredited pharmacists was most commonly on a contract basis, with proprietors comprising around 16% and less than 10% being a manager, full-time or part-time employee. This availability, especially the ability to out-source work has greatly assisted in the uptake of HMRs and meant that individual community pharmacies do not necessarily need to fund their
own staff to undertake additional training for accreditation. It also provides a means by which community pharmacies do not necessarily need to locate and employ relieving staff in order to release their own staff to perform HMRs. This flexibility has also been a contributing factor to the rapid uptake of HMRs. Since November 2002, when HMRs were first remunerated, the number of accredited pharmacists in Australia has increased from 1241 to 1562 (based on latest statistics available as at February 2005), an increase of 25.7%. However, the number of accredited pharmacists has remained constant since March 2004, and between that date and February 2005 decreased marginally from 1582 to 1562, a decrease of 1.3%.144

The programme fosters inter-professional cooperation between pharmacists and GPs through the provision of recommendations as to methods of improving outcomes. Anecdotal feedback to community pharmacies and accredited pharmacists suggests that many GPs who continue to use the HMR programme greatly appreciate pharmacists’ contribution.

As stated some pharmacies actively promote HMRs to their clients and refer clients to their GP. Reasons include the detection of medicine related issues and related factor such as cognitive issues affecting clients’ ability to manage their medicines, the need for intensive education regarding medicines and monitoring specific medical conditions (e.g. poor control of diabetes or asthma). As well as referring clients for professional reasons stated above, some community pharmacies perceive that their professional concern also has commercial benefits as it improves client trust and loyalty.

Community pharmacies and accredited pharmacists also report that clients have a high regard for the review and highly value the professional input of accredited pharmacists in providing detailed one-on-one education that is, largely because of time restraints, not readily available from either their GPs or community pharmacist.
6.1.4 Other Enhanced Pharmacy Services delivered in community pharmacy

The NPDP reported that the percentage of community pharmacies reporting the provision EPS by trained staff varied: smoking cessation 19.0%; diabetes 17.2%; asthma 14.9%; wound care 14.3% and weight reduction 8.7%. The weight reduction programme percentage being reported before the introduction of Lifeweight™. This percentage is now likely to have increased. However there are few published studies at the time of writing of this report, on these stated programmes provided by community pharmacy.

6.2 Identifying barriers and facilitators to health promotion and enhanced pharmacy services

Understanding the barriers and facilitators to the adoption by community pharmacy of health promotion programmes and therefore EPS, is essential to determine how programmes can be successfully implemented. Also an understanding of these factors directs research into specific areas that require elucidation in both the assessment and implementation process.

No formal evaluations were available to assess barriers and facilitators to programmes such as diabetes, asthma, Self Care and smoking campaigns. Information on these programmes was obtained through personal contact with pharmacists associated with, or having experience with the programmes. The most detailed information was published in the following:

- NPDP regarding EPS,
- The Shape of our future, Change Management and Community Pharmacy Project,
- An investigation into business and professional facilitators for change for the pharmacy profession in light of the Third Guild/Government Agreement.
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- Quantification of facilitators to accelerate uptake of EPS in community Pharmacy.\(^\text{11}\)

Some limited information has been published in other countries. These sources of information are also considered.

### 6.2.1 National Pharmacy Database Project

The NPDP is the most comprehensive study of community pharmacy practice published.\(^\text{68}\) NPDP aimed to address the lack of a comprehensive database concerning of the nature and frequency of general or specialist health related activities performed in Australia’s community pharmacies. The database was seen as important so as to provide accurate time-series comparisons of changes occurring in Australian pharmacy practice, as well as relate these to changes in other countries. It also allowed for pharmacy activities to be measured against Australia’s health priorities, policies decisions and for undergraduate and continuing pharmacy education and training. It was designed to inform national professional bodies and provide reliable data to assist these bodies when making submissions on legislative and other matters to government agencies or parliamentarians. In essence, NPDP aimed to provide a reference point to the range and frequency of the health-related activities involved in contemporary pharmacy practice in Australia.

NPDP officially commenced in January 2002, the national survey of community pharmacies was conducted from 12 July to 9 September, and the resulting frequency data were compiled and summarised from September to November 2002. The results were analysed from January to April 2003 and the report completed in June 2003.
The terms of reference of the NPDP project were:

- To construct a national database of the most important types and rates of pharmacy characteristics including facilities, health-related general and specialised services including preventive services in Australia’s community pharmacies for Australian and overseas reference or comparisons.
- To make comparisons between pharmacies in the different physical and professional remoteness of pharmacies within Australia (PhARIA) zones.
- To test relationships between pharmacy characteristics and facility/service provision.
- To test relationships between pharmacy characteristics and barriers to facility/service provision; and
- To make national estimates of a range of pharmacy services and facilities.

The sample of pharmacies was adequate to meet statistically defined margins of error with prevalence rates of pharmacy services or facilities down to 1%. PhARIA zones were used to stratify to ensure adequate numbers of rural and remote pharmacies. To overcome the skewness due to the large bulk of pharmacies in Pharia 1, a 20% random of pharmacies in Pharia 1 and a total sampling of all pharmacies in Pharias 2 to 6 was undertaken. A questionnaire was developed with most questions and data items requiring numerical data with which statistical estimates could be made, thereby adding a crucial quantitative value. The questions tested a balance of the core general and special activities in Australia’s pharmacy practice. These were largely based on demographics trends, changes made to national health policies since 1997 and evolution in pharmacy practice proceeding overseas and in Australia. The
questionnaire was conducted and analysed independently by the University of WA’s Survey Research Centre and its Biostatistician. 91% participation and over 81% response rates were achieved, and thus non-respondent bias was minimal. One limitation was that the survey was of pharmacies in Australia and may reflect the opinions of pharmacy owners and managers and not reflect the opinions of pharmacists in salaried and casually paid positions. Despite that limitation NPDP is the most comprehensive survey of community pharmacy activities yet undertaken. It provides comprehensive data on the barriers and facilitators to the adoption of EPS.

Section C of the NPDP addressed the barriers and facilitators of EPS. Questions to gather this information were compiled after consultation with a national panel, visits to pharmacies across all Pharia zones in some States, direct or telephone discussions with their key staff, direct or telephone discussions with leaders of pharmacy bodies and pharmacy groups and reference to a range of pharmacy business, practice and research journals published in Australia and internationally. Questions were compiled with particular reference to the national survey of pharmacies conducted in Great Britain in 2000 and the barriers were derived from surveys in Northern Ireland and the USA. The questions were tested in a focus group of pharmacists from a variety of pharmacies in Pharia zones 1 and 2 and a nationwide sample of practicing and specialist pharmacists in Pharia zones 1 to 6.

**NPDP Barriers**

The greatest barriers to the introduction of EPS in order of declining priority were identified as:

- ‘Lack of time’ (90.3%)
- ‘Shortage of pharmacists’ (78.3%)
- ‘No extra remuneration’ (63.3%)
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- ‘Cannot find locums’ (63.2%)
- ‘Clients won’t pay’ (56.3%)
- ‘Cannot meet with local GPs and health workers’ (50.5%)

The barriers most strongly rejected for EPS were:

- ‘Not felt to be part of pharmacy job’ (71.5%)
- ‘May impair their relations with local GPs’ (52.5%)
- ‘Lack confidence’ (49.3%)
- ‘Lack knowledge/skills’ (44.2%)

These factors are shown in table 6 with each factors stated above highlighted. Only 5.0% of all pharmacies offered other barriers.

Table 6: Barriers to enhanced services reported by Australia’s community pharmacies in 2002.

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Strongly Disagree</th>
<th>Unsure</th>
<th>Strongly Agree</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time shortage</td>
<td>7.3%</td>
<td>1.4%</td>
<td>90.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Pharmacist shortage</td>
<td>11.8%</td>
<td>7.5%</td>
<td>78.3%</td>
<td>2.4%</td>
</tr>
<tr>
<td>No extra remuneration</td>
<td>20.7%</td>
<td>14.1%</td>
<td>63.3%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Cannot find locums</td>
<td>19.1%</td>
<td>13.9%</td>
<td>63.2%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Clients won’t pay</td>
<td>16.1%</td>
<td>24.8%</td>
<td>56.3%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Cannot meet with GPs or health workers</td>
<td>31.4%</td>
<td>16.3%</td>
<td>50.5%</td>
<td>1.8%</td>
</tr>
<tr>
<td>GP’s don’t recognise enhanced pharmacy services skills</td>
<td>29.7%</td>
<td>25.0%</td>
<td>43.5%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Lack knowledge/skills</td>
<td>44.2%</td>
<td>14.6%</td>
<td>38.5%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Lack confidence</td>
<td>49.3%</td>
<td>16.4%</td>
<td>31.4%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Impair relations with local GPs</td>
<td>52.5%</td>
<td>26.2%</td>
<td>20.1%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Not part of pharmacy job</td>
<td>71.5%</td>
<td>14.7%</td>
<td>11.3%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Other</td>
<td>0.5%</td>
<td>0.4%</td>
<td>4.1%</td>
<td>95.0%</td>
</tr>
</tbody>
</table>
These were also a “Pharia Zone Effect”. Pharmacies (> 80%) in Pharias 2-6 strongly identified ‘shortage of pharmacists’ and ‘unable to find locums’ as the major barriers to introducing EPS. Pharmacies in Pharias 4, 5 and 6 (< 37%) were less concerned with ‘meeting with GPs’ or ‘GPs not recognising their skills’ in comparison with pharmacies in other Pharias.

The lack of time, shortage of pharmacists and remuneration were clearly the greatest barriers. Most Australian states currently report that securing the services of pharmacists remains an issue despite the increased numbers of pharmacists now being trained by universities. Inability to hire locums so community pharmacists can become involved in EPS remains a major barrier to their introduction. Proprietors of community pharmacy recognise that financial viability cannot be assured by providing services free of charge. Two methods of remuneration are generally recognised - payment for the purchase of a product associated with advice or service, or payment on a fee for service basis associated with a service only. Programmes that are remunerated have high uptake by community pharmacies, the best examples being HMR (discussed elsewhere) and methadone treatment programmes.

Studies of barriers and facilitators by Australian community pharmacies in methadone treatment programmes are limited, however a major study of methadone maintenance programmes published in 2000 stated that community pharmacists favoured an evaluation of the current situation and the barriers to participation. The report acknowledged that government subsidy of the dispensing programme had been successful in contributing to increased participation, from 20% in 1996 to just over 30% at the time of the study in 2000, making methadone maintenance programmes the largest specialty practice in pharmacy at that time. The report recommended that dispensing fee incentives be implemented to improve participation of community pharmacies. The NPDP reported that 46.7% of surveyed pharmacies reported
participation in supervised dosing of methadone and/or buprenorphine more than once weekly, which implies a marked increase in participation rates by pharmacies in opioid replacement programmes since 2000. However, in respect to remuneration it is of concern that the NPDP reported that at least 80% of the pharmacies do not appear to charge for dose administration aids used for supervised dosing. This suggests that many pharmacies perceive a possible commercial advantage in supplying this service free of charge, and if this mind set was applied to other programmes it may be an additional barrier to remuneration.

**NPDP Facilitators**

The facilitators most strongly supported for EPS were:

- ‘Dedicated study time’ (77.9%),
- ‘Accreditation’ (75.6%),
- ‘Closed counselling areas’ (72.8%)
- ‘Access to client notes’ (70.6%)
- ‘Clinical testing areas’ (65.4%)
- ‘Appointment systems’ (60.6%)

Only 5.4% of pharmacies offered other facilitating factors.
Table 7: Facilitators for EPS for Australia’s community pharmacies in 2002.88

<table>
<thead>
<tr>
<th>Facilitator</th>
<th>Strongly disagree-disagree</th>
<th>Unsure</th>
<th>Strongly agree-agree</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study time</td>
<td>8.4%</td>
<td>11.8%</td>
<td>77.9%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Accreditation</td>
<td>10.8%</td>
<td>11.4%</td>
<td>75.6%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Closed counselling area</td>
<td>15.8%</td>
<td>9.5%</td>
<td>72.8%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Access to client notes</td>
<td>11.5%</td>
<td>14.9%</td>
<td>70.6%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Clinical testing area</td>
<td>14.3%</td>
<td>17.5%</td>
<td>65.4%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Appointment systems</td>
<td>16.2%</td>
<td>20.3%</td>
<td>60.6%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Other</td>
<td>0.3%</td>
<td>0.3%</td>
<td>4.8%</td>
<td>94.6%</td>
</tr>
</tbody>
</table>

Again, there was a “Pharia Zone Effect”. Pharmacies in Pharia 1 to 4 supported ‘access to client notes’, ‘closed counselling area’ and ‘accreditation’ as the most important facilitators for the introduction of EPS compared to pharmacies in Pharias 4, 5 and 6.

Accreditation is essential for establishing standards of practice and maintenance of these standards of practice. While publishing standards of practice are useful in guiding activities and establishing standards for these activities, publication of information or standards alone does not necessarily result in competent practice. Competence is more than simply knowledge and comprehension, and requires that a specific level of knowledge, skill, attitudes/values and judgment is developed.149 Interesting pharmacy respondents reported they spent a minimum of 6.8 hours per month on continuing pharmacy education activities. While this figure is about twice that reported by pharmacists in Northern Ireland and England it indicates a willingness by pharmacists to participate in continuing education and training required for EPS.88

Referral to other health professionals, where required, is widely used by community pharmacies. The NPDP reported that community pharmacies use the referral system.
for primary care to involve other healthcare professionals, including dieticians and GPs.\textsuperscript{68} Community pharmacies also referred clients to, or provided complementary practitioners services for 44,044 clients each month.\textsuperscript{68}

Community pharmacies also have a relatively high use of information technology and, other than computer assisted dispensing, the NPDP reported that 39.8\% of community pharmacies use the Internet and 40.8\% regularly use email.\textsuperscript{68}

\textbf{6.2.2 Study 1: The Shape of our future, Change Management and Community Pharmacy}

The project was a comprehensive project undertaken by the PGoA as part of the Third Guild/Government Agreement.\textsuperscript{6} It analysed current and potential services within community pharmacy while also developing business models to increase cognitive service provision and change in community pharmacy. It provided strategies and implementation programmes for the support of community pharmacy in the adoption and implementation of these services. This required a study of barriers and facilitators to these processes of change.

Importantly for the CPWMP, this report recommended that any introduction of any future EPS occur only after a mapping exercise using the “Characterising Opportunities Filter” had taken place of the service. This would allow the potential extent of adoption and prioritisation of the service to be understood.

\textit{Study 1: Barriers}

- Workflow/Time constraints:

  EPS generally change workflow characteristics of a pharmacy. EPS requiring high participation by a pharmacist increases time constraints on dispensing prescriptions and may decease efficiency and capacity. Workflow changes are necessary to maintain dispensing capacity and cope with general workload
characteristics. Pharmacy assistants, dispensary technicians and other innovated practices were raised as possible solutions.

- Pharmacists’ Skills/Training/Accreditation:

Research suggested that pharmacists’ lacked a number of key advanced practice skills, which influence their adoption of EPS. Some of these were identified as therapeutics, clinical problem solving, communication skills, documentation and drug information. Pharmacists also had a lack of confidence in their clinical knowledge and with equal importance felt they lacked the business acumen to implement EPS successfully.\(^6\)

Recommendations around these barriers were for professional service training packages to be developed by pharmacy educators and trainers, which may include universities and the PSA. Professional qualifications for pharmacists or pharmacy staff offering certain services should to be developed. Competencies developed by educators and trainers for provision of these services will ensure services are delivered at a defined level of excellence and consistency. These will lead to an accreditation processes endorsed and supported by the appropriate client support organisations. Also the introduction of mentors and advisors were raised as a way of improving educational and academic obstacles.\(^6\)

- Inter-professional issues/Stakeholder management.

The interaction of pharmacists with other health professionals will by its nature increase when EPS are instigated. Developing and maintaining these relationships have been problematic for the profession.\(^6\) Pharmacists often site this as a barrier to EPS and sometimes may lead to the pharmacist being forgotten or have less of a role with the primary healthcare team.\(^6\)
Training incorporating improving relevant knowledge regarding the particular EPS would be likely to improve confidence. Training focusing on better communication techniques could lead to a possible reduction of this problem also. The pharmacy industry as a whole, with support from relevant pharmacy organisations also needs to emphasise to stakeholders the;

- Quality of the service
- Mutual benefit of pharmacist involvement in EPS
- Opportunity for better primary care outcomes with an integrated system.\(^6\)
- Remuneration

If community pharmacy is to move more successfully and quickly to being a provider of EPSs then adequate financial rewards need to occur for the service provided. New EPS introduced need to provide more emphasis on developing implementation plans and financial reward as at present there is a perception of low profitability in providing EPS.\(^6\) However, the proviso being that simply providing adequate or perceived financial reward will not make all the reluctance to taking on these new services disappear. Other factors will still exist as barriers and these also need to be considered as part of a total integrated solution for the improved adoption and practice of these services.\(^6\) Thus a Weight Management Model must consider the barrier of remuneration but not in isolation. It needs to contain recommendations and solutions to the number of barriers being discussed in this review and other reports for it to overcome the problematic and sometimes haphazard adoption of other health promotion programmes.

Also noted was that for positive change to occur with the adoption of EPS, it was recommended that a “greater focus need to be given to the funding of cognitive pharmaceutical service opportunities from sources other than the Australian Government”.\(^6\) A significant issue raised by this report, is that pharmacists will need
to charge for services and charge for the real cost of the service, especially for those services requiring investment, in time, skill, specialist knowledge and staff for future sustainability of these services and of community pharmacy. This goes against the overall unwillingness of pharmacists to introduce a “fee for service” for value added professional services otherwise not subsidised by Government or third party payers.

**Study 1: Facilitators**

The study presents many facilitators to EPS and at the core of these is the use of the tools developed by the study to enhance change management in pharmacy. Unless cultural, professional, and individual change management is undertaken within the industry at all levels of the organisation, community pharmacy will not continue to develop and grow and will be unable to support sustained and widespread EPS. Also the importance of the PGoA’s present and future role as a primary instigator of policy and management of the industry is defined in the many recommendations. These recommendations seek to secure the building blocks of community pharmacy for the future, which is inherent in its uptake and provision of EPS. Examples of some current facilitators are the funding supplied by the Guild/Government agreements for further research and support of EPS, the development of collaborations between pharmacy and other stakeholders in the development of future EPS, and the expansion of the QCPP quality assurance process. Also raised was the use of “specific consultation or testing times” as a means of differentiating a fee for service and one that is free. A by appointment service allows the client to see distinctively the special skills, time and different nature of the service beyond the usual non-fee pharmacy services. It also gives the pharmacist the opportunity to control workflow and workload constraints while still providing the service and charging a fee for specific knowledge and skills not a product.
6.2.3 Study 2: An investigation into business and professional facilitators for change for the pharmacy profession in light of the third Guild / Government agreement.

This study set about to develop a business and professional model for change in community pharmacy, with EPS as part of the core business (specific references to HMR and QCPP). To do this the study identified practice facilitators to change using experiences from existing community pharmacy services and programmes. From this two types of facilitators were identified,

- Experiential facilitators; those experienced during actual implementation of EPS when changing practices.
- Potential facilitators; those possible factors that may help in overcoming barriers to EPS implementation.

Study 2: Barriers

Barriers experienced by pharmacists implementing QCPP and HMR where cited as:

- Time
- Workforce shortages
- Volume of work involved
- Perceived lack of knowledge and or confidence in providing the service.

This reiterates the necessity of accommodating solutions to time, workload, and training in any new model of an EPS such as weight management. The necessity to keep the model simple with a decreased amount of paperwork would be likely to improve its adoption by pharmacists. Workforce shortages are something that cannot be tackled by an individual model of an EPS but more globally by the pharmacy industry, and educational organisations.
Study 2: Facilitators

From this study it can be elucidated that the following facilitators can assist EPS implementation and practice change:\(^\text{10}\):

- Remuneration of implementation and/or service
- External support or assistance
- Reorganisation of the pharmacy’s structure and function
- Communication
- Internal leadership and
- Delegation of tasks

Motivators to bring about change in practice where a desire to achieve professional satisfaction, provide healthcare to the public and decrease the fear of threats to the business.\(^\text{10}\) Again this study found remuneration to be a major facilitator if offered or a most likely barrier if not forthcoming as part of EPS. The business nature of community pharmacy must be integrated with the professional aspects of practice and taken into account when designing new models for EPS, especially for its adoption and sustainability.\(^\text{10}\) New programmes should also be disseminated with an integrated framework for implementation.\(^\text{10}\)

This investigation into business and professional facilitators also recommended the need for more research to be undertaken in this area of pharmacy change management, to better understand successful implementation in pharmacies of EPS. A new potential facilitator raised was that of financial incentives being available for certain practice changes and adoption of services made, as a means to improve both. Further to implementation of EPS is the need to sustain and maintain the practice changes made and the EPS. This is as an important task as implementation. It was noted that some pharmacists felt it would take some time before EPS such as QCPP
and HMR were part of everyday practice. For this to occur it would take regular monitoring and setbacks were likely.  

6.2.4 Study 3: Quantification of facilitators to accelerate uptake of cognitive pharmaceutical services in community pharmacy

The lack of research in this area drove the aim of this study, which was to determine and validate evidence-based facilitators of practice change with regard to implementation of EPS. Also to identify the impact on these facilitators and practice changes on different pharmacists and pharmacies with different:

- Value sets
- Stages of change
- Factors that affect financial investment in relation to the implementation of EPS.

And importantly, for the development of a future weight management model, was the need shown to include these facilitators in future EPS programmes. 

Study 3: Facilitators

The study identified the following seven facilitators of practice change:

- Relationship with doctors
- Remuneration
- Client expectation
- Pharmacy layout
- Manpower/staff
- Communication/teamwork (incorporating leadership)
- External support/assistance
This investigation noted that these facilitators only accounted for half the factors affecting implementation of new EPS. However it was suggested that these facilitators be taken into account when costing a new EPS. Further research is needed to elucidate the other factors affecting implementation. Also of interest is that remuneration or funding for an EPS may not necessarily achieve the change necessary to mean the particular EPS will be adopted.\(^1\) It seems remuneration is only part of what needs to be a well-crafted and integrated EPS process considering all aspects of the business and professional nature of community pharmacy.

The costs associated with the facilitators may preclude the uptake of an EPS if they are perceived to be too high or give low profitability. Incentives where suggested as a possible solution to implementation of EPS that require significant investment.\(^1\)

Findings of this study were also incorporated into the “Community Pharmacy and Change Management Project”.\(^6\)

Other than the studies discussed above, there is a paucity of formal and published studies conducted in Australia. The NPDP stated that “no studies were found from Australian sources”.\(^68\)

However in one other study of the role of pharmacists in promoting active lifestyles the barriers identified were\(^150\):

- Commercial viability including need for reimbursement.
- Availability of staff.
- Time related issues that diminish participation.
- Pharmacists’ knowledge, and education and training needs.
- Communication with other healthcare professionals.
- Space and facilities within pharmacies.
6: Community Pharmacy Based Enhanced Pharmacy Services

- Boundary encroachment with GPs.
- Pharmacists perceived as being focused on selling medicines and not having a professional role in lifestyle programmes.

6.3 Summary of barriers and facilitators to EPS other than weight management in Australian community pharmacy.

6.3.1 Australian Community Pharmacy Barriers

- Commercial viability including lack of, and need for, reimbursement.
- Time related issues that diminish participation, including lack of time for involvement in programmes and availability of staff.
- Pharmacists’ competence regarding the programme, and education and training needs.
- Space and facilities within pharmacies.
- Degree of dependence on other healthcare professionals for operation of a programme.
- Availability of, and ability to refer to, other health professionals.
- Boundary encroachment with other health professionals, including GPs.
- Pharmacist public image – perceived as being focused on selling medications and not having a professional role in lifestyle programmes.
- Reservations that clients will not pay for a service versus a product
- Limited access to pertinent medical information required to provide care.
- Legal and professional guidelines concerning the role and responsibilities of pharmacists and pharmacy assistants.

6.3.2 Australian Community Pharmacy Facilitators

- Remuneration, as demonstrated by the rapid uptake of HMRs.
- Professional and administrative support (also a major factor in the rapid uptake of HMRs).
- Flexibility in the availability of pharmacist labour (a factor in HMR uptake).
- Positive attitudes of community pharmacists toward dedicated study time and accreditation. The level of professional regard derived from the work performed that would motivate pharmacists to participate in cognitive services.
- Ready accessibility of the public to community pharmacies.
- Positive image of pharmacists as trusted professionals.
- Inability of other health professionals, especially GPs, to participate in programmes.
- Reported wide availability of closed counselling areas in pharmacies.

6.4 International experiences of community pharmacy based health promotion

Before delivering any funding to address the epidemic proportions of obesity, researchers should be mindful of the extent to which these opportunities have already been exploited in other developing countries.

Identifying recent and current projects as expressed in policy statements, scientific literature and initiatives will give an insight in the current understanding of weight loss programmes which are often presented as part of a larger health promotion campaign.

Of particular interest here is how the international pharmaceutical profession conceptualises weight loss programmes as to effectively carry out these types of interventions. But there are some issues that warrant prior consideration so lessons can be learnt from the experiences, across the developed countries of Europe and North America. These are:

- What environments do overseas pharmacists encounter in these fields?
• Interventions made by overseas community pharmacists: Are there factors occurring, which can be abstracted? Is there a best practice scenario that can be used to enhance current Australia practice?

• What are the international barriers and facilitators, experienced?

• Collaborations with other health professionals: Is this in fact an area for cooperation between the professions? Could health promotion prove to be some common ground between health professionals?

• Is Health Promotion Education offered?

To gain an understanding of professional concepts of health promotion on the policy level, publications from national and international professional organisation and published material (scientific and relevant professional journals) were analysed.

6.4.1 Environments international pharmacists encounter

Similarities between Australian community pharmacists’ environment and their international counterparts were that pharmacists are routinely identified as members of the healthcare team who can promote good health through their counselling activities, including helping clients achieve and maintain a healthy weight. They are uniquely accessible concerning opening hours, geographical distribution and often present the first point of contact with the healthcare system. The pharmacy presents a familiar informal environment where advice and expertise can be delivered to the public at large.

The American Society of Health-System Pharmacists encourages pharmacists to work with obese clients to reinforce lifestyle modifications and provide education and encouragement.
Again similarly the community pharmacist is widely recognised as the expert on medicines, but not so much as an important and valuable source of health-related advice. Although many clients seem to be supportive of the idea of community pharmacists providing health related advice, only a few explicitly ask for it. According to the perception of professional bodies of community pharmacy, the potential of community pharmacy in the area of health promotion has not yet been fully recognised by many stakeholders in most countries.

Since obese clients are often interacting with their community pharmacists for many of their obesity-related co-morbidities, there is an opportunity for pharmacists to be involved in pharmaceutical care aimed at facilitating weight loss.

One of the ways pharmacists can promote good health is by counselling clients. Dastani et al. reported their findings of a mail survey to 400 Texas community pharmacists, regarding factors that influenced community pharmacists’ likelihood of counselling clients about their weight. It showed that obesity counselling by pharmacists correlated with their comfort with counselling obese clients, their confidence in achieving positive outcome and their perceived effectiveness of obesity management options. Most of the responders in this survey tended to be older pharmacists who had been practicing for more than 2 decades. Not surprisingly, pharmacists had the most confidence and were most likely to counsel clients about medication-related issues such as directions for use and adverse effects than lifestyle and obesity issues. They were less likely to counsel regarding supplements and may have been appropriately reluctant to recommend such products.

### 6.4.2 Interventions made by international community pharmacists

While there are not too many interventions made by community pharmacists that represent different offering to those noted in Australia the following were of interest.
In a randomized, controlled, open-label trial Ahrens et al. compared a meal replacement (MR) programme with a conventional reduced-calorie diet (RCD) for weight management using the pharmacy as the setting and the pharmacist as the point of contact for dietary advice. Ninety-five participants were enrolled, of whom 88 were considered eligible for comparison by continuing through week 2 of the study. Participants were randomized to an MR plan or a traditional RCD plan. Participants were followed for a 3-month period of active weight loss and a 10-week period of weight maintenance. Participants returned every 3 weeks for follow-up with the pharmacist, for a total of 13 visits. During the active weight loss phase, the MR (n = 45) and RCD (n = 43) groups lost a significant amount of weight, although no significant difference was found between the groups (mean ± standard error = 4.90 ± 0.30kg MR versus 4.30 ± 0.30kg RCD; P = 0.16). In the weight maintenance phase, the MR group lost 0.70 ± 0.40kg and the RCD group lost 0.90 ± 0.40kg (P = 0.60). Significant improvements were observed in waist circumference, systolic and diastolic blood pressure, and triglyceride levels. No significant changes were seen in HDL cholesterol or LDL cholesterol levels in either group. The authors concluded that successful weight management can be achieved in a pharmacy setting, with both MR and RCD programmes being effective.153

Toubro et al. reported using dietary guidelines for overweight and obese participants in Danish pharmacies. This retrospective study evaluates the results of a 12-week slimming course for overweight and obese subjects held at Danish pharmacies at one-year follow-up. Two hundred and sixty-nine overweight and obese (BMI > 25 kg/m², 32 ± 4.5(mean ± SD)) paid 550 Dkr each for a 12 weeks slimming course held at 19 Danish pharmacies with groups of 8-20 subjects each. The age was between 18 to 81 years, 259 were females. The course included eight sessions of 1.5 hour education in nutrition and physiology aiming for a dietary change toward a low-fat, high carbohydrate diet. Self-reported body weight was assessed on at the pharmacy scale
before and after the course and again after three, six and 12 months follow-up. One hundred and ninety-one or 71% of subjects completed the 12-week slimming programme. The average weight loss was 5.3 and 6.2kg among females and males, respectively. The weight loss maintenance was assessed at one-year follow-up in 122 (45%) of the subjects who entered the course and was 4.0 and 6.7kg in 118 females and four males, respectively. At one year follow-up 40 subjects (20%) of the subjects who completed the course had maintained a weight loss >5kg. The authors concluded that the initial weight loss, and maintenance and drop-out rate are comparable with results from GPs and hospital out-patient clinics, but the costs are substantially lower.

Interestingly Berbatis reported in 2005 that “standard devices and procedures required for measuring weight are not held and implemented in most Australia’s community pharmacies”.

Formal guidelines and training offered by pharmacy bodies and pharmacy schools were also identified as a requirement so that pharmacists are able to contribute competently in this priority area of population health. Further the National Pharmacy Database Project reported that only 8.7% of Australian community pharmacies offering weight reduction as an enhanced pharmacy services by trained staff. However, the NPDP also showed that community pharmacies offered testing services relevant to weight reduction services. These included 51.1%, 21.6% and 4.9% of community pharmacies in 2002 reporting performing one or more tests monthly for blood pressure, glucose and cholesterol respectively.

6.4.3 International community pharmacy barriers and facilitators to cognitive services.

**International Barriers**

Internationally as in Australia community pharmacists provide various array of public health information and programmes. Community pharmacists and those providing services in ambulatory care clinics are ideally placed to provide weight management advice, although there are limited data to support whether this
opportunity is taken. However, international data is available regarding GPs and reasons for reduced interventions with overweight clients were given as a lack of:

- Time
- Reimbursement,
- Training or expertise, and
- Perceived likelihood of failure of the intervention.

Although there are no comparable studies conducted on pharmacists specifically providing weight management interventions, as discussed, the barriers to cognitive services are similar for pharmacists as for GPs. Additionally, pharmacists may feel uncomfortable talking to clients regarding their weight and have a lack of confidence in approaching this sensitive issue.

NPDP stated that lack of time was reported as the main barrier to providing enhanced services in British pharmacies, and to pharmaceutical care in Northern Ireland and the US. Lack of resources in pharmacies was found to be the main barrier to pharmaceutical care in Danish pharmacies. Further training was found to be the main facilitator in the studies conducted in Northern Ireland and Denmark. External promotion of these services and changes in the operation in pharmacies were also found to be important. However, differences in study design and the object of the barriers and facilitators in the studies limit the comparison between these studies and Australian studies.

Miller and Ortmaier studied factors most likely to influence the delivery of pharmacy services by community pharmacies and identified economic benefit as the most important factor, with motivation increasing when linked to a financial incentive. Another study found that the frequency of client counselling was related to
prescription payment methods (in addition to practice setting and whether treatment was for chronic or acute medical conditions).\textsuperscript{158}

These results support the NPDP data and PGoA reports suggesting that without adequate financial incentives other motivators will not be sufficient in themselves to promote pharmacists’ participation in enhanced pharmacy services.

Miller and Ortmaier report concerns as to how willing the public may be to contribute financially to adequately remunerate pharmacists for their time.\textsuperscript{157} This is clearly linked with the recognition by clients of the role of the pharmacist and this may, depending on the service provided, require marketing of the pharmacist’s role as the public may have little appreciation of the skills that pharmacists possess.\textsuperscript{157} These authors also comment that private payment was rated as the preferred payment method when compared with government and private insurance payers. Concern has been expressed that third party contractual requirements (e.g. government or private health insurance payers) may hinder or limit both current reimbursement levels and the viability of adequate ongoing remuneration.\textsuperscript{159} In one study third party reimbursement was rated as the biggest challenge facing community pharmacy.\textsuperscript{160} This issue is especially relevant as pharmacists may perceive that the short-term advantage in remuneration is not matched in the long-term so as to provide assurance that the set-up costs of participation are justified (e.g. additional training, increased demands by staff for increased wages to match new skill levels, equipment, renovations and marketing).

Government and other third party payers often recognise the pharmacist’s ability to positive affect costs in the healthcare system, but do not always recognise the necessity to compensate pharmacists for time spent providing pharmaceutical care. This issue is internationally recognised and well stated by Rupp et al. that “payers remain generally unwilling to compensate pharmacists for most extra distributive
professional activities, particularly if these activities were not associated with the distribution of a pharmaceutical product”.  

Other barriers identified in the above studies reflect the Australian experience and include:

- Limited access to other health professionals necessary in the care of a pharmacy client.
- Limited access to pertinent medical information required to provide care.
- Legal and other limitations regarding the role of pharmacy assistants’ functions and responsibilities.
- Insufficient knowledge and training necessary to provide care.
- Conflicts between pharmacists and other healthcare professionals regarding the enhanced pharmacy service.
- Focus of some pharmacists on technical and product related features of pharmaceutical services.

Although there is often a shortage of time for healthcare professionals to offer counselling, short two to three minute client-specific messages with accompanying written literature can make a difference.

**International Facilitators**

The perception by pharmacists that a focus on prescription margins (mark-up and dispensing fee) adversely affects income provides positive incentive to participate in increasingly cognitive services that provide a fee for service that recognises and rewards professional skills.

Probably the greatest facilitator to community pharmacy’s involvement in EPS is the accessibility to clients that would be expected to permit pharmacists to contribute
significantly to the management of lifestyle programmes. Pharmacists are routinely identified as uniquely accessible members of the healthcare team who can promote good health through their counselling activities, including assisting clients achieve and maintain a healthy weight. In regard to Australia an associated factor is the consistently high rating in national surveys of pharmacists as a most trustworthy profession.

Miller and Ortmaier identified that, after remuneration, the most important facilitators to the delivery of pharmacy services were:

- The level of professional regard derived from the work performed. This seems an important factor to younger, often recently qualified pharmacists, who seek professional satisfaction linked to their increasing clinical training provided by universities. In Australia this may be especially important with the national adoption of a four year degree; and

- Legal and professional guidelines concerning the role of pharmacists. As drug use review is an essential element of practice, incorporating this into programmes give both professional recognition of the pharmacist’s role as well linking it to a role that the public already recognises.

There are many available resources via online continuing education programmes. Various organisations offer workshops and training programmes, although they are rarely targeted to a pharmacist audience. However, using currently available resources, a basic understanding and application of weight management concepts and intervention tools could be acquired and implemented by pharmacists in their practice settings.

In Australia pharmacists will try to make the client feel comfortable by allocating space for a more desirable one-on-one private conversation. Many people like to talk
about their medical problems without other people standing next to them. Any element of privacy and confidentiality allows for better pharmacist-client interaction. The most common communication techniques used in client-pharmacist communication are the telephone and face-to-face, interpersonal communication. However, it has been observed that in some pharmacies, clients are now communicating via email. This technologically advanced communication technique requires certain equipment, such as computers, and technological skills for both participants.\textsuperscript{163}

The National Pharmacy Database Project showed that Australian community pharmacies have a relatively high use of information technology and, in addition to computer assisted dispensing, the NPDP reported that 39.8\% of community pharmacies use the Internet and 40.8\% regularly use email.\textsuperscript{68}

Consumer confidence and trust in pharmacists provides continuing opportunities for pharmacists to create products and services to satisfy consumer demands related to disease prevention and healthcare delivery. Srnka et al. describe two-pharmacy wellness programmes designed to meet consumer needs, and offer them as models for pharmacists. Issues related to the programme and extent of involvement by pharmacists are raised, including the role of the pharmacists in behaviour modification efforts; selecting areas of focus (e.g., smoking cessation); working with physicians for referrals, enlightening community business leaders and managed care organizations to the economic benefits of the programme, and developing strategies for fair purchase of services to achieve programme goals and provide adequate compensation in return.\textsuperscript{164}

Anderson et al. reported that users of community pharmacy-based health development initiatives express a high level of satisfaction. If community pharmacies are to be used to their full extent, then actions to extending the public's awareness and acceptance of
the pharmacist’s role in giving advice will be crucial.\textsuperscript{165} Community pharmacy services as part of community health strategy not only involves giving advice on health and hygiene aspects of the home environment, e.g. controlling such things as the house dust mite and mould spores. Furthermore, advising on drug abuse prevention, life-style e.g. smoking, alcohol and diet, as well as advice on minor illness to encourage individuals to take greater responsibility of their health is discussed.\textsuperscript{166}

Health promotion is greatly supported by early detection of disease and several forms of diagnostic testing. Pharmacists with adequate and appropriate training could carry out screening. However, to ensure consistent and acceptable standards, protocols should be established and this is best aided by effective communication with GPs. Thus pharmacists should be empowered to give appropriate and sound advice and to refer the client to a GP, who then may refer to a specialist if necessary. Useful in its own right, this can also be recognised as part of a wider purpose, e.g. to reinforce health campaign messages (weight, blood pressure, cholesterol) and to support work of other local healthcare professionals as information gatherers.\textsuperscript{167}

Clinical guidelines from the ASHP Therapeutic Position Statement\textsuperscript{152} reinforce the pharmacist’s important role in the management of overweight and obesity.\textsuperscript{168, 169} Pharmacists can collaborate with other healthcare professionals to identify overweight and obese clients and encourage lifestyle modifications. When pharmacotherapy is indicated, pharmacists can aid the healthcare team in selecting an appropriate agent considering client-specific factors, such as concomitant disease states and medications. The National Institute for Clinical Excellence (NICE) guidelines and those of the National Heart, Lung, and Blood Institute make recommendations relevant to pharmacotherapy such as the duration of therapy relative to weight loss.\textsuperscript{170, 171}
Pharmacists should be sympathetic to clients suffering from this chronic disease. Reinforcement of lifestyle modifications and provision of encouragement to clients on a monthly basis are important duties for every member of the treatment team. Pharmacists are encouraged to initiate discussion with clients about the health benefits of weight control. This view is further supported by Malone et al. where those clients supported in the community by pharmacists appeared to have improved persistence with orlistat therapy.

Developing an obesity treatment training or accreditation programme modeled after smoking-cessation or diabetes education programmes may be valuable to pharmacists as well.

As previously noted pharmacists should also consider innovative methods of providing obesity management, such as the use of computer technology. Rapid increases in access to the internet have made it a viable mode for public health intervention. An American Weight Control and Diabetes Research Centre in Rhode Island conducted a research project to determine whether a structured Internet behavioural weight loss programme produces greater initial weight loss and changes in waist circumference than a weight loss education web site. Participants who were given a structured behavioural treatment programme with weekly contact and individualised feedback had better weight loss compared with those given links to educational web sites. Adding email counselling to a basic internet weight loss intervention programme significantly improved weight loss in adults at risk of diabetes. Thus, the internet and email appear to be viable methods for delivery of structured behavioural weight loss programme.

**6.4.4 Collaboration with other health professionals internationally**

Increased government and public health focus on obesity will likely bring new opportunities for healthcare professionals to participate in the management of
overweight and obese individuals.\textsuperscript{174} The occurrence of obesity is influenced by a complex interaction of genetic, environmental, and behavioural factors. Therefore, a multidisciplinary treatment programme that enables the physician to draw on the resources of specialists in nutrition, exercise, and behaviour modification and that works with the obese client as an actively involved member of the team, provides the most flexible, individualised, and effective strategy.\textsuperscript{175}

Following descriptions in the literature on this subject, the most important partners in healthcare for community pharmacists are GPs and it has been emphasised that community pharmacy works as an important interface between the lay and the professional health (care) system.

It is the multidisciplinary approach to obesity treatment that allows individualisation of weight management by involving the client in developing the treatment plan while taking into account client preference, lifestyle and social situation.\textsuperscript{176}

Models for multidisciplinary care may vary depending on whether they are designed for an individual medical practice or are set within the structure and healthcare services of a larger facility.\textsuperscript{177} A multidisciplinary team may be as simple as a physician referring clients as necessary to dieticians, exercise physiologists, and/or behavioural therapists/psychologists and coordinating communication among the team and client by the telephone and/or internet.

Models designed for a large facility may include an interactive team made up of health care professionals from various disciplines that are physically located within the facility. Even if the physician does not use a team approach, it is still possible to implement multidisciplinary treatment to support more positive client involvement and outcomes.
An increasing number of resources, such as those developed and made available by the American National Institutes of Health and organisations such as the American Dietetic Association and American Heart Association, can aid the busy physician and pharmacist in client education, in reinforcing weight management guidelines with the client, and in supporting the client in daily efforts for weight loss or maintenance.

Co-operation with client organisations and the pharmaceutical industry is carried out mainly in campaigns or in specific projects to ensure that health targets are reached and to guarantee continuity of care. Government health policy usually has a profound influence on the pharmacist’s professional role (via legal regulations), with respect to rights and duties, education, research and especially remuneration. Accreditation may be employed as an important means by which the government could ensure high quality of cognitive services like counselling and advising clients. Moreover it could use this influence in various areas to facilitate community pharmacists' involvement in health promotion, eg via inclusion in national campaigns and programmes, or even via including community pharmacy in national health policies, such as in Australia, the NHMRC guidelines.

To ensure high quality of cognitive services like counselling and advising it appears beneficial to include health promotion units in the university curriculum. Currently, topics related to health promotion seem to figure more prominently in vocational training and continuing education, and in courses sponsored by pharmaceutical industry.

A recent study from the UK of current activities, has revealed an explosion in community pharmacy health improvement projects being run in conjunction with British National Health Service (NHS) primary care organisations in areas like smoking cessation, prevention of heart disease, diabetes awareness, obesity and weight reduction.
6.4.5 International Health Promotion Education

As in Australia, training has been regarded as a key component in changing pharmacists' behaviour during specific health promotion programmes conducted in Great Britain.\textsuperscript{179-181} Advice from pharmacists trained in health promotion programmes in Scotland produced significantly higher success rates than pharmacists without training.\textsuperscript{181}

Health promotion educators can play a significant role in educating pharmacists to become effective health promoters themselves.\textsuperscript{163} Training was positively received by pharmacists in all studies reviewed as education on health promotion resulted in longer consultations between pharmacists and clients and increased opportunistic health promotion involvement.\textsuperscript{182}

Client feedback from pharmacy-based health development activities is generally very positive and results showed an increase in the percentage of clients who reported gaining useful health information from interactions with pharmacists or assistants. More clients reported discussions about general health when collecting prescription medicines or purchasing over the counter medicines, indicating that the programme changed pharmacists’ behaviour by enabling them to become more proactive in initiating more discussions on general health matters rather than solely on medicines.

6.4.6 Summary of International community pharmacy health promotion

The International experience is very similar to the Australian experience. This review of overseas studies reiterates the comment made by Roberts et al. in 2003 that “Australia has been at the forefront of an international trend towards the incorporation of cognitive pharmaceutical services in community pharmacy practice”\textsuperscript{10} The barriers and facilitators to the adoption of EPS by international community pharmacies are inherently the same as those identified by Australian studies and
experiences. Remuneration and training appear to be the key in changing community pharmacists’ practice to incorporate health improvement activities and embedding a more holistic approach to client care.

Most of the trials and experimental studies demonstrate a positive effect from pharmacists’ input in various health promotion activities. Although the number of RCTs was small, there were a substantial number of intervention studies.

There is good clinical and cost-effectiveness evidence from the UK, Canada and the US on RCTs in smoking cessation, lipid management in the prevention of heart disease. Despite the paucity of dedicated weight loss programmes there is unambiguous evidence that supports the wider provision of these services through community pharmacies.

6.5 Summary of Australian and International community pharmacy based health promotion programmes and enhanced pharmacy services

Barriers and facilitators to community pharmacy based health promotion and EPS have been identified. Australian and international experiences are very similar. There are positive factors that appear to promote the participation of community pharmacy in health programmes that can improve health outcomes of participants. It is clear that no matter how relevant any participation in health promotion programmes and the performing of EPS is, these programmes will be unsuccessful if not widely adopted. For this to happen the identified barriers must be overcome. The identification of barriers and facilitators is an essential and vital element in research to determine their utility in community pharmacy practice for any future weight management programme.
7 Community Pharmacy Based Weight Management Programmes.

The CPWMPs chosen were the major, or well structured and organised, or well-publicised weight loss programmes. It was felt that on the whole a representative cross-section of the types of weight management programmes running in community pharmacy were identified and assessed. In that, a representative range of:

- Programme contents,
- Programme structures such as product based or not,
- Basic weight management services offered by the community pharmacy were covered.

These factors gave a good level of information to identify opportunities, and limitations (facilitators and barriers) of the community pharmacy based programmes. Also, at the time of this review, very little data has been published on any CPWMP in Australia making assessment and comparison of results especially difficult.

The NPDP reported that only 8.7% of community pharmacies surveyed conducted weight management programmes.\(^{68}\) However these statistics were published before the implementation of the Lifeweight\(^{TM}\) programme and would be higher now, with a reported 3200 pharmacists purchasing Lifeweight\(^{TM}\).\(^{135}\) At present in Australia the majority of weight management programmes in community pharmacy are product related, typically involving strategies to reduce energy intake via limiting fat or overall calorie/carbohydrate intake. Lifestyle factors are raised and addressed to some degree but this is primarily to augment the associated weight management product. Some of the weight management services in pharmacy are based upon the pharmacist, and/or their trained staff, providing guidance on weight management and incorporating products in to the weight management plan as appropriate.

Lifeweight\(^{TM}\) is an example of a programme accessible via a community pharmacy which aims to sell a health solution for obesity rather than a particular product.\(^{183}\) Other weight management programmes
available in community pharmacies in Australia that are reviewed which also appear to sell a health solution for obesity include:

- Chemist Works’ weight loss clinic
- Amcal weight management programme
- Sibutramine (Reductil®) on its own or with VLCDs integrating manufacturer product-support/enhancement programmes with local practitioners
- Ultra Lite TM is a naturopath-designed programme, which often uses a community pharmacy as an outlet to operate the programme  
- Tony Ferguson’s Weight Loss and Wellness Centre utilises a VLCD as the basis of this programme
- HealthPath TM
- Kicstart® and
- Optifast®

Kicstart® and Optifast® are VLCD meal replacement sachets and are evidence-based weight loss treatments available via community pharmacies which are accompanied by programmes.

Many other weight-loss products without a strong evidence base are available from community pharmacies. Medislim® and SlimEZE® are examples of such products which have weight management support materials available for the client and these are mentioned briefly in this review.

It is necessary to compare these programmes to clarify what are the essential components and what are the deficiencies in the community pharmacy programmes and areas of opportunity for community pharmacy, which are not covered by non-community pharmacy programmes. The essential points, opportunities and potential areas for improvement identified in this comparison may be considered for the CPWMP.
The CPWMP will be a public health programme to be implemented by community pharmacies. The PSA has developed Pharmacy Disease State Management (PDSM) Packages in other public health areas such as diabetes, asthma and smoking cessation, but their level of uptake has been lower than that achieved by Lifeweight™. This review also investigates the reach, adoption and implementation of Lifeweight™ and how the knowledge acquired can be applied to the development and implementation of the CPWMP.

7.1 Lifeweight

Lifeweight™ is a weight management programme, which was designed for community pharmacy following the decision to down schedule orlistat. Roche (manufacturers of Xenical®) facilitated the development of the programme with the cooperation of the Australian College of Pharmacy Practice and Management, the PGoA and the PSA.24, 28, 191 The Lifeweight™ programme is the first nationally released weight management programme specifically designed for community pharmacy. It combines cognitive services with the product (Xenical®, drug orlistat) supplied in a holistic package. The programme comprises a very comprehensive well-structured weight management programme. The programme includes the gathering of baseline and longitudinal data (age, weight, BMI, target weight, measured progress to target, final weight on completion of or withdrawal from programme) to give the client objective information and for future sound evaluations to be performed on this data. Content of programme is based on sound evidence based material and is aligned with NHMRC present guidelines.14

7.1.1 Adoption of Lifeweight

In comparison to other programmes developed for use by community pharmacists to pursue EPS, Lifeweight™ has been well adopted by community pharmacists. For example the PDSM Packages available from the PSA have experienced slow uptake by community pharmacy. In comparison, Lifeweight™ was quickly adopted by community pharmacy. It was recently published that 3200 pharmacies had signed up
for the programme \(^{183, 192}\) however, it appears that this figure may be the number of kits sent to wholesalers (E-mail from John Chapman (limbeck@bigpond.net.au) 2005 May 25 {cited 2005 May 26}). It is estimated that 2200 have bought the Lifeweight programme (E-mail from John Chapman, (limbeck@bigpond.net.au) 2005 May 25 {cited 2005 May 26}).

It is apparent that the primary reason for the quick uptake of Lifeweight\(^{TM}\) was that community pharmacists made the assessment that it was a good business decision to purchase the programme on a pure “cost of programme for monetary benefits received” basis. The programme cost between $230 or $300 to purchase. (E-mail from John Chapman (limbeck@bigpond.net.au) 2005 May 25 {cited 2005 May 26}) This enabled the pharmacy to receive a 5% discount on Xenical\(^{®}\) purchases. (Sclavos K. Xenical OTC. AusPharmList [online] 2004 May 3 \(^{193}\). Available from ww.auspharmlist.net.au/post.php?post=2004/052004/029).\(^{28}\)

Anecdotally, a significant reason that the PDSM Packages wasn’t well adopted was that it was only offered to particular pharmacies. This served to antagonize other pharmacies; hence further uptake of the programme was stifled. If a pilot programme is to be conducted for the prospective CPWMP, the fact that it is a pilot for research purposes only, prior to a roll-out to all pharmacies if successful, needs to be made clear to pharmacists so that there is no misunderstanding.

However while data on adoption of the programme by pharmacists is positive, there is little data and less positive information available on the overall consistency of implementation of Lifeweight\(^{TM}\) by community pharmacy and on how many clients are actually participating in the programme.
7.1.2 **Lifeweight facilitators**

Positive factors associated with the structure of the Lifeweight™ programme that contribute to resolving problems (barriers) of providing enhanced services, as identified previously in this report and by community pharmacists, include the following:

- Lifeweight™ gives emphasis to the potential contribution of pharmacist and pharmacy assistants to the programme. This is included a specific training programme and assessment provided by the Australian College of Pharmacy Practice and Management. Specifically the “programme execution” section of the Lifeweight™ manual explains how a pharmacy assistant could administer most of the programme with guidance about where referral to the pharmacist is necessary. This may help to address the problem of the lack of pharmacist time and workload constraints to run a programme.

- With the perceived strength of the Lifeweight™ programme due to its good structure and support materials, some pharmacists took the opportunity to charge for the professional service. This charge essentially covered the time of a locum pharmacist while the pharmacist conducted the consultation. This was an example of pharmacists trying to address the problem of the lack of extra remuneration for implementing a programme. Pharmacies received a discounted price for Xenical® purchases (Sclavos K. Xenical OTC. AusPharmList [online] 2004 May 3 {cited 2005 May 24}. Available from www.auspharmlist.net.au/post.php?post=2004/052004/029). This could be seen as indirect remuneration for service, however, this does not apply if the pharmacist did not sell Xenical® as part of the Lifeweight™ programme. The business case also highlights the advantages of increasing client loyalty to the pharmacy due to servicing the client (as opposed to a mail order service), and
thereby increasing sales and also further developing the client pharmacist relationship.

- The programme gives flexibility to the pharmacist to choose what type of programme to provide. The processes and materials are not product or Xenical® specific and could be used for a general weight loss programme where the pharmacist chooses whether to recommend a product or not as appropriate for the individual client.

- Resources including marketing and promotional paraphernalia, appointment cards, programme materials, spread sheets for tracking clients weight as well as training materials, were supplied. Staff could work through this to become recognised providers as specialising in this area.

- BMI, target weight, measured progress to target, final weight on completion of or withdrawal from programme give client and pharmacist objective information.

7.1.3 Lifeweight Implementation:

Some factors associated with the implementation of the Lifeweight™ programme were similar to the strategies identified previously as essential for the successful implementation of health promotion programmes and EPS. These strategies are as follows:

- Lifeweight™ had the support of three major pharmacy organisations, namely the Australian College of Pharmacy Practice and Management, the PGoA and the PSA. This potentially increased the confidence of pharmacists in the programme and encouraged them to implement it.

- Promotion of the Lifeweight™ programme to community pharmacies is likely to have been an important factor in its uptake. The programme was promoted at conferences, in pharmacy journals, by sending flyers to all
pharmacies, and Roche Xenical® representatives also actively promoted it.\textsuperscript{183, 192, 194} Xenical® representatives also provided follow-up reminders to sustain the use of the intervention tool. (E-mail from John Chapman (limbeck@bigpond.net.au) 2005 May 25 {cited 2005 May 26})

- Provision of specialised training to ensure the confidence of the pharmacist and pharmacy assistant in consulting with a client and how to use the support materials is an important stage in the implementation of an intervention. Information to increase skills in the area was provided to pharmacists in the Pharmaceutical Society of Australia Weight Management Essential Continuing Pharmacy Education Program booklet\textsuperscript{113} and to assistants in Weight Management – Information for Pharmacy Assistants.\textsuperscript{113} Presentations were also offered in all capital cities (except for Darwin) and some regional centres (E-mail from John Chapman (limbeck@bigpond.net.au) 2005 May 25 {cited 2005 May 26}). Anecdotally, some pharmacists reported that these were not well-promoted and executed under hurried circumstances. Xenical® representatives also assisted in the explanation of the use of support materials. (E-mail from John Chapman (limbeck@bigpond.net.au) 2005 May 25 {cited 2005 May 26})

- Professional and useful support materials were provided with the Lifeweight\textsuperscript{TM} programme [Anon, 2005 #196;The Australian College of Pharmacy Practice and Management, 2004 #178;Anonymous, 2004 #169] This encourages its implementation.

### 7.1.4 Lifeweight barriers

Overall, some aspects of the Lifeweight\textsuperscript{TM} programme limited its implementation and adoption by pharmacists and may affect its overall sustainability. Most of the barriers identified are similar to those defined barriers to EPS, previously reported in the NPDP and other Guild/Government Third Agreement reports mentioned.\textsuperscript{6, 10, 11, 68, 136}
As no published evaluation or data exists on the Lifeweight™ programme at the time of this review the following barriers were elucidated from conversations with the Community Pharmacy Focus Group enlisted to advise and help this project as well as the specialist community pharmacist consultants aligned with the project and other anecdotal and practical evidence encountered by community pharmacists. The aspects, which hindered adoption and implementation of Lifeweight™, although a relatively successful community pharmacy based weight management programme, are:

- No differentiation occurred between pharmacists offering a full programme and those not. The original intention of the Lifeweight™ programme was that if pharmacists didn’t get accredited they would not receive the discount on the product. This does not seem to have eventuated in practice.

- Lack of direct remuneration for the weight management service provided is a major barrier. In the economic analysis for the programme there is no provision made for a fee for the cognitive or enhanced services provided by the pharmacist to underpin the programme. That is, no costings of the pharmacist’s time to run the programme. Some small reimbursement for the service was meant to come from the discount received on the product once a pharmacist was accredited. As mentioned this does not readily occur.

- Pharmacists were also reluctant to charge the client directly, for the service. Any discount received on the sale price of the Xenical® was often passed on to the client to reduce purchase costs for them, especially if discounting between pharmacies occurred. This meant that essentially the pharmacist was giving the weight management service for free.

- The Lifeweight™ programme is largely perceived rightly or wrongly as a product-based programme. Pharmacists did not seem to adopt the concept
that you did not need to necessarily have to recommend Xenical® to implement the programme.

- Remuneration can also be linked to product purchase via a sales volume-related income. This means that a minimum of 24 units needed to be purchased to get a discount and this precluded some small pharmacies from being involved in the discount and thus some decided the not use the programme.

- The Lifeweight™ programme was invested in and had a large acceptance with banner groups. However at the individual pharmacist level (even pharmacists within the groups) the programme was not well adopted or not well understood and pharmacists chose not to proceed with accreditation or training.

### 7.1.5 Lifeweight™ and Lifeweight™ plus X-plan.

Both these programmes represent programmes, which include the use of an evidence-based weight loss product. The LifeweightTM programme is not specifically linked to a weight loss product, however orlistat is mentioned and the launch of the programme was linked to Xenical® (Sclavos K. Xenical OTC. AusPharmList [online] 2004 May 3 {cited 2005 May 24}. Available from http://www.auspharmlist.net.au/post.php?post=2004/052004/029). If the client purchases Xenical®, they have the option to enrol in the X-plan support programme. This gives the client access to further resources but importantly, it gives access to a two-way weight loss support hotline. See Table 8.
### Table 8: Components of Lifeweight™ and Lifeweight™ plus X-plan programmes

<table>
<thead>
<tr>
<th>Component</th>
<th>Lifeweight™ ¹⁸³, ¹⁹², ¹⁹⁴</th>
<th>Lifeweight™ plus X-plan ¹⁸³, ¹⁹², ¹⁹⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diet</strong></td>
<td>Brochure outlining a balanced diet; other tips from the pharmacist; referral.</td>
<td>Brochure outlining a balanced diet; other tips from the pharmacist; referral; healthy menus from website</td>
</tr>
<tr>
<td><strong>Physical activity</strong></td>
<td>Brochure “Exercise guide to a healthier life”</td>
<td>Brochure “Exercise guide to a healthier life”</td>
</tr>
<tr>
<td><strong>Behaviour modification</strong></td>
<td>Included in discussions</td>
<td>2-4 weekly discussions with client to reinforce messages; diary completion</td>
</tr>
<tr>
<td><strong>Support/motivation/follow-up</strong></td>
<td>Follow-up if appointment missed; 2-4 weekly weigh-ins</td>
<td>Follow-up if appointment missed; 2-4 weekly weigh-ins; access to health professionals via hotline</td>
</tr>
<tr>
<td><strong>Weight loss product</strong></td>
<td>If required</td>
<td>Xenical®</td>
</tr>
<tr>
<td><strong>Expertise</strong></td>
<td>Pharmacists and pharmacy assistants</td>
<td>Pharmacists and pharmacy assistants; health professionals on hotline</td>
</tr>
<tr>
<td><strong>Other health-related services provided</strong></td>
<td>Review of other medications for any causing weight gain; medication compliance check if required</td>
<td>Review of other medications for any causing weight gain; medication compliance check if required</td>
</tr>
<tr>
<td><strong>Promotion to client</strong></td>
<td>In-pharmacy promotional stand</td>
<td>In-pharmacy when product is purchased</td>
</tr>
<tr>
<td><strong>Monetary cost to the client</strong></td>
<td>0-$20 per week</td>
<td>0-$20 per week (plus cost of product)</td>
</tr>
<tr>
<td><strong>Length of programme including maintenance phase</strong></td>
<td>6 months</td>
<td>Maximum of 2 years (maximum length of treatment currently recommended for Xenical®)</td>
</tr>
</tbody>
</table>
7.2 Other community pharmacy programmes

The following is a brief summary of each weight management programme. A more comprehensive comparison of the components of each programme is outlined in Tables 9 to 11.

7.2.1 VLCDs and associated weight management programmes

OASIS™: Optifast® is available from community pharmacies. Each pack contains enrolment information for the OASIS™ (Optifast® Advice, Support and Inspiration Source) programme. This is a web-based programme with information and support from the “ask an expert” facility. See Table 9.

KicStart™ is available from community pharmacies. The pack provides details of the KicStart™ website. This website provides a lot of lifestyle information for weight management. See Table 9.

**Opportunities for EPS with OASISTM/Kicstart®:**

- The link to product and the marketing helps draw clients into the pharmacy for weight management advice.
- Considerable weight loss can be achieved for some clients.
- Initial weight loss is greater than other forms of energy restriction (9 to 26 kilograms over four to 20 weeks).
- Remuneration from the sale of these products goes some way to support the service given for weight loss advice.

**Limitations for EPS with OASISTM/Kicstart®:**

- VLCDs are not always well tolerated by many clients. Compliance may be low (trial drop-outs rates are 8-48%).
Emphasis is often on weight loss as a function of the product not normal eating.

VLCD should not be used routinely for weight loss therapy and require special monitoring and supplementation.

The products can be bought in community pharmacies or via on-line pharmacies - price competition may reduce dollar return for community pharmacists and thus limit the service (time) the pharmacist is willing/able to spend with clients.

Usually programmes do not involve an appointment system and this can negatively influence pharmacist workload and time.

Weight gain is a concern when normal food is re-introduced following meal replacement or the partial meal replacement period. NHMRC guidelines recommend that this re-feeding period take over six to eight weeks, or longer as the client learns to practice food related lifestyle changes. As close supervision is essential it is unclear whether this programme can adequately give this type of supervision.

Weight is regained with continued treatment or when treatment is stopped.

### 7.2.2 Tony Ferguson's Weight Loss and Wellness Centre.

This programme uses a VLCD as its basis. This weight loss clinic operates from Tony Ferguson Chemist in Penrith, NSW. The service is soon to be expanded to Campbelltown, NSW. After the weight loss phase, a nutritionist can calculate the appropriate number of calories for the client to aim for in the maintenance phase.\(^\text{116}\)

This programme has reported an average weight loss of 9kg over 6 months with a dropout rate in line with that reported in clinical trials. Whether this weight loss was maintained is unknown.\(^\text{135}\) Opportunities and limitations are the same for this programme as for the VLCD programmes Optifast®/Kicstart®, however as this programme is a little more comprehensive it has the added and different opportunities.
and limitations for a community pharmacy based weight management service. See Table 9.

**Opportunities for an EPS with Tony Ferguson’s:**

- Weight loss clinics are by appointment thus possible to ensure the properly trained staff are available to provide the service.
- Baseline data on weight, diet and lifestyle, co morbidities and current medication history are taken and form part of review over the long term.
- VLCD product range is broad (currently 8 products, soon to expand to 20) - choice to maintain consumer interest.
- Remuneration potential good as many clients can be serviced. It is product driven remuneration, as all clients purchase the VLCD preparations and ancillary products. However, the weight loss service does generate clear defined earnings for the pharmacy each year.

**Limitations for an EPS with Tony Ferguson’s:**

- The service is only provided in groups, it doesn't appear to be individualised.
- At present, only available in Tony Ferguson's pharmacy or centres.
- The service is product-based (Tony Ferguson VLCD products and ancillary purchases). This model is not readily transferable to other pharmacies and does not overtly utilise the role of the pharmacist. It is reliant on a particularly knowledgeable and enthusiastic staff member and utilises the experience of a naturopath for much of the advice.
- Meal replacements have advantages over VLCD, however further testing is required to provide more detailed evidence of the effectiveness of the meal replacement approach.\(^\text{14}\)
- Clients may not meet long-term nutritional requirements. Hence the need for supplements.
- Constipation is a probable problem side-effect.\textsuperscript{116}
- With VLCD, long-term maintenance of weight loss over one to two years is variable and success is more likely if behavioural therapy or drug therapy is used as follow-up.\textsuperscript{14} It is not clear how the long-term maintenance is delivered.
- Information given to clients and the programme itself is not totally in line with NHMRC guidelines. Evidence based statements are mixed with statements where evidence available at present doesn’t support the claims and further research is needed, for example:
  - \textbf{What happens when I reach my desired weight?}

  `Once you have lost the amount of weight you wish, you do not put the weight back on, just because you have been on a diet. Due to the high protein in the diet, your lean muscle mass has been preserved; therefore your metabolism has NOT slowed down, as with other methods of dieting. We encourage our clients to follow a low glycemic way of eating (you can make a separate appointment for this) and our maintenance programme is based on a continued emphasis on a small amount of protein at each meal, and low glycemic carbohydrate intake.

  Several previously limited foods may be reintroduced in small amounts. Our nutritionists will work out for you how many grams of carbohydrates, and fats as well as the number of appropriate calories/kilojoules for your new weight - as well as your age and individual activity level. In this way, you need never put weight on again. In fact, one of the ways you can easily maintain your weight is to always have one of the protein meal replacement shakes daily. This is particularly recommended if you were previously a "breakfast skipper". In this way, you will always ensure that your metabolism stays functioning correctly.

  \textit{Remember that breakfast is the most important meal of the day!}

  (Frequently asked question section of the Tony Ferguson chemist Web site accessed 27\textsuperscript{th} May 2005).`
Table 9: Components of OASIS™, KicStart®, and Tony Ferguson’s Weight Loss and Wellness Centre.

<table>
<thead>
<tr>
<th></th>
<th>OASIS™ 187</th>
<th>KicStart™ 188</th>
<th>Tony Ferguson’s Weight Loss and Wellness Centre 116, 185</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diet</td>
<td>VLCD which is gradually replaced with low calorie meals (specific number of calories specified)</td>
<td>VLCD (to be used under the guidance of a healthcare professional); healthy eating information on website</td>
<td>Replaces 2 meals per day with a VLCD sachet and specific information is provided on what other food can be eaten. Website provides suitable recipes. Ketogenic diet.</td>
</tr>
<tr>
<td>Physical activity</td>
<td>Website information</td>
<td>Practical tips on increasing activity on website</td>
<td>-</td>
</tr>
<tr>
<td>Behaviour modification</td>
<td>Continual focus on calories in diet</td>
<td>“Making good habits for life” section of website</td>
<td>Tony Ferguson’s Weight Management Book</td>
</tr>
<tr>
<td>Support/motivation/follow-up</td>
<td>Ask an expert; website result recording; no follow-up</td>
<td>Not from product or website</td>
<td>Nutritionist available in-store (no appointment required) or via e-mail/website; forum on the website to chat with other people on the programme</td>
</tr>
<tr>
<td>Weight loss product</td>
<td>Optifast®</td>
<td>KicStart®</td>
<td>VLCD: programmes own brand name.</td>
</tr>
<tr>
<td>Expertise</td>
<td>Health professional at “ask an expert”</td>
<td>Not from product or website</td>
<td>Nutritionist</td>
</tr>
<tr>
<td>Other health-related services</td>
<td>No</td>
<td>No</td>
<td>Unknown</td>
</tr>
<tr>
<td>provided</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promotion to client</td>
<td>Enrolment pack in Optifast® box</td>
<td>Information on box when product is purchased</td>
<td>Media release to Channel 7</td>
</tr>
<tr>
<td>Monetary cost to the client</td>
<td>(Cost of product)</td>
<td>(Cost of product)</td>
<td>(Cost of product) +fee?</td>
</tr>
<tr>
<td>Length of programme including</td>
<td>At least 23 weeks</td>
<td>Not specified (depends on healthcare professional)</td>
<td>Not specified</td>
</tr>
<tr>
<td>maintenance phase</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.3 Programmes based on a weight loss solutions without a product

All the programmes discussed in this section are compared in Table 10.

7.3.1 Chemist Works’ weight loss clinics

These clinics operate in Wetherhill Park and Glendale in NSW. One practical idea noted about this programme is the encouragement of clients to join a walking club where local people can meet to talk about their weight loss.\textsuperscript{195} Web-based access to resources is also available.

7.3.2 Amcal weight management programme

This programme provides clients with a brochure with a section for tailoring a weight management plan to the client’s needs.\textsuperscript{196} The client is encouraged to discuss their situation with the pharmacist who helps them make goals for each week.\textsuperscript{197} The programme is associated with the sale of products and is run in store with the added resource of the Amcal website.

7.3.3 Opportunities for an EPS with Chemist Works and Amcal\textsuperscript{®}:

- A number of pharmacies are involved, giving access across Australia.
- These programmes promote pharmacists and community pharmacy as a source of health information and advice.
- The main benefits appears to be information/education about the effects of weight on health and general strategies. On-line access to such information further improves consumer access.

7.3.4 Limitations for an EPS with Chemist Works and Amcal\textsuperscript{®}:

- The programme is not a formal weight management programme to take a client through and there is uncertain benefit in terms of weight management goals.
• Remuneration seems to be passive, as a function of return-of-business model and associated product sales.

7.3.5 HealthPath

Healthpath is a concept started two years ago by "Weight Professionals", a company that enlisted pharmacies to participate in a weight management programme. This was a call centre service that referred people to the nearest participating pharmacy. Pharmacies gathered each consumer's baseline data, which was then sent to Weight Professionals for development of a weight management plan. Weekly weight appraisals by pharmacy staff occurred and a computer programme tracked progress with advice provided by Weight Professionals. The cost of the programme to the client was $745 for a 26-week programme, of which $400 went to pharmacy and remainder to Weight Professionals. Weight Professionals is no longer trading, leaving 150 clients still in the system. Phil Dibben a community pharmacist has developed a programme and has retained clients. HealthPath is currently trialling a revised system across three pharmacies, two of which are in new suburban developments and thus not an overly affluent demographic. It is an appointment-based system, which involves: baseline questionnaire (developed with weight management expert Garry Egger) and assessment (anthropometric measurements, food diary, fluid intake assessment, pedometer assessment of exercise to have objective baseline, BP, current conditions and medications). The aim is to help people lose weight and sustain the weight loss and then a weight maintenance programme is offered if desired. Clients use a 1800 number and if people ring they are referred to nearest pharmacy who then enrolls client into programme.

7.3.6 Opportunities for an EPS with HealthPath:

• The programme uses 1800 number to direct consumers to community pharmacy for weight management assessment and advice. People ring,
and are referred to the nearest pharmacy which then enrolls the client in the programme. All data is handled securely on-line (same as Mediconnect/Health Connect).

- HealthPath is a One-on-one service - tailored to individual and not product-specific. It has a recognised weight loss aim of no more than 1kg per week and focuses on consumer purchasing a service to achieve an outcome versus simply buying a product.

- It is appointment-based. A pharmacist can organise time and staff to provide the service.

- Remuneration is paid for by the client with a partial payment up front then easy payment plan of a set amount each week/fortnight, making it more affordable and sustainable.

- Baseline and longitudinal health data is recorded so health benefits can be assessed for future seeking of remuneration via health funds and Government.

- Initial and ongoing assessments consider medications (highlighting pharmacist’s area of expertise), including possible medication contributors to weight and strategies to manage this. Such assessments may present the opportunity to collaborate with the GP. In some cases this may include a Home Medicines Review, which facilitates payment for the pharmacist and GP.

- Weekly weight assessment presents the opportunity to review progress and any other health issues.

- All information and a client's weight management plan are securely stored in an on-line accessible database. The system prompts when the client has remained at the same weight for two weeks in a row, which gives an
opportunity to review why (adherence, plateau etc) and determine if intervention might be warranted.

- The aim is to help people lose weight and sustain the weight loss with a weight maintenance programme.

7.3.7 Limitations for an EPS with HealthPath:

- Requires consulting room and staff training - possible time and dollar cost.

- Not yet available for all pharmacies.
### Table 10: Components of Chemist Works’ Weight Loss Clinics and Amcal weight management programme.

<table>
<thead>
<tr>
<th></th>
<th>Chemist Works’ Weight Loss Clinics</th>
<th>Amcal weight management programme</th>
<th>HealthPath</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diet</td>
<td>Information about healthy diet and recipes</td>
<td>Brochure containing information about healthy eating</td>
<td>Information and advice provided and food diary</td>
</tr>
<tr>
<td>Physical activity</td>
<td>Information provided</td>
<td>Brochure containing information for increasing physical activity</td>
<td>Pedometer assessment and programme provided</td>
</tr>
<tr>
<td>Behaviour modification</td>
<td>Diary completion</td>
<td>Included in fortnightly appointment</td>
<td>Advice provided</td>
</tr>
<tr>
<td>Support/motivation/follow-up</td>
<td>Group seminars; walking groups encouraged; regular weigh-ins and BMIs</td>
<td>Group workshops, a fortnightly measurements; no follow-up</td>
<td>Weekly weight assessments, and review</td>
</tr>
<tr>
<td>Weight loss product</td>
<td>If required</td>
<td>Not mentioned as part of this programme</td>
<td>None specified, if appropriate, used, additional cost</td>
</tr>
<tr>
<td>Expertise</td>
<td>Pharmacist</td>
<td>Pharmacist</td>
<td>Pharmacist</td>
</tr>
<tr>
<td>Other health-related services provided</td>
<td>Blood glucose, cholesterol testing</td>
<td>Not mentioned as part of this programme</td>
<td>Health screening/ base line tests</td>
</tr>
<tr>
<td>Promotion to client</td>
<td>Unclear</td>
<td>In-pharmacy promotion</td>
<td>1800 number in pharmacy at present</td>
</tr>
<tr>
<td>Monetary cost to the client</td>
<td>Unclear</td>
<td>Nil</td>
<td>$750 Health fund rebate pending</td>
</tr>
<tr>
<td>Length of programme including maintenance phase</td>
<td>Unclear</td>
<td>Not Specified</td>
<td>24 weeks weight maintenance offered/emphasised</td>
</tr>
</tbody>
</table>
### Table 11: Components of Ultra Lite™, Medislim® and SlimEZE® programmes

<table>
<thead>
<tr>
<th>Service</th>
<th>Ultra Lite™</th>
<th>Medislim®</th>
<th>SlimEZE®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diet</td>
<td>Client is given a diet manual</td>
<td>Healthy eating tips and recipes on website</td>
<td>Eating “rules”, meal plans and recipes on website</td>
</tr>
<tr>
<td>Physical activity</td>
<td>No</td>
<td>Information about exercise on website</td>
<td>Information about exercise on website</td>
</tr>
<tr>
<td>Behaviour modification</td>
<td>Included in appointments; self hypnosis audiocassette</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Support/motivation/follow-up</td>
<td>Weekly appointments</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Weight loss product</td>
<td>Homeopathic supplement</td>
<td>Medislim®</td>
<td>SlimEZE®</td>
</tr>
<tr>
<td>Expertise</td>
<td>Nutritionist/naturopath/pharmacist</td>
<td>Nil</td>
<td>No</td>
</tr>
<tr>
<td>Other health-related services provided</td>
<td>Unknown</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Promotion to client</td>
<td>Community newspaper advertising</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Monetary cost to the client</td>
<td>Approx $400 for 5 weeks (including product)</td>
<td>(cost of product)</td>
<td>(cost of product)</td>
</tr>
<tr>
<td>Length of programme including maintenance phase</td>
<td>5 weeks (no formal maintenance phase)</td>
<td>Not specified</td>
<td>Not specified</td>
</tr>
</tbody>
</table>

* Paterson A, Pharmacy Manager 2005, oral communication May 16
7.3.8 Other programmes: With less evidence based data

All the programmes discussed in this section are compared in Table 11.

**Ultra Lite™**

The Ultra Lite™ programme was designed by a naturopath. A suitably trained nutritionist, naturopath or pharmacist administers the programme. Where the programme operates from a community pharmacy, the pharmacist may employ a suitably trained person to administer the programme or may undertake training to be able to perform the client consultations. The practitioner buys the right to sell the programme. (Paterson A, Pharmacy Manager 2005, personal communication May 16)

**Opportunities for an EPS with The Ultra Lite™:**

- The franchise structure helps to protect income as only so many franchisees are allowed within a certain area (two suburbs).
- Opportunities to interact with clients and influence health and weight management behaviour are very positive and other health screening can be offered.
- It is a “by appointment” service helping manage workload and time constraints in community pharmacy.

**Limitations for an EPS with The Ultra Lite™:**

- The protein-sparing modified diet is not totally in line with the NHMRC guidelines.
- Short-term weight loss has been shown to occur however long-term evidence-based trials have not been performed for periods over 12 months. Initial weight loss maybe fast, however if appropriate BT is
not put in place long-term weight maintenance is unlikely as soon as the client returns to a regular diet higher in carbohydrates necessary to meet nutritional requirements.14

- The claimed rate of weight loss is considerably faster than the 0.5-1kg per week recommended. Weight lost initially is faster than the slow and gradual recommended and is as a consequence of a decrease in glycogen stores and resulting fluid loss. Weight is put on relatively quickly once the client returns a high carbohydrate food, which is necessary to meet long-term nutritional requirements.14

- Programme appears to primarily take advantage of the accessibility of community pharmacy versus the pharmacist’s skills.

- Medislim® and SlimEZE®

- These two products which can be bought from a community pharmacy have websites which can assist the client with lifestyle information to promote weight management.189, 190

7.4 Current semi-community pharmacy based programmes accessible through GP script

7.4.1 Reductil® 10-20-30

Reductil® (Sibutramine) is an evidence-based weight loss product. This support programme is only available to clients prescribed Reductil® by their doctor. Pharmacists are encouraged to promote the programme to clients and are given a monetary incentive of approximately $4.00 for doing this.198 The title of the programme is prescriptive of what the client is required to do in addition to taking Sibutramine (10mg), i.e. reduce food consumption by 20% and do 30 minutes of exercise.199 The programme is indirectly promoted via a
website which gives lifestyle information for losing weight, with instruction to the consumer to visit the doctor if this fails.\textsuperscript{186}

7.4.2 **VLCDs and Sibutramine-- integrating manufacturer product support and enhancement programmes with GPs.\textsuperscript{200}**

This programme comprises the use Reductil\textsuperscript{®} (Sibutramine) and a VLCD product and supporting information along with referrals to GPs for extra support and to reinforce benefits with co-morbidities. Although product based, it is not product specific. Reported in NHMRC Clinical Practice Guidelines for the Management of Overweight and Obesity in Adults as effective long term weight reduction (refer Appendix E)\textsuperscript{14}, with treatment outcomes second only to surgical procedures. This is a very good opportunity for obese clients to achieve results with a pharmacist and GP working supportively to reinforce benefits. The different companies involved have support material, which may assist to reduce set up infrastructure/costs e.g. body fat measurement devices. This programme offers a supportive and multi-disciplinary approach to manage weight for the client, especially those GPs using Enhanced Primary Care (EPC) item numbers and referring to dieticians, diabetic educators and the like at a community health level. It does represent a relatively small remuneration opportunity for community pharmacy with a regular income for VLCDs and as well as a private prescription fee. However, it does require initial work for setup by the pharmacist with local practitioners and the pharmaceutical companies. This has not been an overall strength of the profession to date.
8 Comparison of community pharmacy and non-community pharmacy weight management programmes.

8.1 Components

All successful weight management programmes involve some form of lifestyle change either on decreasing energy intake or increasing energy expenditure or both. Behaviour modification and support to the client, some medications, a very low energy diet or surgery may also aid treatment. Community pharmacy and non-community pharmacy programmes provide these components of a weight management programme (except surgery) in a variety of ways. These are examined in detail below.

8.1.1 Dietary advice

All community pharmacy and non-community pharmacy programmes include dietary advice, however the level of specificity for each individual client varies. Some provide general advice for healthy eating. For some people, an increase in knowledge will be sufficient to produce a behaviour change if they are well-motivated. However, some people who have been involved in repeated attempts at dieting may require more specific strategies. A focus group of obese clients reported that they had been given diet sheets and low-calorie recipes but still failed to lose weight. They claimed that they knew what to eat. This may indicate that clients need help in the application of the dietary advice to their own situation. Programmes such as Jenny Craig and Weight Watchers provide clients with an individualised plan based on factors such as age, height, weight and gender. The dietary intervention is also likely to be more sustainable if it educates the client in food choices for a healthy balanced diet, which can be maintained long term. Overly restrictive diets are unsustainable.
Comments: A CPWMP must include dietary advice to create a negative energy balance. For some clients, it may be appropriate for pharmacists to educate the client with dietary advice, which creates this negative energy balance and promotes eating habits that can be maintained long term. For the type of client requiring more specific strategies, a plan individualised to the needs of the client is probably required, and if the pharmacist does this, this will take more time. Other options are referral to a dietician or use of an expert online or via telephone.

8.1.2 Physical activity

The evidence indicates that it is more difficult to create a negative energy balance for short term weight loss with physical activity than it is with dietary measures. Hence, most community pharmacy and non-community pharmacy programmes provide advice with respect to an increase in physical activity, but it does not appear to be a major focus of the programme. Weight Watchers educates the client on the relationship between energy intake and expenditure. Some programmes promote the use of a pedometer as a direct measure of increased daily physical activity. In the long-term, an increase in lifestyle-based physical activity is more likely to be adhered to than a structured exercise programme.

Comments: A community pharmacy programme should at least promote an increase in lifestyle based activity because even if it doesn’t assist in weight loss, it may result in improvements in other aspects of metabolic health. The relationship between energy input and expenditure to create a negative energy balance could be included in educational material.
8.1.3 **Behaviour modification**

Behaviour modification strategies may include self-monitoring, stimulus control, problem solving, contingency management and cognitive restructuring. Most community pharmacy and non-community pharmacy programmes encourage some form of behaviour modification to hopefully achieve a more permanent weight loss solution. Some programmes provide written material or instructional audiovisual material. Diary completion, which is promoted by some programmes, may provide insight into areas for behaviour modification for some people. Dr Rick Kausman supports the diary approach which is followed up with 10 half hour visits for continual review, suggestions for behaviour modification and support.

**Comments:** The well-motivated client may not require as much help with behaviour modification, but a client with a history of failed diet attempts may benefit more from behaviour modification strategies. A greater intensity of intervention and individualised feedback, in comparison to giving clients general information to read, also improves compliance with a programme which may achieve better weight loss. Clients requiring more intense and individualised behaviour modification will require more time investment by the pharmacist. Referral or use of an expert via a telephone or on-line service may also be appropriate.

8.1.4 **Support**

Keeping a client motivated to adhere to lifestyle changes so that they can achieve and maintain weight loss throughout a programme, aids treatment. Support of the client is provided in most community pharmacy-accessible programmes and all non-community pharmacy programmes and it is provided in a variety of ways. Many non-community pharmacy programmes
encourage clients to attend group meetings. This is a motivational tool for some people with the opportunity to share experiences, but it is likely to be de-motivational to others who are self-conscious about their weight. The Chemist Works’ programme encourages a walking group which appears to be a very practical idea which combines the idea of a support network with increasing physical activity. Many programmes provide 1 to 4 weekly appointments for clients to weigh-in and discuss their progress towards their goal.

One study compared, attendance at Weight Watchers meetings, to individualised counselling via the telephone, to a combined approach of Weight Watchers meetings and individualised counselling. In the two arms using Weight Watchers, weight loss was significantly correlated with attendance at meetings. The combined approach achieved the most successful weight loss. The individualised approach achieved a statistically significant weight loss at 12 months. The Weight Watchers arm did not result in significant weight loss but prevented weight gain compared to the control group.

Some community pharmacy accessible programmes require the clients to weigh themselves and record the results with the option to ring an expert if desired. This appears to require more client self-motivation. Some programmes have forums on the internet for discussions with other people undertaking the same weight loss journey. Other examples of support programmes provided by community pharmacy include information seminars/workshops.
Comments: Strong social support from a partner, peer, friend or clinician can aid weight loss. One-on-one discussion on progress towards the weight loss goal appears to be beneficial, whether by telephone, on-line or face-to-face. Individualised support will require a regular time investment by the pharmacist. A telephone or on-line consultant could also be used. Some clients may also benefit from the social network of group meetings. It may be possible for a pharmacy to facilitate some of these types of meetings, assuming that clients live or work close to the pharmacy and hence wouldn’t have far to travel to attend a meeting, however presumably, premises other than the pharmacy would need to be utilised.

8.1.5 Weight loss product

Community pharmacy accessible programmes may also include the client taking a weight loss product whereas non-community pharmacy programmes generally don’t (except for Professor Trim’s Weight Loss for Men which utilises a VLCD at the beginning of the programme).

Opportunity: Compared to most non-community pharmacy weight loss programmes, pharmacists are in the unique situation of being able to suggest a suitable evidence based weight-loss product or facilitate referral to the GP if this is deemed necessary and appropriate. A pharmacist can then monitor the use of the product for safety and efficacy including medication compliance counts.

8.1.6 Programme support materials

Information was provided via a variety of methods across all programmes reviewed. This included brochures, fact sheets, newsletters, booklets, audiovisual aids, audio tapes, and websites. In the case of some of the products that can be bought from the pharmacy, the internet is the only
source of information for the weight management programme unless the products are used under the direction of a health professional who is also providing support. Information on the characteristics of Australians accessing the internet indicates that personal income level is highly correlated to household internet usage. In June 2003, 36% of persons with a personal income from $10,000 to $14,999 used the internet at home, whereas more than 90% of persons with an income greater than $100,000 used the internet at home. Internet access at home also decreases with age, particularly in the 55 years and over age group where internet access dropped sharply, being 29% in June 2003.\textsuperscript{206}

Being able to show the client their achievements with respect to improving measurements may be more effective if it is more visual. The Fitness Progress Charts supplied with the Lifeweight\textsuperscript{TM} programme can be used to enter data and produce graphs of weight, BMI, measurements of hip, waist etc. and a percentage of body fat estimation.\textsuperscript{194}

Comments: Decreased internet usage by lower socioeconomic groups and the over 55-age group needs to be considered if provision of information on the internet is considered for a pharmacy programme. Visual aids for demonstrating achievements in weight loss to the client appear to be useful.

8.1.7 Expertise

Many of the programmes summarised as being accessible from a community pharmacy have the involvement of a pharmacist, nutritionist or naturopath or other health professional via a telephone or on-line advice service. Weight Watchers use a company trained successful programme completer, Jenny
Craig use a company trained counsellor, Professor Trim’s Weight Loss for Men provides “expert” online advice, and access to a GP or pharmacist if required.

The importance to the client of expertise provided is uncertain. A study examined what consumers want to know in choosing a commercial weight loss programme. They were asked to rate the importance of 16 factors, and then nominate the most important five factors, and also the single most important factor. Safety of the programme was most often cited as the single most important factor. However, information about staff credentials was rated among the least important factors. In another study, consumers were asked to value attributes of weight loss programmes. A focus group of participants of weight loss programmes identified physician involvement for decision making choice and adherence as important.

Comments: The expertise provided in community pharmacy and non-community pharmacy programmes all have an important role to play. The pharmacist cannot have the skills of all of the above, but the pharmacist is in the unique situation that they can also provide advice about other health-related matters. They may also choose to refer the client to the health professionals mentioned above but also to an exercise physiologist or physiotherapist (if a musculoskeletal problem is restricting ability to increase physical activity). From a client perspective, the successful Weight Watcher model of using a programme completer as a counsellor and role model means that the client knows that the leader has the full understanding of the challenges that they are facing. Pharmacy needs to be mindful of this in implementing a programme. The client may be relying on the pharmacy staff
for support, and may feel self-conscious in the presence of young pharmacy assistants, for example.

8.1.8 Provision of other health-related services

Where a programme is operated from a community pharmacy, there is the opportunity for the pharmacist to integrate other related services. These include reviewing the client’s other medications for any which may be causing weight gain, completing a compliance check if the client is taking a weight loss product as part of the programme, and performing measures on blood glucose levels, cholesterol and blood pressure especially where weight loss and dietary change may result in an improvement in these conditions. The latter may then necessitate referral to the doctor for a review of other drug therapy. Pharmacists should understand when to refer a client to the doctor if they meet certain exclusion criteria for a weight loss programme (such as those outlined in the Lifeweight™ programme).

Opportunity: Compared to non-pharmacy programmes, pharmacists are in the unique position where they can offer other skills for a more complete health management of the client. They are also in the position to know when it is appropriate to refer the client to the doctor.

8.1.9 Promotion of the programme to the client

Major commercial non-pharmacy programmes advertise their service to the client. This includes television and newspaper advertising. Ultra Lite™ also uses newspaper advertising for promotion. Tony Ferguson’s Weigh loss and Wellness Centre had their positive results televised on a current affairs television programme.
Comments: Media exposure is widely used for different areas of health promotion. For greater uptake of the intervention by consumers, media promotion of a pharmacy programme would appear beneficial so that in a prospective client’s mind it is one of the available options. This would need to be considered in the context of relevant pharmacy legislation.

8.1.10 Programme intervention initiator

Except for the Reductil® 10-20-30 weight loss programme where the doctor is likely to be the initiator of the weight loss intervention, for the other programmes reviewed, the client is most likely to be the initiator of the weight loss intervention. Where the client initiates the contact with a potential weight-loss solution, they are in the “decision” or “action” stage of readiness to change and this increases the chance of them successfully making a behavioural change.

Opportunity: Compared to a non-pharmacy programme, the community pharmacist has the unique opportunity to raise the issue of weight management with a client who may be in the precontemplation or contemplation stages of behavioural change. This may be part of counselling associated with dispensing of prescription medication used to treat conditions potentially caused by the client being overweight. A CPWMP may consider having different resources for clients at different stages of decision making for a behavioural change. This approach has been used successfully in some GP based studies. Some of the pre-contemplation or contemplation stage clients may move to a decision or action stage of readiness to change.
8.1.11 Monetary cost to the client

The non-pharmacy programmes all charge the client for their service. Pricing structures vary widely. Up-front costs range from $20 to $595. To participate in a programme for 12 months, prices range from $0 to $881.40 (excluding up-front costs). These costs do not include food for the programme (Jenny Craig prepares food for clients), nor the costs for Professor Trim’s Weight Loss for Men programme as these costs include the meal supplements. Ultra Lite™ charges clients $400 for 5 weeks which includes a homeopathic supplement.

Comments: If pharmacy is to provide a comprehensive weight management service comparable to the level of service provided by a commercial programme, it is well placed to charge for this service.

8.1.12 Length of programme

Success of a weight management programme should be assessed by the ability to achieve and maintain a clinically helpful and significant weight loss and recognise the beneficial effects of this weight loss on other conditions such as diabetes mellitus type 2, hypertension and dyslipidaemia. This highlights the importance of the maintenance phase in any weight management programme. Most of the programmes reviewed have a weight loss and maintenance phase. Relapses in obesity are common. Constant vigilance in monitoring energy input and expenditure predicts long-term success, and this can be aided by regular monitoring and encouragement from the “clinician” over the long term, and ideally for life. The NHMRC guidelines states as a level C recommendation that people suffering from obesity should have long-term contact with and support from health professionals.
Opportunity: The community pharmacist is in an ideal position to fill the role of this health professional. A CPWMP will need to include a formal intensive period for weight loss, and a formal maintenance period to establish the importance of maintaining the weight loss, however, the pharmacist can also perform monitoring (of obesity and other comorbidities) and encouragement of the client over the long term and potentially for life.

8.1.13 Efficacy/outcomes

Very little evaluation of community pharmacy weight loss programmes has been done. Tony Ferguson’s Weight Loss and Wellness Centre reported an average weight loss of 9kg over 6 months with a drop-out rate in line with that reported in clinical trials. Whether this weight loss was maintained is unknown. Some data assessing the effectiveness of some commercial weight loss programmes is available. There is no literature comparing any Australian community pharmacy weight loss programme to a commercial programme.

8.2 Opportunities for community pharmacy compared to non-pharmacy programmes

The comparison of community pharmacy programmes to non-community pharmacy programmes identified areas where non-community pharmacy programmes are not able to provide a service that a community pharmacy can potentially provide. These areas may provide an opportunity for community pharmacy trying to compete in this market. The areas include the following:

- Community pharmacists have the skills to suggest a weight management product, if appropriate.
- Community pharmacists have the skills and resources to provide more complete health management of the client.
The community pharmacy may be able to provide a health promotion message about obesity to a wider group of consumers (not just those in the action stage of decision making).

Community pharmacists are very accessible health professionals who can contribute to the long term support of a client.

8.3 **Summary of comparisons of non-pharmacy based programmes to pharmacy based weight management programmes**

Even though it was not possible to review all weight management programmes operating in community pharmacies in Australia. Those that have been reviewed have provided a range of ideas to draw from in establishing the proposed CPWMP. The comparison showed that most programmes provide the components recommended to aid treatment for obesity, but all in differing ways and to varying degrees.

The proposed CPWMP must provide a dietary component and a physical activity component. Ideally it should also provide a behaviour modification and support component. If the programme were to enrol clients who have had unsuccessful repeated attempts at losing weight, then the time required to provide a suitable intervention would appear to be considerable. Pharmacy staff could either primarily administer the intervention, or referral to other suitable health professionals or use of a telephone support service could be considered. However, community pharmacy needs to consider how it can capitalise on the unique opportunities that it has in comparison to non-community pharmacy programmes.

For the community pharmacy to provide a more complete health management of the client and to provide support to the client long term, it is probably important that the client sees the community pharmacy as the central contact point for the service (rather than a model where the components of the programme are
routinely contracted to other health professionals with little feedback to or continual involvement by the community pharmacy). In the weight management market it would appear that pharmacy could charge for a service that is as comprehensive as those services offered commercially.

A good programme structure is no use if it is not implemented. The strategies used for reach, adoption and implementation of the Lifeweight™ programme appear to have been reasonable. Positive factors for successful reach, adoption and implementation to be considered for the CPWMP include ensuring that the programme has the support of major community pharmacy organisations, raising awareness of the programme through a variety of channels, supplying ready-to-use support materials with the programme, and structuring the programme so that pharmacy assistants can be involved to take some of the workload away from the pharmacist. Factors to improve in adoption and implementation of the CPWMP include providing timely training that ensures that staff are confident to implement the intervention, and avoidance of linking the purchase of the programme with a discount on a product.

This question only considered a “general” population. For example, people who speak little English and people with low literacy levels need to be considered when providing written information. It is assumed that groups such as these would only be catered for after the programme has been successfully implemented.
9 Barriers and Facilitators of Community Pharmacy To Supply A Weight Management Programme.

The ultimate goal of a CPWMP is to help reduce obesity in Australian society. Overall, this will be reliant upon two principal groups; firstly, the individual community pharmacists and secondly, the pharmacy industry. The capabilities of community pharmacy to undertake EPS will have a direct effect on the success of a CPWMP for its adoption, implementation and sustainability. If this does not occur in good numbers then the overall effect that a CPWMP will have on the obesity epidemic in Australia will be limited. However if the present structure of the pharmacy industry is such that the environment or conditions that the individual community pharmacists have to conduct the programme under are not conducive to its implementation and adoption then regardless of the number of community pharmacists that take it up it will be unlikely to be sustained nor have any overall long-term positive effect on obesity in Australia.

Firstly, the capabilities of the individual community pharmacist to undertake a programme such as this are considered and possible solutions given. Then the structure of the pharmacy industry and its role will be discussed and later addressed more fully in the modelling section of this document.

9.1 Capabilities of community pharmacy

Community pharmacies represent a powerful private sector community based network. This network has great potential to contribute positively on many health related issues including healthy lifestyle recommendations and disease prevention as well as undertake the provision of community based health services.\(^6\)

The barriers and facilitators to EPS and health promotion in community pharmacy in Australia and overseas have been identified. These are inherently connected to the capabilities of Australian community pharmacy to provide EPS
or more specifically a CPWMP. These factors have an inextricable impact on the individual pharmacist and pharmacy required to provide the service. Further to this it is necessary to consider that community pharmacy practice is an unusual blending of business and professional qualities. That of a health professional’s expertise, morals and ethics relating to the delivery of health and medical services with the necessary business acumen to support a profitable business selling not only a health service but a large array of products. One cannot exist without the other.

There is a majority of support of EPS from community pharmacists with 71.5% agreeing that it is part of their role in Australia. Other studies have also shown a majority of support for the provision of EPSs by community pharmacists and that these services form part of the future practice of community pharmacy. However as stated, the uptake of supplying EPS has been slow. The role of an EPS provider has been adopted to varying degrees by community pharmacists using a range of models and strategies. Also highlighted by the NPDP, the supply of EPS does not necessarily reflect demand required by a particular disease state, for example it is estimated that 67% of adult men and 52% of adult women in Australia are overweight or obese, yet in 2002 only 8.7% of pharmacies reported having staff trained in weight reduction. Showing perhaps a rather disjointed uptake of services with no real industry wide coordination or focus.

Conversely the Change Management study survey reported in its survey 2003/4 that 48% of respondents offered a weight management service. This figure may be misleading however, as the data does not lend itself to any analysis on what
type of service is provided. That is whether it is managed by trained staff, 
how many clients are involved, or in what detail or depth. The study noted a bias 
to positive responses in the survey. Thus respondents could see the simple 
introduction of weight management category and products to sell without a 
service as an affirmative answer, while others may run a full weight management 
intervention support service. It is believed that this survey was conducted before 
the introduction of orlistat to the S3 schedule and provision of Lifeweight™. 
Services, especially in weight management have been introduced with various 
innovations; however, consistency in content and of the service provided has 
been varied. The practicalities of fulfilling such an expanded role has given rise 
to areas of concern and a slow and relatively small uptake of these services. 

Community pharmacists are willing but perhaps not always able to provide EPS. 
Therefore it is the capabilities of community pharmacy, which revolves around 
the professional and business, facilitators (enablers), and barriers that need to be 
understood before any new weight management service should be developed. A 
detailed understanding will aid in the implementation, sustainability and success 
of any new weight management EPS programme.

9.2 Barriers to community pharmacy capabilities to conduct EPS

The perceived and real barriers were identified in relation to EPS and health 
promotion where the results of NPDP, Change Management and Community 
Pharmacy Project and other major community pharmacy studies of barriers and 
facilitators were discussed. Also the critique of the Lifeweight™ programme 
offered relevant observations on the barriers to weight management in 
community pharmacy. The major barriers to EPS have been identified by a 
number of other studies. The capabilities of community
pharmacies to provide a weight management programme will be negatively affected by the following:

- Remuneration and Business needs (the cost of running the EPS),
- Workload/time, and workforce shortages,
- Accreditation: Skill set, support and training,
- Facilities and staffing,
- Ethical barriers,
- Professional relationships and boundaries.

A more detailed examination of each of these barriers follows and possible solutions are suggested. Incorporating solutions to these barriers into the development of a weight management EPS model improves the likelihood of it being implemented and being sustainable in community pharmacy.

9.2.1 Remuneration for EPS

If remuneration were to move to incorporating payments for the EPS provided, then services would be more likely to be provided and pharmacists would be more proactive. Research has shown that if a programme is to be successful in community pharmacy the pharmacists need to see that they are being adequately remunerated for their time. It has been shown by studies however that just providing remuneration in isolation won’t necessarily solve all adoption, implementation and sustainability or change issues. This unwillingness of community pharmacists to take on programmes even when seemingly remunerated can be observed, as recently as with HMRs. Many see EPS as having low profitability.
Therefore a CPWMP will need to generate an equitable and reasonable remuneration for the pharmacist. Clear benefit must be seen for time expended. The programme itself must be structured in such a way that the remuneration must be part of a fully integrated solution.\textsuperscript{6, 10, 11} The QCPP process is a somewhat better example of this integration.

An integrated solution begins with the structure of the programme, in this case weight management, addressing both business and professional issues. It should fit as seamlessly as possible in with the day-to-day running of the pharmacy, building teamwork and developing collaborative relationships. It must fit in with the pharmacies business strategy, while delivering positive health outcomes.\textsuperscript{6} Therefore it must have a sufficient financial analysis to show good profitability for the cost of the service, training and future provision.\textsuperscript{6, 10, 11} Collectively pharmacist provided EPSs have shown positive health benefits to clients as well as the overall healthcare system.\textsuperscript{7, 8, 12, 71, 137, 212, 215-222}

Sixty three percent of pharmacists surveyed for the NPDP strongly agreed that no extra remuneration was a barrier to EPS however a majority felt that they couldn’t charge because clients wouldn’t pay. At present community pharmacists rarely charge for EPS. In 2002 in Australia only 1.6\% of community pharmacies asked for a fee for a weight management service.\textsuperscript{68} Culturally pharmacists have found it difficult to charge for a service. The future of pharmacy lies in pharmacists being reimbursed for providing substantial investment in knowledge, skills and time for a service.\textsuperscript{6}

Currently the business of pharmacy is largely remunerated for sale of a product to a client not for any service provided.\textsuperscript{6} With the pressure on the health system at present, clients are demanding services but the present system does not
remunerate pharmacy for filling this gap and providing adequate service provision. In the UK there are moves to include funding for public health interventions in contracts with government. The “Choosing Health Through Pharmacy” strategy is a programme where a pharmacist is called upon to give clinical and lifestyle advice including advice on losing weight and improving diet, while being reimbursed for these services. Nine out of ten pharmacists voted in favour of the new contract systems, which allow pharmacists to offer more services. This may also be an avenue worth pursuing further when more information on the system and its outcomes are known. Then again, community pharmacy cannot continue to rely on government funding as incentives to operate these extra services.

More specific market analysis research needs to be performed to ascertain what clients would be willing to pay for in terms EPS. Bell et al., found that the majority of clients were unwilling to pay for health promotion services and more detailed counselling on medicines, but would pay for cholesterol and blood pressure measurements. This suggests that clients are more likely to pay for a weight management service because they will see it as different, more involved than just product advice. The service has to be differentiated from other advice given to justify a charge. A weight management programme can be differentiated from other services for remuneration by:

- Being a by appointment only consultation (also helping to satisfy workload and time constraints). This allows the client to appreciate the more specialised skilled and intense nature of the service, individualised for them.
9: Barriers and Facilitators of Community Pharmacy to supply weight management

- Counselling and provision of service taking place in a special area of the pharmacy devoted to one on one services such as a counselling room or private area.

- Emphasising knowledge and expert and distinctive skills such as a special accreditation as a CPWMP pharmacist. It is envisaged that a third party insurers’ rebate could only be paid to a client if they go to an accredited programme pharmacist. In the future accreditation may lead to Medicare rebates for clients also. Ensuring the value of the programme and accreditation.

- Including a medication review and focusing on drugs that may cause weight gain. If also an added extra of a GP referral exists for a review then payment as a HMR could occur also, if the pharmacist is accredited as well in HMR’s.

- Specific health screening: blood pressure testing, blood glucose, BMI calculation, waist circumference and use of tools of the programme to manage not only weight but also overall health.

While there is no real conclusive pharmacy industry precedent, as yet, for a client funded (self-funded) EPS programme there is a market precedent for weight management. As opposed to diabetes, and asthma whose market precedent is largely that of public or government funded programmes. Weight management at present is largely managed through commercial enterprise rather than public policy programmes. Therefore there is a market precedent that a fee is paid for a weight management programme; the difference here is a pharmacist provides it. An advantage possessed by a pharmacist is that they are a university-trained health professional that also has insight into other aspects of health and respective treatments in areas such as cholesterol, diabetes, and cardiovascular issues.
Would remuneration of pharmacists to deliver EPS facilitate cost savings to the health system? Many studies have shown pharmacist provided EPS resulting in positive health benefits to clients as well as cost savings to the overall healthcare system in varying degrees.7, 8, 12, 71, 137, 212, 215-222

Pharmacist services in Australia such as HMR are premised on identified savings or potential savings in health costs. Saini et al. in their community pharmacy-based asthma care model found annual savings of A$132.84 in medication costs per client.137 International studies have also considered cost-benefit analyses of pharmacy based public health programmes. In the Asheville Project, a study investigating the benefits of a community pharmacy diabetes care programme with up to five years follow-up, Cranor et al. found total mean direct medical costs decreased by $1200 per year.225 Cote et al. investigated the costs associated in providing a pharmacy-based health promotion programme in hypertension. Pharmacist interventions involved a mean cost of Can$30.68 per participant exposed to the service and benefits were estimated to be approximately ten times higher than costs.222 Simpson et al. found cost savings associated with pharmacist interventions in cholesterol management in clients with diabetes. The cost of providing the service was $6 per client compared with $22 per client for usual care.226 Munroe et al. found pharmacist intervention in a community pharmacy-based disease management model substantially reduced monthly healthcare cost in clients with hypertension, hypercholesterolaemia, diabetes and asthma.221 Savings were estimated at up to US$293.39 when accounting for the possible influence of age, co-morbid conditions and disease severity. Thus pharmacy driven health interventions can save healthcare costs. However, more sound financial cost benefit analysis needs to be done with obesity interventions. Therefore this would need to be obtained from the programme once underway
and solid outcomes would need to be proven for this programme to argue a good case for additional government funding.

Direct costs of obesity to the Australian healthcare system were estimated to be around A$464 million in 1989-90. Indirect costs such as loss of income and productivity were estimated at A$272 million and need to be added to the total healthcare costs. However it is these latter indirect costs that are expected to increase significantly because of the nature of the ill health suffered with obesity, manifested as an increase in morbidity and disability. Because of a pharmacist’s medical knowledge, the advantage of a pharmacy weight management programme is that it could have a positive effect on these indirect but potentially more damaging healthcare system costs. A pharmacy based weight management programme could help to treat clients who are not only overweight or obese but has the capability to address the management of other disease states associated with being overweight and obese such as diabetes, hypertension and hypercholesterolaemia. In short a complete disease state management programme that has the capability for real benefit to overall client health and cost savings to the healthcare system.

A direct payment to the pharmacist for a weight management service is a very real possibility because of a pre-existing market precedent. Nonetheless, some form of remuneration from Government maybe a future prospect because of the cost savings a credible weight management programme could generate to the health system.

How much does it cost to deliver a defined service? At present, some remuneration is received when weight loss products are sold, the profit margin does not always fund more detailed intervention by the pharmacist and in an
increasingly competitive market place is likely to diminish, reducing capacity to advise consumers beyond simple product-based information. Product-based remuneration is also subject to variation in product availability, which can be an issue. Remuneration for providing a defined service on weight management, which may or may not include a weight loss product, is currently not available as a stand-alone payment in most community pharmacies. There are product-related programmes through which pharmacists educate, advise and monitor weight management but remuneration is linked to product sales. The value of the service is therefore hidden.

Existing pharmacist services in Australia such as HMR service have a defined a level of remuneration for pharmacists to conduct medication management as A$140 (plus GST where applicable) for a service requiring on average three hours to deliver. This is currently being reviewed in light of pharmacists’ experiences in delivering the service in terms of associated time and resource costs.

The PSAs Medication Assistance Service (MAS), launched in March 2002, indirectly provides an example of real-world costs associated with providing a briefer, defined service community pharmacy. Community pharmacists provide the MAS programme for clients who have questions or concerns about their medicines and require information or assistance. The service maximises the benefits of medication use. It takes 20-30 minutes to provide, including any follow-up consultation, and pharmacists charge the consumer directly for the service. An interesting aspect to the MAS is clients who are members of the private health fund MBF may be reimbursed the cost of the service up to a maximum of A$40, which anecdotally appears to influence the cost of the service.\textsuperscript{228} This arrangement is limited to one service per annum. This example of
a third party payer-remunerated service could perhaps also be applied to a CPWM service, as the potential savings to the health insurer would potentially be substantial.

Studies published by Krass et al. and Armour et al. in the role of community pharmacists in the management of type 2 diabetes and by Saini et al. in asthma care incorporated a professional remuneration component for pharmacists who participated to ensure participation and delivery of the required interventions. Remuneration ranged from $40 per hour in the diabetes studies to $75 per hour for pharmacists in the asthma study (later study; costs reviewed and intervention more detailed).

In the study by Krass et al. on the community pharmacists' role in the continuity of care in type 2 diabetes, the time spent with clients was recorded and averaged over all clients to give an average time in hours per client service. This was then multiplied by $40, the hourly rate paid to the pharmacist (the average award rate of an experienced practicing community pharmacist or clinical pharmacist), to give the cost of pharmacist time spent providing the service per client. Saini et al. applied a similar model in their asthma care project although a review of costs from previous studies in diabetes resulted in an increased remuneration to $70 per hour. Such a model could perhaps be applied to a weight management service, if an estimate of time required per client to provide the service could be reasonably estimated.

It is worth noting that in the examples above costs of services/resources provided to clients (such as printouts of results, follow-up telephone calls etc) were also determined. However, other costs relating to the initial setting up of the service (e.g. space, creating a suitable area, furniture, equipment, computers etc) or
training of participants were excluded as it was deemed unlikely that the Government would cover such costs. Extrapolating this model of cost allocation to a CPWMP suggests the level of remuneration/cost of the service may depend on the purchaser. Whether the service is to be purchased by the consumer directly, or its cost is to be met by another payer such as a private Health Insurer or perhaps the Government may have some bearing on the fee at which the service must be sold. This will need to be considered when calculating suitable remuneration.

The type of remuneration is a function of the model of service. Considerations will include whether the service is:

- A product-related service
- A cognitive service fee-for-service model (may or may not include sale of a product)

Also how payment is made:

- Direct purchase of the service by the consumer
- Payment of the service by a Private Health insurer
- Payment of the service by Government.

In each case to be adequately remunerated the service must be clearly defined so that the purchaser (individual client, Private Health Fund, Government) is clear as to what outcomes can be expected from their investment.
9.2.2 Business case for an anticipated weight management programme

Studies thus far have been based on the model of Government as primary payer but the mechanism for pharmacists to receive such funding is yet to be established. HMR or a model for which there is good research supporting a funding model for pharmacist services may warrant consideration.

If the CPWMP is to compete with other commercial non-pharmacy based commercial programmes it must be competitive in its price structure and in the defined service it offers. The following business case takes into consideration;

- Previously presented pharmacy DSM studies in this document (asthma and diabetes),
- The business case Diabetes DSM template featured in the Change Management and Community Pharmacy Project and,
- The costs to the client of the commercial non-pharmacy based programmes (Table 4).

Financial Analysis

Purpose

The purpose of the financial analysis in this project is to provide a tool that allows subsequent development work on the weight management program to be undertaken with an understanding of the financial implications. It is not a definitive financial analysis of the program, as the program is not yet designed. However, it allows the development of the program to be undertaken while giving consideration to the financial implications.

One case for the analysis will be shown in extracts from the figures 1,2,3 below. The real value of the analysis is that researchers can test their ideas by altering the
levels of value in the project to determine if their design is supported by the financial analysis.

**Description of the Financial Analysis**

The spreadsheet has been developed in Excel to allow for ease of use. It takes a one year view of the revenue and costs incurred in operating the weight management program, both at the individual pharmacy level and for the pharmacy industry, as represented by the PGoA. The aim is to determine the flow of money, revenue, operating cost and capital costs, to determine under what conditions the pharmacy receives an adequate return on its investment, and similarly for the PGoA.
Figure 1: Financial Analysis for the Pharmacy Weight Management Programme.

<table>
<thead>
<tr>
<th></th>
<th>Total Cost</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Pharmacy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial capital</td>
<td>$1,500</td>
<td>$1,500</td>
</tr>
<tr>
<td>Variable Cost / Client</td>
<td>$450</td>
<td>$13,500</td>
</tr>
<tr>
<td>Annual Overhead</td>
<td>$2,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Total annual cost</td>
<td>$15,500</td>
<td>$18,000</td>
</tr>
<tr>
<td>Increase in Local Pharmacy EBIT</td>
<td></td>
<td>$2,500</td>
</tr>
<tr>
<td>Payback period for initial capital</td>
<td></td>
<td>7 months</td>
</tr>
<tr>
<td><strong>National Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Capital</td>
<td>$1,600,000</td>
<td></td>
</tr>
<tr>
<td>Variable Cost/Client</td>
<td>0</td>
<td>$600,000</td>
</tr>
<tr>
<td>Annual Overhead</td>
<td>$350,000</td>
<td></td>
</tr>
<tr>
<td>Increase in National Guild EBIT</td>
<td></td>
<td>$250,000</td>
</tr>
<tr>
<td>Payback period for initial capital</td>
<td></td>
<td>6 years</td>
</tr>
<tr>
<td><strong>Major Assumptions (Variables that impact on finances)</strong></td>
<td>( $50 )</td>
<td></td>
</tr>
<tr>
<td>Cost/hour of pharmacist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total pharmacist hours/client</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Total hours initial training of pharmacist</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Cost of supporting material / client</td>
<td></td>
<td>$30</td>
</tr>
<tr>
<td>Average annual number of clients for a pharmacy</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Cost to client of the program</td>
<td></td>
<td>$500</td>
</tr>
<tr>
<td>Program subsidy to the local pharmacy</td>
<td></td>
<td>$100</td>
</tr>
<tr>
<td>Total number of pharmacies adopting the program</td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>Federal Govt subsidy to Guild / clients</td>
<td></td>
<td>$20</td>
</tr>
</tbody>
</table>

The major assumptions are the variables that have the greatest impact on the finance of the program. These can be set to any reasonable level. The numbers used in this view are seen to be a reasonable set but are by no means definitive for the final program. The issue is to use this model in developing the CPWMP to ensure the finances are appropriate and adjust the program accordingly.
There are two other worksheets in the model. These are shown below in Figures 2 and 3 and cover the myriad of other issues in both costs and revenue accordingly. While these figures can also be adjusted, they have little impact on the overall program finances so it is suggested that these fields remain locked during further financial analysis.

**Figure 2: Cost Analysis of the Weight Management Programme.**

<table>
<thead>
<tr>
<th>Costs</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Pharmacy</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Initial capital</strong></td>
<td></td>
</tr>
<tr>
<td>Pharmacist training $1,000</td>
<td>20 hours $50 $/hr</td>
</tr>
<tr>
<td>Local marketing $500</td>
<td>Local mail out and in store promotion</td>
</tr>
<tr>
<td><strong>Variable Cost/Client</strong></td>
<td></td>
</tr>
<tr>
<td>Pharmacist $300</td>
<td>6 hours $50 $/hr</td>
</tr>
<tr>
<td>Pharmacy assistant $120</td>
<td>6 hours $20 $/hr</td>
</tr>
<tr>
<td>Supporting material $30</td>
<td>Estimate of diary, supporting paperwork, handouts</td>
</tr>
<tr>
<td><strong>Annual overhead</strong></td>
<td></td>
</tr>
<tr>
<td>Space in pharmacy $1,000</td>
<td>Equivalent EBIT reduction due to loss of space for consulting</td>
</tr>
<tr>
<td>Marketing $500</td>
<td>Continue initial local marketing annually</td>
</tr>
<tr>
<td>Additional admin $500</td>
<td>Additional paperwork and systems to be managed in the pharmacy</td>
</tr>
<tr>
<td><strong>National Level</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Initial Capital</strong></td>
<td></td>
</tr>
<tr>
<td>Product R&amp;D $1,000,000</td>
<td>Full cost of developing product ready for release, through all stages</td>
</tr>
<tr>
<td>Marketing $500,000</td>
<td>Minimum investment for national release of a new product</td>
</tr>
<tr>
<td>Accreditation $100,000</td>
<td>Two half time quality trainers for 6 months full time</td>
</tr>
<tr>
<td><strong>Variable Cost/Client</strong></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Annual overhead</strong></td>
<td></td>
</tr>
<tr>
<td>Product development $200,000</td>
<td>Continuing development of the product based on feedback</td>
</tr>
<tr>
<td>Program administration $150,000</td>
<td>One full time professional and one administrator</td>
</tr>
</tbody>
</table>
One of the insights from simple scrutiny using this analysis is that it will be very difficult to make the program self-funding, in that the fee for the program covers all costs, and keep the program under a likely acceptable cost to clients of $500. This suggests some critical success factors, from a financial perspective, of the CPWMP;

- To gain a clear view of the reasonable market price for the program that clients are willing to pay.
- Keeping the pharmacists time down by using them only for the critical steps in the program, and using pharmacy assistants for the standards components.
- Gaining an external source of funding, be it private medical fund insurers or the public health system, for individual adopting the program. The PGoA will need to organise these potential sources of funding.

Some of the details of the analysis are indicative only, e.g. Federal Government subsidy to the PGoA for each participant in the program. This could be achieved by the PGoA charging each Pharmacy a fee for each program sold, having

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**Figure 3: Revenue Analysis for the Pharmacy Weight Management Program.**

<table>
<thead>
<tr>
<th>Local Pharmacy</th>
<th>Revenue/Client</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>$15,000</td>
<td>30 per annum</td>
</tr>
<tr>
<td>Client subsidy</td>
<td>$3,000</td>
<td>30 per annum</td>
</tr>
</tbody>
</table>

Mixture of Medicare, Government health departments, Health insurers

<table>
<thead>
<tr>
<th>National Level</th>
<th>Variable /Client</th>
<th>$600,000</th>
<th>30,000 per annum</th>
<th>$20</th>
</tr>
</thead>
</table>

Fed Government subsidy
already organised the external source of funding for the program. This revenue flow into the PGoA is not to increase its profitability, but to ensure that the overall program is based on sound finances. If the design and development of the program is not funded by the implementation of the program, then the PGoA is essentially running a social experiment. There is nothing wrong with social experiments but it is unlikely that with this sort of philosophical approach that pharmacies can make money from the program, and that the life of the program will be very short.

While the spreadsheet shown in this report is by definition static, it is intended that this analysis be used in an interactive manner if it is to have value. All cells in the spreadsheet have been locked, to avoid changing the arithmetic, with the exception of the yellow shaded cells on the Summary tab, these are the input assumptions that need to be varied to understand how the finances of the program varies with changing assumptions (see Appendix 2: accompanying CD with interactive spreadsheet or for electronic versions attached interactive excel spreadsheet).

Remuneration is paramount to the success of any future CPWMP. It is a necessary inclusion in a weight management EPS to improve the quality, consistency, uptake and longevity of the service by community pharmacists. A cognitive based fee-for-service model appears to be preferable and is the basis for remuneration in most pharmacist intervention studies. For success, the CPWMP must not only have a sound remuneration argument as a feature, it must have a clear easily seen financial benefits analysis that addresses the pharmacists business, professional and personal concerns about EPS provision. Finally, for this programme to have a chance of being adequately funded the service provided by the weight management pharmacist must fit in
with the policy structure and needs of the providers of the revenue. That is, the goals and needs of the clients or private health funds and/or Government.\textsuperscript{6}

\textbf{9.2.3 Workload/time constraints and workforce shortages}

The time and workload barrier is inherently tied to remuneration and finances of running a pharmacy. Adequate remuneration may lessen workload barriers.\textsuperscript{158, 213} Not having enough time to provide EPS is seen a major barrier to pharmacists delivering them and thus effecting the capabilities of community pharmacy to ensure their provision. The NPDP\textsuperscript{68} found in 2002 that 90.3\% of community pharmacists surveyed felt that shortage of time was the biggest barrier to provision of EPS. Ruston found that 96\% of surveyed pharmacists in Great Britain nominated time shortage as the primary barrier to uptake of EPS.\textsuperscript{145} In Australia Roberts et al. found that workforce shortages, workload and time constraints were the main barriers to change.\textsuperscript{10, 11} Anderson found that time was cited as the greatest barrier to pharmacists being involved in health promotion\textsuperscript{137} It does not seem possible to structure the work for a single pharmacist to cover both EPS and being available for precise dispensing with response times set by typical client expectations. There maybe a significant amount of “dead time” but this doesn’t typically coincide with the opportunities to provide EPS.\textsuperscript{137} This barrier is intrinsically tied to the finances of running a community pharmacy. At present, in a typical community pharmacy dispensing and sale of schedule 2 and schedule 3 products provides the most revenue, and therefore simple economics drive the fact that it will take priority.\textsuperscript{158, 211, 213, 214, 232}

Also in Australia a pharmacist shortage compounds the time and workload constraints on community pharmacists.\textsuperscript{68} This decreases the chances of supply of a pharmacist or locum to cover the day to day running of the pharmacy while EPS are provided. This is something that the pharmacy industry has to address through
9: Barriers and Facilitators of Community Pharmacy to supply weight management

universities and education institutions such as the PSA. It is not something that can easily be solved in isolation even by an integrated solution driven EPS. However, clients and pharmacists have received strategies, like an appointment only service, warmly. Dunphy et al. suggest an appointment only service as a possible solution to obtaining remuneration, as the appointment differentiates the service from “normal” counselling. It could also be a possible solution to workload difficulties. Bell et al., found that around 40% of clients were willing to make an appointment to see a pharmacist. It is our inference that this percentage would be increased for a specific service such as weight management as set appointments with a weight consultant (which the pharmacist will be) is more the norm for most other commercial weight management programmes. This aspect will need to be investigated in more detail, possibly through a client market analysis, in the implementation phase of the proposed weight management programme. However, most pharmacists agreed (60.6%) in the NPD that appointments were a facilitator to providing EPS as they better help manage time and workload.

Workload and time constraints are seen as a factor that needs to be addressed in a weight management EPS. A “by appointment only” programme is a possible solution. Also the inclusion of pharmacy assistants in the structure to perform some of the tasks (see business case) can offset costs and workload. It is reliant, on the availability of adequately qualified support staff or flexible EPS structure, for success.

9.2.4 Accreditation: skill set, support and training

Accreditation, skill set and support for training is potentially a more modifiable barrier compared to the others already discussed. However, not having organised, realistic accreditation, and support for training to improve pharmacist’s skill set
can affect community pharmacy capabilities just as negatively as remuneration and workload constraints.\textsuperscript{145} The NPDP recommended that “National and State bodies of pharmacy investigate and produce intensive structured training programmes for specific EPS most likely to be remunerated, in order to overcome the reported barriers to their adoption by pharmacies.”\textsuperscript{68} Dunphy et al. recommended that to build human capability for increased service provision that “The PGoA should ensure provision of appropriate education and training to support service delivery and to maintain service quality. Also that the PGoA work with the PSA on specifying the competencies needed by practitioners in order to deliver related services to a defined standard of excellence. As well as this, the PGoA should encourage the introduction of fee-for–service for value added professional services not subsidised by governments or third party payers.”\textsuperscript{6} The implication here is that for the likelihood of remuneration to eventuate, a consistent quality programme needs to be provided by accredited practitioners that are confident in their knowledge training and skill set. However accreditation is required to ensure remuneration, knowledge, skill set and a consistent quality programme. That is, good remuneration without accreditation is unlikely and vice versa. The Lifeweight\textsuperscript{TM} programme is an example of this; as soon as there was a perception from pharmacists that they were not going to be remunerated for accreditation from training, training was seen as unnecessary. Consequently, the consistency and quality of the service given with the Lifeweight\textsuperscript{TM} programme decreased because no formalised accreditation process occurred to uphold the standards. Falling service standards eventually adversely effect remuneration.

By undertaking training a pharmacist is showing an increased readiness to change and be more likely to deliver the EPS.\textsuperscript{6} Accreditation is also a way of keeping knowledge and the EPS up to date with the latest advances. Training of the pharmacists can be seen as an opportunity as in one study in England.\textsuperscript{211}
Anderson found that once pharmacists had been trained in a health promotion programme the pharmacists’ perception of their role changed to one of providing more client orientated services than one of simple dispensing and medication supply and job satisfaction improved.\textsuperscript{211} Anderson also found that once pharmacists who cited lack of training as a barrier to EPS, were trained up in that specific EPS, then the barrier to delivering the EPS became time constraints.\textsuperscript{211} A study by Keene noted that time; space and cost are constraints that might be expected in a small business, other than pharmacy. But because of the extra professional nature of pharmacy other constraints decreased the likelihood of extra service provision. 30% of respondents nominated training and a further 24% of respondents lack of time for training, as barriers to any extra services.\textsuperscript{9}

Training for pharmacists in Great Britain for health promotion has been sporadic and in discrete subject areas, and not as part of an ongoing coordinated scheme to support the general health promotion role.\textsuperscript{180} When a well-structured and comprehensive programme was introduced the service provided by pharmacists expanded, became more consistent and improved overall.\textsuperscript{233} A comparison can be drawn between this experience of training and Australian community pharmacy training for EPS. For a weight management EPS to be adopted by more pharmacies then previous EPS it must be underpinned by a comprehensive, and quality programme that is inline with the latest NHMRC guidelines and gives ongoing support and follow up. It will need to address standards and competencies for the provision of this service. That is, pharmacists will come together in groups for seminars and be trained, not only in the clinical, pharmacotherapy, diet and physical activity knowledge, but also behavioural therapy to help perform a weight management EPS. Tools to communicate successfully to clients who are obese or overweight will also be necessary. While the art of communication is important for any pharmacists’ day-to-day dealings
with sick clients, obesity takes on a new set of skills as it can have a psychological basis. Also it still carries a certain stigma that even now has been documented to negatively influence health professionals’ behaviour toward the obese client and this may interfere with service provided. This will need to be addressed for the programme to be successful from a client’s point of view and thus ultimately the community pharmacist.

One major concern is that the offer of training and accreditation can only occur if there are sufficient trained pharmacists to undertake the training and if there are sufficiently trained educators to provide the training. Part of the long term solution to the lack of trained pharmacists to help run the programme is to structure future university training to include specialty training of undergraduates in various core EPS, of which weight management would be one. This gives a ready-made source of trained pharmacists coming through who can become more readily accredited because of their specialization in this specific EPS, allowing them to engage in delivery of a weight management EPS relatively quickly after graduation. Pay structures may need to be increased for those graduates with extra EPS specialization. It was noted that the community pharmacy focus group working with this project expressed keen interest in this aspect of training of undergraduates. The extra source of specialization would make these graduates more sought after by prospective community pharmacy employers, primarily because it is seen that a specialization in this area could bring in more revenue to the pharmacy.

Training and Accreditation are expected to fit together as follows:

- A pharmacist attends a well-crafted weight management training programme course. It includes weight management core competencies and start up and working the programme information.
It is expected the training will be practical to fit into, and enhance, the day-to-day activities of community pharmacy. The CPWMP will use the QCPP platform to help achieve this assimilation of the service into pharmacy routine.

- Both pharmacist and pharmacy undertake an audit process assessing weight management capabilities of both.
- When they both pass the audit, accreditation will occur and the pharmacist and pharmacy will be given a specific identifying accreditation numbers.
- Once this is the case the pharmacist becomes eligible to run the programme from that specific pharmacy and receive remuneration.
- It is envisaged at this stage that the pharmacist who is accredited could run the programme from other pharmacies, but the other pharmacy premises would need to pass an audit also, to be accredited as a pharmacy with the required facilities to accommodate the programme.
- It is expected that the programme will be endorsed by an appropriate weight management programme watchdog organisation and other weight management stakeholders such as private health insurers. Getting endorsement from specific client organisations is a recommendation made by Dunphy et al. for new EPS. The standards delivered must count for something in the market place.\(^6\)
- It is essential that the programme be endorsed by the PGoA and other pharmacy industry institutions (PSA, AACP etc) for it to be supported by pharmacists and count for something in the business that is community pharmacy. Also it is essential that these
organisations be responsible for development of training and accreditation programmes.

It is believed that the programme would be robust enough to meet the standards required for its participants (clients) to be eligible for a private health fund rebate. Thus only accredited weight management pharmacists (with an accreditation number) would be allowed to participate in the programme and charge a fee, or at the very least their clients would be able to receive a rebate on the cost of the programme.

The programme will need to well branded so it is made known to clients that if a pharmacy and pharmacist are providing a similar service or using a similar name but are not accredited then they can not run it under the guise of being accredited for this programme. Rebates will not be possible for these clients. All pharmacists can become accredited through training but only accredited pharmacists will be able to use the programme branding and charge clients a fee for using this programme. Re-accreditation is likely to occur every 3 years.

If the PGoA were able to negotiate a remuneration fee for the programme in the future from the government then this would only be paid to accredited weight management pharmacies/pharmacists or be a rebate only given to clients of accredited pharmacists. This gives the programme a certain impetus and desirability for community pharmacists to want to be apart of it, especially if remuneration seems satisfactory. The accreditation and training is crucial to the differentiation on the programme and its success. It also ensures an impact on the obesity epidemic.

It is necessary that the CPWMP model feature an accreditation process dovetailed with a training programme and remuneration. Accreditation is seen as a facilitator
for EPS by 75.6% of community pharmacists that responded to the NPDP in 2002.\textsuperscript{68} It brings with it the chance to maintain standards and consistency and give a quality programme to clients. It is essential for the success of this type of EPS in community pharmacy. Many studies have found that lack of knowledge and confidence are barriers to the capabilities of community pharmacists to deliver EPS.\textsuperscript{10, 11, 137, 211} It is a barrier cited by GP’s involvement in health promotion programmes as well. Supplying training in a non-intimidating way can diminish this barrier, as shown in the GP setting. Attaching it to accreditation and remuneration gives it the force necessary to make the changes required for a weight management EPS to occur on a relatively consistent and large scale as recommended by Dunphy et al. and highlighted as a flaw in the Lifeweight\textsuperscript{TM} example.\textsuperscript{6, 183, 192}

As mentioned the model will set out clearly defined professional goals for the pharmacist such as the type of training, including competencies, quality and standards needed for the provision of this service and knowledge and professional skill set. While just as importantly defining setting up, running costs, and likely profit for their business through remuneration for their time and for the service provided. Training and accreditation are the way forward.\textsuperscript{9}

\textbf{9.2.5 Facilities and Staffing}

Store layout can be an impediment to providing counselling services if physical barriers exist to prevent ease of counselling.\textsuperscript{158, 213} This will also affect the capability of the pharmacist to undertake EPS. It must be stated that the existence of a purpose built closed counselling area is a facilitator to EPS provision.\textsuperscript{68} The setting aside of valuable floor and display space for a counselling area, especially initially in the process and the cost of building it and setting it up is seen as a barrier to EPS by community pharmacists.\textsuperscript{9}
A more flexible solution and perhaps interim measure to get the programme underway and decrease store layout as a barrier, is the use of a curtain as seen around beds on hospital wards. It can be used to create a private counselling area in a quiet corner of the pharmacy that is pushed aside after use. This flexible counselling space saves money on the cost of EPS facilities and decreases one of the barriers to EPS. It must be stated however that the existence of a purpose built counselling area is preferable.

Extra staffing required especially that of an extra pharmacist to cover the workload of the weight management pharmacist is a barrier and has been discussed previously. Training of pharmacy support staff is also necessary, not only to help relieve workload and workforce issues, but to build teamwork within the day-to-day functioning of the pharmacy. Roberts et al. noted that; teamwork, communication, internal leadership and delegation of tasks were facilitators to business and professional activities of community pharmacy, while volume of work was seen as a barrier to EPS.\textsuperscript{10, 11} The conclusion being that adequate well-trained staff will facilitate the implementation of EPS and help business aspects of community pharmacy. Support staff such as pharmacy and dispensary assistants, need to be not only considered but have a specific defined role as part of the CPWMP. Pharmacy assistants could be involved in the basic “weight in” measurements and support of the client. The pharmacist would provide the expert in depth counselling, plus programme strategies and support. Dispensary assistants maybe able to help with dispensing at the time a pharmacist has a consultation, however this is not ideal as the pharmacist will still be required to perform the legally required duty of the final prescription check.
9.2.6 Ethical barriers

Providing enhanced pharmacy services (EPS) are seen as more congruent with professional values and code of ethics. However, the present structure of seemingly more organisational reward for prescription volume forces pharmacists to be placed frequently in positions of conflict between time needed to dispense and time needed to provide a high level of client care. Identifying facilitators to change the current practice of community pharmacy to include more EPS, Roberts et al. reached similar conclusions. In that professional satisfaction in providing healthcare to the public aligned with most pharmacists’ philosophical values. Yet, another strong motivator of practice change was fear of threats to their business. If this programme can show a clear economical benefit for providing the enhanced service then it is highly likely to be adopted by pharmacists as it has the opportunity of satisfying both the pharmacists need to run a viable business and to perform in line with the professional values and code of ethics. Remuneration is often used as a way of encouraging behaviours that an organisation sees as important to its member’s effectiveness. Remuneration improves the capabilities of community pharmacy to undertake EPS.

9.2.7 Professional relationships and boundaries

Most pharmacists (52.5%) interviewed for the NPDP strongly disagreed that EPS would impair relations with local GP’s. However 26.2% were unsure and 20.1% strongly agreed that EPS might impair relations with GP’s. Other studies also reported pharmacists as expressing the concern about encroaching on other health professional roles. The interaction of pharmacists with other health professionals will by its nature increase when EPS are instigated. Developing and maintaining these relationships have been problematic for the profession. Pharmacists often site this as a barrier to EPS and sometimes may lead to the
pharmacist being forgotten or have a diminished role with the primary health care team.  

However, the chance does exist to form collaborations with local health professionals and GPs and improve relationships. Dunphy et al. recommended that the pharmacy industry needed to collaborate with other health service delivery providers to ensure the delivery of a more integrated primary healthcare service. This is a large and time consuming task even thought the need for improved services is being demanded by the community. Pharmacists can fill the gap in some of these areas, and do in some instances; it still requires collaboration with directed cultural change and cooperation from all health providers involved. This is neither a quick or easy process. However positive progress is being made and funded initiatives like HMR set an obvious precedent.

The major initiator of change in the HMR programme is the remuneration that is given to the GP and pharmacist for being involved. The experience of HMR demonstrates that a financial incentive combined with joint cooperation between the PGoA and Divisions of General Practice, as well as input from the AACP have been major factors in the uptake of these reviews by community pharmacy in Australia.

As discussed in barriers to health promotion in community pharmacy; interprofessional issues training for pharmacists and in some cases GP’s would help breakdown this barrier and improve not only community pharmacy capabilities but also the healthcare teams capabilities. Training would need to incorporate and improve;

- Relevant knowledge regarding the particular EPS to improve confidence.
- Training focusing on better communication techniques.
9: Barriers and Facilitators of Community Pharmacy to supply weight management

The pharmacy industry as a whole, with support from relevant pharmacy organisations (as shown in HMR) also need to emphasise and market to other healthcare professionals the;

- Quality of the weight management EPS
- Mutual benefit of pharmacist involvement in weight management enhanced primary healthcare
- Opportunity for better primary care outcomes with an integrated system.\(^6\)
- Endorsed by relevant client organisations e.g. Weight Code Administration Council of Australia\(^6\)

If this weight management EPS is seen as credible and inline with recommendations such as in this case the NHMRC guidelines and the message is consistent with that of other health professionals then pharmacists will become an integral part of the weight management healthcare team.\(^8\)

9.2.8 Other capability issues

**Legal and ethical issues:** The programme would be developed with these in mind, to ensure that the model complies with all legal issues of EPS such as consent, privacy and advertising, while undertaking to uphold standards required for the provision of enhanced pharmacy services.

**Client recruitment:** How a pharmacist would raise the issue of weight management with clients is also a factor that needs to be defined and included in training and marketing. As pharmacists we have the option of a passive or proactive approach. These two options are seen as an advantage over other weight management programmes, which don’t have any access to a passive trade and have to actively pursue clients, which can be expensive. A passive approach in
pharmacy being to offer assistance if asked, or more importantly, if it came up when counselling on other health issues (like cholesterol, diabetes or hypertension) generated from dispensing a script or over the counter medication. Some pharmacists may choose to only recruit potential clients this way. Others may choose to augment this, with more proactive displays and screening approaches to overweight and obesity to “capture” more clients. The latter allowing the pharmacy to become an integral part of the clients’ health management. Some pharmacists may not be comfortable with following this line of recruitment, and this will need to be considered when developing the programme model. The programme will however need to include training in this aspect of client recruitment.

**Programme Introduction and Implementation:** Lessons from the introduction of programmes in community pharmacy suggest that the following factors play an important role in their adoption:

- **Recruiting or marketing to pharmacists** needs to be considered as a means of gaining acceptance for a programme. The experience of HMRs demonstrates that a financial incentive combined with joint cooperation between the PGoA and Divisions of GP, as well as input from the AACP have been major factors in the rapid uptake of these reviews by community pharmacy in Australia. Where the objective is to recruit a maximum number of pharmacies identifying early adopters and using the resources of manufacturers, wholesalers or buying groups to recruit pharmacies has been successful in certain programmes (e.g. Lifeweight recruited over two thousand pharmacies). However, if the objective is to provide an EPS as a product to pharmacies, based on selection criteria (e.g. a form of accreditation) then the implementation needs special
consideration. Previous programmes that have been implemented in selected pharmacies have resulted in confusion and opposition from pharmacies that were not included.

- **Competent use of the pharmacy media.** Information must reach pharmacists and media releases in columns known to have high pharmacist readership in key publications such as Retail Pharmacy, Pharmacy News and the Australian Journal of Pharmacy are essential.

- **In-store support to operate the programme.** This includes instructional material for pharmacy staff that is simple to read with point-by-point instructions that facilitate easily implementation. Time constraints mean that any programmes needs to be easily implemented and well supported (e.g. training manuals, programme coordinators, call centre, website, easy availability of resources). Failure to provide this support will mean that many community pharmacies, which would otherwise support the initiative, may not participate.

- **Improvements to normal pharmacy activities.** Ongoing involvement in a programme requires a system that links it with the daily operation of the community pharmacy and reinforces the benefits to the business and its proprietor. The uptake of the QCPP demonstrates that, given a financial incentive to participate and a business model that focuses on factors that improve service and profitability, ongoing participation can be maintained.

- **Staffing resources.** Availability of resources, especially staff.

These factors must be considered and are highly relevant to any future success of a community pharmacy weight management programme.
9.3 Facilitators to community pharmacy capabilities to conduct EPS

Facilitators to community pharmacies capability to carry out EPS come from the nature of community pharmacy. These capabilities are bestowed on pharmacy by its clients, the profession, and the business it is built on and around. They are external and internal facilitators.

9.3.1 External community pharmacy facilitators

Two major facilitators for further expansion of EPS exist outside the instigation and full control of the pharmacy industry and/or pharmacist. They are trustworthiness and convenience. Convenience is still the primary determinant of pharmacy selection. Conveniences means accessibility and gives the community pharmacist a unique chance to have good contact with many different types of clients with many different requests and needs.

The other major aspect that community pharmacy has as an advantage in weight management is that pharmacists are consistently highly rated as trustworthy professionals by the general public. In the US, pharmacists topped a Gallup poll 7 out 10 years as the most trusted health professionals. Thus there is a certain amount of loyalty and good will that already exists in the community for pharmacists and their knowledge of health related issues. The 2001 National Pharmacy Consumer Survey (NPCS) in the US confirmed this loyalty with three out of four clients continuing to use just one pharmacy for prescriptions and pharmacy services.

While it has been discussed that pharmacists’ involvement in EPS leads to improved health outcomes and lower health costs, little has been discussed about the clients’ perception and acceptance of this expanded role. The 2001 NPCS showed that clients want pharmacy services to provide improved quality of client
9: Barriers and Facilitators of Community Pharmacy to supply weight management care. Dunphy et al. report a growing demand from clients for improved healthcare services also. The 2001 NPCS suggests that there is a direct association between client satisfaction with pharmacy services and a pharmacist actively seeking information about the clients health. Thus there is a need for pharmacy to provide these services and an acceptance by clients for pharmacy to provide certain types of these services. Pharmacists must continue to expand this role and take the opportunities to use these two facilitators of both business and professional services. A CPWMP can gain from these facilitators and build on them.

9.3.2 Internal community pharmacy facilitators

Already discussed barriers to the capabilities of community pharmacy to undertake EPS, become facilitators of EPS if put in place. Remuneration for provision of EPS for example, is a major facilitator of EPS and improves the capabilities of community pharmacy to provide EPS. As is having training, accreditation, a proper counselling room, trained staff and available competent locum pharmacists, to cover workload and time issues in EPS delivery.

Other facilitators or opportunities for community pharmacy exist specifically in regards to a weight management EPS as discussed in Section 5.4.3. These are:

- Knowledge and skills. Community pharmacists are university trained healthcare professionals who have the skills and resources to provide a complete health management programme for the client. This presents the best facilitator or enabler for a community weight management programme as no other programme has this. The pharmacist becomes the centre or a pivotal point for a client’s health management. Dealing with issues ranging from coughs and colds through to advice and management of diabetes, and cardiovascular problems all of which show improvement
if weight is reduced. Thus pharmacies could provide the convenience of a one-stop health shop.

- Passive recruitment of clients. There is a unique opportunity to raise the issue of weight management with a client who may be in the pre-contemplation or contemplation stages of behavioural change. This may be part of counselling associated with dispensing of prescription medication used to treat conditions potentially caused by the client being overweight. A CPWMP may consider having different resources for clients at different stages of decision making for a behavioural change. Community pharmacy can provide health messages to a wider group of clients not those just in the action stage of change.

- Weight maintenance programme. The community pharmacist is a very accessible health professional who can contribute to long-term support of the client. A CPWMP will need to include a formal intensive period for weight loss, and a formal maintenance period to establish the importance of maintaining the weight loss, however, the pharmacist can also perform monitoring (of obesity and other co-morbidities) and encouragement of the client over the long term and potentially for life.

Other internal pharmacy facilitators identified from other programmes are trained facilitators to help implement the programme, give initial and ongoing training and support to the pharmacist and staff, as was the case with HMRs. Roberts et al. stated, “Even with a business framework, it is clear that pharmacists and their staff need additional assistance in implementing change effectively.” EPS is part of the change to community pharmacy they were studying and while it is expensive having trained facilitators responsible to help implement and run a weight management programme in certain geographical areas may improve its long-term efficacy.
The future is to have core EPS as part of QCPP and the CMWMP will utilize this structure.

9.4 **Role of the pharmacy industry and capabilities of community pharmacy EPS**

Dunphy et al. in the Change Management and Community Pharmacy Project give many recommendations as strategies for the Pharmacy Industry, particularly the PGoA, to follow to implement change in the overall industry. (6) These are the issues that cannot be solved by any EPS programme in isolation especially one with integrated solutions to increasing EPS provision. Because as suggested by the name an EPS with integrated solutions for community pharmacy needs to have strategies that deal with issues affecting the capabilities of community pharmacies to adopt, implement, and sustain EPS. These are issues that are beyond the scope of individual pharmacies and pharmacists and must be tackled on an industry level. For the weight management EPS programme to have any real power or chance to bring about change both in the industry and for the healthcare system then the following need to occur:

- National and state wide coordination of training and accreditation,
- Negotiations with consumer groups, private health insurers and government on remuneration strategies for EPS,
- Discussions with educational and professional groups such as the PSA on competencies, standards and quality needed for the particular EPS in this case weight management,
- Negotiation and collaborations with stakeholder groups on the final make up of the programme to satisfy interested stakeholder goals and improve the likelihood of success,
• Development and coordination on internal and external marketing of the EPS. That is marketing the weight management programme to the Pharmacy Industry such as individual pharmacists to gain branding power and an industry profile. As well as to clients (endorsement from interested client groups) and other health professional organisations such as the Division of GP and Nutrition Australia to ensure its support,

• Discussions on workforce shortages and negotiations with teaching institutions such as universities.

All of these need to be organised, coordinated and supported nationally at the Pharmacy Industry level for the introduction of a new weight management programme to be different from other EPS introductions and improve its chances of success.
10 Overall Summary Discussion and Conclusions of the Community Pharmacy Weight Management Programme Critical Literature Review.

The purpose of this project was to conduct the first two stages of a four-stage project; to identify the potential role and value of community pharmacy in an integrated healthcare system solution to improve weight management in the community.

10.1 The main key issues to be addressed in a CPWMP

The findings of the critical literature review suggest that a CPWMP can be successful for community pharmacists and the overall healthcare system in treating clients who are overweight and obese if the following key success factors are taken into account:

10.1.1 Client factors

The recruitment of clients to a programme must be performed by definite parameters to be a guide to which clients a pharmacist allows to participate in the programme. These inclusion criteria would be guided by the current NHMRC guidelines for the definition of overweight and obese and based on waist circumference, and BMI.

The programmes success for the clients will be measured by improvement in measurable parameters such as weight, waist circumference, BMI, blood glucose and blood pressure. Quality of life indicators could also be used.

The programme must have structure and be conducted in an environment conducive to positive client input and outcomes. Pharmacists will need to be empathetic to the clients in the programme. These issues would need to be addressed in a training programme for pharmacists who wish to undertake this
type of weight management programme. While facilities and staffing of the pharmacy impinge on the optimal provision of the programme to clients.

10.1.2 Remuneration, Business and professional needs

Remuneration for the community pharmacist to undertake this EPS must cover the additional workload involved in supporting this programme. This improves the likelihood of the programme being adopted, implemented, and sustained in community pharmacies.\textsuperscript{158, 213} Payment for the programme may be a combination of client payment, private health insurer rebate and government rebate. For further discussion of this most important issue see “Remuneration for EPS” section above.

Business and professional needs must be addressed by the weight management programme. Community pharmacists can see benefits beyond the direct payment.

- **Facilities** issues have been shown to be problematic in sustaining community pharmacy based EPS. Providing a designated counselling area to perform the programme optimally is necessary and while more pharmacies have designated counselling areas this is an issue that can be a barrier to EPS and thus a CPWMP being undertaken.\textsuperscript{9, 68, 158}

- **Workload, staffing and time constraints** within the pharmacy should be catered for in the programme with it being a “by appointment only” service, as this will address the potential of increased volume of work as a barrier to a CPWMP.\textsuperscript{10, 11}
  - An appointment system can offset some of the negative workload and staffing effects on the programmes sustainability. However it is likely that two pharmacists will need to present in the pharmacy to conduct a full programme. More detailed
discussion leading to why these issues are included as key issues to be addressed in a successful community pharmacy weight management programme can be found in the “Barriers to EPS”, “Workload and Time Constraints” and “Facilities and Staffing” and “Facilitators to EPS” sections discussed previously.

10.1.3 Training and Accreditation.

Training and accreditation of the weight management EPS is essential to maintain consistency, quality and remuneration. It also overcomes pharmacist barriers of lack of knowledge and confidence to implement the programme.\textsuperscript{68, 145} Only accredited pharmacists should be able to undertake the programme and receive remuneration for performing the service. For consistency the programme will use the QCPP platform from which to build service delivery. This assumes trained and accredited pharmacists will deliver a demonstrably better service to clients than non-trained and accredited pharmacists.

10.1.4 The pharmacist’s role and professional boundaries.

The programme has the potential to be an all encompassing healthy lifestyle programme focusing on weight but because of the increased contact with a pharmacist also managing clients diabetes, hypertension, hypercholesterolemia and other associated obesity related problems, which needs to be considered when negotiating for this programme to implemented and when considering a cost-benefit financial analysis.

The programme must include a medication review, focusing on drugs that may cause weight gain. If a GP referral exists for a review then payment as a HMR can occur, if the pharmacist is accredited as well in HMR’s.
The pharmacists’ role must be one of weight management programme coordinator and facilitator for the client. Managing the overall programme and client, under the supervision of the client’s GP. The pharmacist can also refer when necessary and put the client in contact with the necessary healthcare professionals when required or requested. This necessarily involves a repositioning of the role of the pharmacist in the mind of the community. For a programme to be successful in treating overweight and obesity it needs an integrated collaborative healthcare team approach. Someone has to manage and organise this team. It is envisaged that the pharmacist could be the central figure in the programme. The pharmacist is ideally placed being a trusted professional and often knowing about a client’s medical history and social circumstances as well as being the most readily accessible healthcare professional in the team and thus often most visited.\textsuperscript{6,68} Again this is enhancing and expanding the role of the pharmacist in the mind of the community.

Professional boundary issues would be addressed by making sure the role distinction described above is well defined. That is, the GP is the overall supervisor or consultant and the pharmacist is the coordinator and facilitator. Professional boundary issues are a barrier to EPS being undertaken and this demarcation and cooperative approach lends itself to minimising the effect of this issue on a CPWMP.\textsuperscript{150,211}

Collaborations with other healthcare professionals should be sought to form a pool of accredited weight management healthcare professionals including GP’s, dieticians, physiotherapists, psychologists and exercise physiologists where these healthcare professionals can be readily contacted to be part of an individual clients programme when required. They should have had prior accreditation with the programme. This would give a seamless supply of healthcare for the client. The pharmacist would coordinate the healthcare team for the best client
healthcare outcome. Because all healthcare professionals work under the auspice of the weight management programme the message and service is consistent and quality of service is more assured.

A client’s progress and programme should be followed and mapped by a weight programme diary where each healthcare professional can keep track of the client and stage of programme they are at. It allows each member to see what other team members are requesting and results the client is attaining. It should have provision for referrals and written instructions and notes to each member of the team, while setting out the programme and client goals.

10.1.5 Opportunity for Community pharmacy.

As suggested by the Change Management and Community Pharmacy project the weight management programme has to be assessed by the Characterising Opportunities Filter to enable the PGoA to ensure it is a key future opportunity. To be successful a CPWMP should be a programme that:

- Deals with most facets of the healthcare spectrum; assessment, prevention, diagnosis, treatment and rehabilitation.
- Is mainly a professional care delivery programme but ranges through to including some self-management.
- Will be largely service orientated but can be flexible to be combined (product and service) if required by the client.
- Will require a source of remuneration. It is anticipated to be largely self funded but rebates from private health insurers and in the future Medicare are very real options.
- Community pharmacies role in this service will be novel for the for the weight management industry but not for the pharmacy industry and will supplement and seek to collaborate with other healthcare professionals.
o Will take place for the majority weight management EPS clients in the pharmacy. With a mixed setting for clients with special or extra needs.

o Will require the following resources to make this programme successful such as accreditation, training and continuing education of pharmacists and relevant staff as well as a need for incentives and the infrastructure for this to occur.

As a result this weight management EPS is seen as key future opportunity.

10.1.6 The potential benefits from this CPWMP

The potential benefits from this CPWMP are:

- A far-reaching and widely accepted weight management programme due to the utilisation of the powerful community based pharmacy health network.

- Allows pharmacy to tap into a growing health and lifestyle market in the community.

- Increased numbers of overweight and obese Australians having access to a consistent, evidence based, integrated healthcare system weight management programme.

- A community pharmacy based EPS that has been well planned and remunerated and therefore well adopted, implemented and sustained by community pharmacy.

- Improvement in healthy outcomes for the overweight and obese clients participating and better management of diabetes, hypertension, and hypercholesterolaemia and other obesity related health issues.
- Improvements in measurable client health outcomes of waist circumference, body weight, BMI, blood glucose level and blood pressure.

- Decreased costs to the healthcare system due to reduced mortality and morbidity attributed to the overweight and obese Australian population.

10.1.7 PGoA and Pharmacy Industry role:

- Manage stakeholder expectations (ADGP and DoHA etc) and negotiate for a formalised collaboration on the structure of the programme with the pharmacist as the central figure managing the clients weight management as part of a healthcare team but under supervision of a GP. To present pharmacy as an alternative source of weight management, to help the overworked healthcare professional.

- Negotiations to provide funding for the programme, beyond client payment, to keep the programme cost below the price point (around $500) while still ensuring adequate funding for the programme. The source of funding is not critical. The Pharmacy Industry’s role is to deliver this funding or pharmacists are very unlikely to adopt the programme.

- Generate the perception in the community that your local pharmacist is the logical first source of health advice. That a client’s relationship with their pharmacist is similar to that with their GP. That is the pharmacist becomes a trusted service provider to them individually. The issue is not that people trust pharmacists but that they trust their pharmacist.
• Once the programme has been designed and tested undertake a national and statewide training and accreditation programme for the weight management programme, with provision for programme facilitators to assist with ongoing training and accreditation and sustainability of the programme. This is envisaged to be part of the roll out of the programme.

• Work with PSA and other stakeholders to approve the relevant competencies that pharmacists are to be trained and accredited in, to ensure an accredited pharmacist can deliver real value through the programme.

• To influence the NHMRC’s next review of weight management to be conducted in 2006 to ensure that the role of pharmacy is recognised and formally established.

• To work with university and other pharmacy education institutions to increase the levels and quality of practical clinical training in EPS like weight management to ensure more future pharmacists are highly motivated to perform EPS that enhance professional activities and job satisfaction. Through this to raise the public perception of pharmacists in weight management.

• To negotiate to get the programme endorsed by relevant client and professional organisations.

• To brand the programme well so clients (market profile) and pharmacists (industry profile) know exactly what it is and what it entails (clearly defined) and to generate market demand for the programme.

• Undertake a structured and systematic marketing of the CPWMP to three major areas.
  1. The healthcare system particularly those professionals working in this area so the programme is seen as a help for overworked
healthcare professionals not competition or to diminish any healthcare professional’s role in weight management but to provide a parallel source of support for clients.

2. The community pharmacists and the pharmacy industry to gain an understanding of the programme and increase acceptance. Also to leverage off the current community perception of pharmacists as being trustworthy to pharmacists being a much more active and stronger service provider.

3. To the clients themselves, highlighting the importance of the client pharmacist relationship and the role of the pharmacist as a university trained health professional and their ability to manage a programme such as this, and how this fits into the broader healthcare industry.

- To gain support and backing for the weight management programme from pharmacy industry organisations such as the PGoA, PSA and AACP, all of which will be important for accreditation and training aspects of the programme and to give pharmacists confidence in the programme.

- To provide the required infrastructure for the weight management programme to develop to its full potential.

- To undertake strategies to bring about the change required in the profession to lend itself to an environment conducive to EPS and improving the profile and future of community pharmacy.

While there are barriers to the capabilities of community pharmacy to deliver a weight management EPS, most are not without a solution and in some cases even offer an opportunity for the further development of community pharmacy. This has the potential to be very positive for community pharmacy as long as there is the genuine willingness of community pharmacy and the pharmacy industry to undertake this brief.
Stage Two Model Design

11 Recommendations for the design of a Community Pharmacy Weight Management Programme Model.

11.1 Introduction

From the conclusions of the critical literature review key success factors and components of a CPWMP were identified. Its potential could be better described as well as the role of the pharmacy industry better defined. Stage Two of the project required a CPWMP model to be designed from stage one’s critical literature review conclusions and blend these with the NHMRC guidelines and other Government policies on overweight and obesity. Thus integrating all the data into one model that was representative of how a future CPWMP may look and function within the existing healthcare system.

11.2 Integration

To integrate the conclusions from the critical literature review and NHMRC guidelines etc into the formation of an overall model the conclusions and guidelines were divided into three broad groups that related to the future CPWMP. These groups were; clients, community pharmacists, and the pharmacy industry/healthcare system.

11.2.1 Clients

There are a number of key issues imperative to the optimal suitability and popularity of the CPWMP with intended clients or participants. These are:

- Recruitment of clients will be based on how each individual pharmacist wishes to approach this. It may be passive through the potential client asking for information, or a more proactive approach where the pharmacy actively recruits clients through various
promotions. It is this active promotion that will need to be client focussed and market research is required to understand more fully what clients want and are willing to accept from a community pharmacy based weight management programme.

- Facilities and the pharmacy environment being conducive to participating in and sustaining a weight management programme with adequate privacy a priority.

- Confidence in pharmacist knowledge to undertake a weight management programme. A repositioning of the pharmacists’ role.

- Components and structure of the programme. From the literature reviews conclusions and NHMRC guidelines the components will be;

  - Nutrition/dietary advice
  - Physical activity
  - Behaviour modification/cognitive behaviour modification
  - Pharmacotherapy if necessary.

- Variables to be measured to judge success. That is waist circumference, weight, BMI, and also the possibility of blood pressure, and blood glucose.

- Payment for a CPWMP and how much this will be, if it a possibility to get a co-payment with medical insurers or government (Medicare) and if it is seen as value for money.
11.2.2 Community Pharmacists

As stated in the discussion of conclusions (section 10) there are a number of key issues that will impinge on the uptake, sustainability and ultimate success of a CPWMP. The main issues described were:

- Remuneration
- Workload/staffing
- Facilities
- Training/Accreditation
- Recruitment of clients
- Professional boundaries and collaborations.

11.2.3 Pharmacy Industry/Healthcare system

This model seeks to integrate the community pharmacists’ role in a community pharmacy based weight management programme with the overall healthcare system. One of the major issues in the success of the proposed CPWMP is that the relationship between the programme, and the three groups (clients, the individual community pharmacist, the pharmacy industry/healthcare system) is well understood. Success, in terms of reducing the level of obesity in the community, requires that the broader industry issues be managed beyond this programme. A number of key issues must be addressed by these two stakeholders for a programme to be successful, integrated, cohesive and sustainable. This does require different levels of the
pharmacy industry and healthcare system to work on different tasks at similar times for a proper integration and efficient use of resources to occur. Only then will a truly innovative solution to overall weight management in Australia be designed. Thus the CPWMP needs to be more than just another EPS programme that community pharmacists undertake. For the CPWMP to be part of the healthcare system much needs to occur beyond the programme itself. As this is such an integral part of the success of a CPWMP a detailed discussion on the positioning and responsibilities of different levels of the pharmacy industry and healthcare system follows.

11.3 Levels of the Pharmacy Industry/Healthcare system and proposed model.

11.3.1 Pharmacy Industry

*A Concept for Weight Management in Pharmacies*

A significant difficulty in developing an overall weight management model is that the broad nature of the model potentially oversimplifies complex issues that must be resolved at different levels of the models implementation. For example, how can one relate the counselling skills of a pharmacist with the potential productivity benefit of a reduction in obesity in the Australian working population? Or, how do the economics of individual pharmacies, and the various products and services they provide, relate to the role of pharmacy in the broader healthcare industry? Each of these levels needs to be addressed for the model to succeed.

*Industry stratification*

The essence of industry stratification is to recognise that different layers of management in an industry undertake qualitatively different work from others in the industry if it is to continue to develop over time. Higher up the industry hierarchy, the number of variables impacting on any decision, the time-frame in
which decisions have to be considered and the uncertainty in the information available all increase. Collectively, this means that the work for management becomes more complex. Empirical studies of such industry and organisational stratification and their consequences for change can be found in Jaques, and Clement.\textsuperscript{235,236}

**Relating Industry stratification to the Pharmacy Industry**

The Pharmacy industry does not operate as a single entity but rather is a mixture of small and large operators with a significant component of institutional support through the PGoA and Federal Government via the PGoA. These levels can be shown as similar to levels identified in studies by Jaques and others. The comparisons are shown in Table 12, which also lists the type of issues and work found in each of Jaques’s seven levels of management. These industry levels of management are then compared to an interpretation of what the levels are for community pharmacies in Australia.
Table 12: Application of Industry Stratification to Community Pharmacy.

<table>
<thead>
<tr>
<th>Level</th>
<th>Large Organisation</th>
<th>Pharmacy Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Quality of hands on trades or clerical work, cost control.</td>
<td>Quality of service, Accuracy of dispensing</td>
</tr>
<tr>
<td>II</td>
<td>Analysis of performance trends, shift rosters, budgets.</td>
<td>Medical advice and counselling of clients, organising rosters, profitability analysis of the individual pharmacy, design and implementation of store based processes.</td>
</tr>
<tr>
<td>III</td>
<td>Performance of whole processes, implementation of organisational systems, unit costs, relationship between major process including efficiency and cost implications, contingency plans.</td>
<td>Profitability of the pharmacy group, product lines held, culture and feel across the pharmacy group. Group based policy and procedures across multiple teams, relationship to other local healthcare providers.</td>
</tr>
<tr>
<td>IV</td>
<td>Competitive advantage and relationship to individual systems, risk management, relationship to external environment, physical footprint of the company</td>
<td>Accreditation systems across pharmacies (inter-state), ownership rules around pharmacies, managing the relationship between drug companies, TGA and pharmacies.</td>
</tr>
<tr>
<td>V</td>
<td>Strategic positioning of the organisation in its industry, Competitive advantage through a full economic cycle, organisation culture and its impact on profitability and performance.</td>
<td>Positioning of the pharmacy industry in broader health care industry. Culture across the pharmacy industry, Funding of/and support to pharmacy industry by government.</td>
</tr>
<tr>
<td>VI</td>
<td>Industry structure, creation of Strategic Business Units with sustainable source of competitive advantage.</td>
<td>Role of health and health care in Australian Society. Demographics of Australian population and healthcare implications, major research targets for healthcare in Australia</td>
</tr>
</tbody>
</table>

The complexity of implementing the recommended CPWMP can be seen by observing the requirements at each level. This project has been deliberately positioned at Level IV, with the product design at Level III to be implemented at Level II. Evidence for this comes from the original request for tender, for example:
11: Recommendations for the design of a CPWMP Model

- “The development of a stand-alone collaborative weight management programme” is a Level III requirement as it is a single system issue,

- “Integrated within the healthcare system including pharmacy and other health professionals” is a Level IV requirement as it is likely to require different but sustainable relationships with other healthcare professionals,

- “Would be beneficial to the Australian community” is a Level VI context statement but not a definitive requirement,

- The EAG consists of senior representatives from the PGoA, PSA and Government Bodies suggesting that the scope of work has been set, approved and is being managed at Level V.

The purpose statement for this project shows a similar broad range of requirements: “To identify the potential role and value of the professional services that community pharmacy can provide which can be integrated within the healthcare system to improve weight management in the community” is in reality a mixture of Level IV, V and VI requirements. The level IV requirement is underlined, the level V requirement is italicised while the level VI requirement is in bold type. This is a highly ambitious purpose set at the highest level of complexity, defining the industry. While this project may identify the requirement of each level to achieve this change, it is highly unlikely that successful implementation will be achieved by this project alone.

Another simple test of this analysis is to think through the long-term implications of the project being an outstanding success. If the most that can be foreseen is an improvement in profitability of pharmacies (level III issue) then the project is only being scoped at Level III. If success could involve a repositioning of the role of pharmacists, by highlighting pharmacies as source of medical service/advice on a fee for service basis rather than product based remuneration, then it is a level
IV/V project. It is not that this project alone will develop this result, but that success in this project along with other initiatives within the pharmacy industry can deliver this outcome. Similarly, this project, along with perhaps another 20 major initiatives from government could see the reduction of obesity and an associated increase in productivity and economic performance. The level VI work in government is to understand these other 20 projects and how they relate to build on each other’s successes and cover problems to deliver the desired outcome. This is well beyond the scope of this project.

The conclusion from this discussion is that from viewing the weight management issue from the perspective of industry stratification is insightful for the pharmacy industry and will be used as a way to present the research outcomes and overall model of weight management that has been developed.

11.3.2 Using industry stratification to show the research results.

Industry stratification will be used to show the relationship between the major research results and how they interact. Table 13 shows the major research findings from each of the 11 critical questions, used in the critical literature review and positions these results relative to the level of work.

One of the potential insights of the industry stratification perspective is to highlight important work that is not being done. Gaining effective implementation of any initiative requires the appropriate management work to be done at every level down to Level I, where most initiatives are implemented.

For example consider the development and implementation of Lifeweight™. The content of the Lifeweight™ programme was very good and the first of it’s type to be rolled out in Australian pharmacies. The programme was supported and developed through the combined efforts of the PGoA, PSA, AACP and Roche.
While this work could have been undertaken at Level IV and V, it appears that the design was undertaken at Level III. There was very little management work done outside of pharmacy as part of the design, and the design itself was focused on the individual pharmacy, not the broader industry. Thus, while the programme content work was done well from a client perspective, it didn’t generate change in the industry. Lifeweight™ tried to position itself, as a different programme that was going to change the culture of community pharmacy but it remained a product focused approach. The advertising and marketing of the programme was well attended to by Roche, again a typical level III issue. However, no real consistent change work was undertaken at Levels IV and V across the pharmacy industry, let alone the broader healthcare industry. Even within the pharmacy, the accreditation process did not differentiate, from a client perspective, the difference between a quality Lifeweight™ pharmacist and a normal pharmacist. Therefore, accreditation and training was not valued by clients, which devalued the process to the individual pharmacist and the broader community pharmacy industry.

The work at Level V, which would have been to generate a cultural change in the pharmacy industry, was not evident. The net result of these gaps in the higher-level management work is that Lifeweight™ was quickly commodified. As normally occurs with commodity products, price discounting occurred and the service that was provided, which was to be the point of difference with this programme, was not valued. Pharmacists often did not value this service as they provided it for free, possibly because they could not see clients paying for it.

It is our understanding that the programme set out to change the culture of community pharmacy with relation to EPS. This included providing a model where sufficient remuneration would occur for the service from the sale of the product.
While the product and the programme content were well received, it is not clear whether this was a function of the change in status of Xenical® (drug Orlistat) rather than the Lifeweight™ programme that came with Xenical®.

Overall, the difficulties with the Lifeweight™ programme show that generating change in the pharmacy industry, be it cultural or economic, cannot be addressed by a well-designed product or programme at level III. Significant management work at levels IV and V are critical if a sustainable change is intended through any initiative.

11.3.3 Community pharmacy weight management literature review results interpreted through the lens of industry stratification.

Table 13 summarises the major results and issues from the critical literature review (stage one). It does this by showing these results relative to the levels of work in the industry.
### Table 13: Major Literature Review results aligned to Industry Stratification.

<table>
<thead>
<tr>
<th>Level</th>
<th>Literature Review Issues:</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Time and capability of pharmacist to work on a weight management programme on top of current workloads. Physical space in the pharmacy for private consulting areas</td>
</tr>
<tr>
<td>II</td>
<td>Commercial viability of the product will limit adoption by pharmacies. Pharmacist competence to support a new programme, training required as a minimum. Relationship between weight management programme, as a product, and some other product lines, e.g. Non-evidence based weight loss products. Remuneration of the pharmacist is critical if they are to do new work. Pharmacy must also gain economic benefit from the programme as well as the pharmacist.</td>
</tr>
<tr>
<td>III</td>
<td>Accreditation and training of pharmacies and pharmacists must be designed into the programme. Interpersonal skills likely to be a key area. Some specialist medical issues are probably outside the scope of the programme and this needs to be clear. Behavioural therapy is a necessary component of the programme. A long term approach is required to increase compliance with the programme and generate sustainable weight loss. No evidence that complementary medical approaches generate a sustainable weight loss. Programme design will require diet and lifestyle issues to be covered. NHMRC guidelines are a good starting base. Teaching food selection and preparation a key issue. Ease of adherence to the programme, realistic goal setting and client support are three key non-medical issues to be addressed. Programme must have very clear set of steps for clients to follow.</td>
</tr>
<tr>
<td>IV</td>
<td>Programme success requires adoption across many pharmacies, not just some pharmacies with specific local conditions. Self-funding the programme may prove difficult. Therefore, an outside agency may be required to generate the required level of economic benefit for an individual pharmacy to sell and support the programme. Marketing needs to be both to the pharmacists, initially, and then to the potential client base. It has to be easy for people to see and buy.</td>
</tr>
<tr>
<td>V</td>
<td>Any programme needs to be aligned with the ethics and values of Community Pharmacies. There is a felt community need for a quality programme on weight management that isn’t driven by a large corporate. Overseas experience is that the community pharmacies are part of the government supported health team and on the whole don’t deliver weight management programmes on their own.</td>
</tr>
<tr>
<td>VI</td>
<td>Prevention is the key to society’s weight management issue. A weight management programme can only be reactive for people with problems.</td>
</tr>
</tbody>
</table>

The reason for the very large number of issues at Level III is that this is the highest level where technology dominates business issues. In this case, technology is the range of medical issues involved in weight management. Level III is also where the programme design occurs. Given that this literature review is based on providing a model to support a new programme design, again it is logical that there are many issues at this level. The risk for the PGoA is that a
programme focuses only on these medical issues, at level III, without addressing the issues at other levels. This will generate a useful product that is unlikely to be adopted by many pharmacies and does little to improve the community, health profession or government view of the value of the pharmacy industry to Australian society. This is called the “Launch and Abandon” approach to product development – launch lots of new products and watch as clients and suppliers abandon them over time. Lifeweight™ has some features of this approach.

This range of issues can themselves be distilled down to a single question at each level. Answering these questions will help generate a successful CPWMP:

- How can the logistics in the pharmacy be organized so that the pharmacist has the time and space to run the programme?
- How can the programme be priced so that both the pharmacy and pharmacist receive appropriate remuneration for running the programme?
- What are the steps in the programme that make it easy for clients to adopt changes in their own behaviour, and which cover the known medical and psychological issues?
- What additional funding can the PGoA bring to bear on this programme, as a means of encouraging community pharmacies to adopt the programme (and align their capabilities in the process) and to increase the participation rate by clients through either national marketing or product subsidies?
- How realistic is it, given the current and intended future role of community pharmacy in the medical industry, for a programme to be run solely through pharmacies and what else does the PGoA need to do
around this programme to generate the required level of success to reposition community pharmacy?

- Where does a weight management programme, which is focused on people who are overweight, relate to the more general societal problem of preventing obesity?

As stated previously, only when these questions at all levels are adequately answered, and the results implemented, will the PGoA have a truly successful programme. This literature review cannot provide answers to all these questions. It will take innovative management by the PGoA and other groups if the industry is to continue to develop, using a weight management programme as an initiative to help generate this change.

Figure 4 shows the major issues in the various levels of management for the pharmacy industry. This is a simplified version of table 13 above.
11: Recommendations for the design of a CPWMP Model

Figure 4: Industry Stratification

Pharmacy Organisations: PGA PSA

Pharmacy setting: workload, economics, GP/pharmacist and other health professionals, relationship

Healthcare in Australian Society

Pharmacy Industry systems: Accreditation/Training

Pharmacist: counselling, store based management

Dispensing accurately, quality of services, running step-by-step processes.
11.4 Community Pharmacy Weight Management Model

From the key issues that related to each specific group an overall model design began to take shape and the following was designed:

- One model to express the overall Community Pharmacy Weight Management Model.
- Other components to magnify and describe each specific key issue of the overall model.

The model and its components help outline and define the implementation plan, draft service guidelines and resources needed to manage this programme.

11.4.1 Overall Model and Draft Service Guidelines

An overall model of the anticipated CPWMP is presented in Figure 7. It depicts the relationship between the major key issues of the programme, which are:

- Pharmacists relationship with the programme
- Training and accreditation
- Remuneration
- Clients and client recruitment
- Content of the programme for client and pharmacist
- Pharmacy industry and Healthcare system.

A more detailed description of each of these major key issues is illustrated in Figures 6,7,8,9,and 10.

Figure 6 explains the pharmacists’ relationship with the programme and the connection between training, accreditation, and remuneration. That is, if any of
these three factors are not completed or supplied then the programme fails to perform successfully.

Pharmacists would be expected to undergo approximately 15 hours of training and then be audited in their pharmacy to become accredited. Pharmacist, relevant staff, and pharmacy are accredited. An accredited pharmacist can undertake the programme at different pharmacies but the subsequent pharmacy must also be accredited. In that it must have the necessary tools and facilities to run the program from not just an accredited pharmacist.

Figure 7 describes the scope of the training programme. Specific competencies required for provision of this service are highlighted in bold and will be aligned to the current NHMRC guidelines. In the Diet and Nutrition section it is expected that some training time will not only be given to evidence based eating plans but also a section will be devoted to “fad diets” and explanations of these based on NHMRC guidelines and other evidence based information (peer-reviewed journal articles). This is to allow pharmacists to maintain an up-to-date knowledge base. Pharmacists then have the skills to give advice to clients on the risks and benefits of some of the more extreme diets from a knowledgeable and balanced position.

The training will also include training on how to set up and run the programme in different types of pharmacies, ranging from small, large, traditional, multi specialty and/or expanded. It is anticipated that a pharmacist will need support at the initiation of the programme and at times during the provision of the programme service. For sustainability of the programme web-based or telephone support would be offered for a small extra fee. This would not be an immediate service reducing staffing costs of this support but would guarantee to get back to the pharmacist within 24 hours via phone or email.
While the programme is focusing on the provision of an EPS for a fee, training will also be given on the provision a weight loss product. It is a choice the pharmacist has and is a decision that will be made between the pharmacist and client, depending on the individual clients’ circumstances.

Figure 8 highlights the importance of remuneration in the delivery of a functional and useful community pharmacy based weight management programme. It provides examples of the three areas where remuneration for the programme would come from. It also covers the costs for the pharmacist in setting up and running the programme.

Figure 9 covers marketing and client recruitment to the programme. Highlighting the choice a pharmacist has to passively or actively recruit clients. This is an important distinction as pharmacists have the chance of “selling” the service to clients other than those in the decision stage of change. Clients enrolling in the programme will only be able to do so if they fit into the defined criteria of overweight or obese as set by the NHMRC guidelines for waist circumference, BMI and co-morbidities.

Figure 10 details the content of the programme from the perspective of the client. Here the suggested components of the programme are set out. They include;

- Nutrition and diet,
- Activity and physical exercise,
- Behavioural therapy/modification,
- Medication review and counselling possible pharmacological intervention,
- Weight maintenance.
It reiterates the competencies required for the provision of this service. It also reaffirms the central role the pharmacist has in the programme and the development of a client pharmacist relationship for the long term. The figure also shows the need for the client programme diary to provide continuity for the provision of the service and tracking of client’s progress.
11: Recommendations for the design of a CPWMP Model

**Figure 5: Overall CPWMP Model**

**Community Pharmacy Weight Management Programme**

- **Healthcare System**
  - *GP’s, *Specialists
  - *Dieticians,
  - *Psychologists,
  - *Exercise
  - *Physiologists,
  - Physiotherapists,
  - *Gyms
  - *Pharmacist
  - Training and ongoing support and follow up
  - Accreditation
  - Participation in CPWMP
  - Remuneration
  - Refer

- **Marketing**
  - Refer

- **Clients**
  - Recruitment
  - Pharmacists’ choice
  - Passive
  - Active
  - "By appointment"

*Program Accredited Health Team, linked by client’s program diary
Figure 6: Pharmacists' Relationship with Programme

Community Pharmacy Weight Management Programme

Marketing

Pharmacist

Training
Weight Management and Weight Maintenance. Follow up and Ongoing support

Relevant Staff

Pharmacy:
Facilities etc. (Privacy needs)

Accreditation
(Continuous Quality Improvement)

Participation in CPWMP

Remuneration

11: Recommendations for the design of a CPWMP Model
Figure 7: Training Programme Content

**Community Pharmacy Weight Management Programme**

- **Marketing**
- **Pharmacist**
  - **Pharmacist Training**
    - Ongoing support and follow up
  - **Pharmacotherapy**
  - **Communication Skills**: Empathy, Understanding Obesity, Treatment and support necessary, Breaking down stereotypes, Developing Pharmacist/Client relationship
- **Setting Up and Running Skills, Tools**
- **Medication Review and Health Screening**
- **Weight Maintenance Skills**: Sustainability, when to refer
- **Lifestyle modification**
- **Diet/Nutrition**
  - VLCD
- **Activity/Exercise**
- **Pharmacists’ Choice**
- **Roles of other health professionals, when to refer**
- **Based on NHMRC guidelines**
- **Web-based, or telephone support for pharmacist.**

** Roles of other health professionals, when to refer.**
11: Recommendations for the design of a CPWMP Model

Figure 8: Remuneration

- **Community Pharmacy Weight Management Programme**
  - **Marketing**
  - **Pharmacist**
    - **Training and Accreditation**
      - **Accredited Pharmacist and Pharmacy Remuneration**
        - **Set Up and Running Costs.**
        - **Cost Benefit to pharmacy**
        - **Private Health Fund Rebate e.g.: Preventative Weight Management**
        - **Self-Funded (Client Fee)**
          - **Fee competitive with other commercial non-pharmacy based programmes**
        - **Government**
          - **Cost Benefit Outcomes of Programme for health system**
            - **Pharmacy point of Differentiation:** Medication Review, complete disease state management, Health Screening University educated.
Figure 9: Client Recruitment

Community Pharmacy Weight Management Programme

Passive Recruitment

Pharmacist Counselling Client, or Client asking questions about weight management, risk factors, or other.

Pharmacy Assistants

Defined entry criteria. Based on BMI, WC, weight and co-morbidities

Sign up. Consent

By Appointment Individualised Weight Management Program

Active Recruitment

Health care professionals or GPs via Care plans, HMR, or lifestyle scripts

Promotions, Health Screening, Medication Reviews special notice of drugs that cause weight gain

Programme Sustainability and Longevity

Weight Maintenance Programme

Healthcare professionals or GPs via Care plans, HMR, or lifestyle scripts
Figure 10: Programme Content for the Client

Community Pharmacy Weight Management Programme

Marketing

Client

Pharmacist

Program Content Sections
(Contained in Client Program Diary)

NHMRC guidelines

Medication Counseling and Review

Nutrition/Diet

Activity/Exercise

Behavioural Therapy/Modification

Sustainability ongoing support and follow up

Weight Maintenance

Flexible to incorporate continuing changing need of clients and updated information

Optional Sale of a product
11.4.2 Future of the project: Implementation Plan

The project implementation plan contains a number of distinct stages that must occur to ensure success. Some of the issues are required to be managed by the pharmacy industry at levels IV and V. This needs to run in a parallel process with the more practical research implementation and evaluation stages of the programme.

Practical Implementation

Before the confident roll out of such a programme can take place much more preliminary work needs to be carried out in a longer time frame than the first two stages. Figure 13 describes the relationship between the initial two stages and the following two stages of this project. A number of issues need to be analysed before the instigation of a pilot study and well before a RCT or evaluation can occur. These stages are reflected in Figure 12 and are:

- **Market analysis:** To this point because of the time constraints on the project, no market analysis has been carried out. It is necessary to determine how to best present the programme to the client. This must occur for the programme to be the best pharmacy based service for the needs and wants of the market. This process must continue to occur on an advisory level as the programme progresses to ensure a relevant and thus successful market product.

- **Client and Pharmacist Assessment:** From the Literature Review, NHMRC guidelines and other policies, the main structure of the programme content has been elucidated. It is the more detailed aspect of the programme that needs to be further defined. This can only occur by more widespread and detailed discussions with the market, both
community pharmacists and clients. Specific client needs will need to be identified to maximise client participation and continued support. More widespread input from pharmacists is required to assess their needs to enhance participation and support.

- Programme Plan Development: Detailed design and development of the programme content must be further pursued. This will affect training modules and accreditation auditing.

- Pilot Study: A prototype of the programme needs to be trialed in a pilot study to further refine the model and thus programme. This would be carried out in four different types of pharmacies.

- RCT: Implementation Stage 3: Once the programme has shown it can be successfully run and provided by a small number of pharmacies with client participation and success, then a RCT can be performed on a much larger scale. It is here that the robustness of the model will be tested and outcomes will need to be clearly defined so solid statistical and financial analysis can occur.

- Evaluation: It is from the evaluation of the results of this RCT, particularly from the statistical and financial analysis that benefits of the programme will be elicited and where future decisions about the following will need to be made:
  - Funding (remuneration),
  - Benefits to community pharmacy
  - Benefits to clients and
  - Benefits to the healthcare system

Without a detailed and deliberate implementation process this programme will be ill equipped to deal with the brief it has been given.
Figure 11: Practical Implementation

11: Recommendations for the design of a CPWMP Model


**Pharmacy Industry Implementation**

The parallel process that must occur at the time of the practical implementation of the programme revolves around primarily the provision of a fee for service model that relies on training and accreditation of participating pharmacists. The programme also involves an integrated healthcare professional team with the pharmacist as a central figure. These negotiations need to be performed by the PGoA principally in the interest of not only this programme but also EPS provision in general, and for the future of community pharmacy. These issues shown in Figure 12 and 13 are:

- Negotiations to provide funding for the programme, beyond client payment, to keep the programme cost below the price point (around $500) while still ensuring adequate funding for the programme. The source of funding is not critical (Government or Third Party Insurer).

- Manage stakeholder expectations in particular the ADGP and the DoHA and negotiate for a formalised collaboration on the structure of the programme with the pharmacist as the central figure managing the clients weight management as part of a healthcare team but under supervision of a GP. To present pharmacy as an alternative source of weight management, to help the overworked healthcare professional.

- To gain support and backing for the weight management programme from pharmacy industry organisations such as the PGoA, PSA and AACP, all of which will be important for accreditation and training aspects of the programme, and to give pharmacists confidence in the programme.

- Work with PSA and other stakeholders to approve the relevant competencies that pharmacists are to be trained and accredited in, to
ensure an accredited pharmacist can deliver real value through the programme.

- To negotiate to get the programme endorsed by relevant client organisations, in particular Weight Code Administration Council of Australia and Dietitians Association of Australia.

- Generate the perception in the community that your local pharmacist is the logical first source of health advice. That a client’s relationship with their pharmacist is similar to that with their GP. That is the pharmacist becomes a trusted service provider to them individually. The issue is not that people trust pharmacists but that they trust their pharmacist.

It is the management of these issues that are crucial to the overall success of the programme.

11.4.3 Financial Analysis:

The financial analysis discussed in the remuneration section also links implementation within individual pharmacies with implementation across the pharmacy industry. This analysis is discussed in some detail in section 9.2.2. The financial analysis needs to be used in conjunction with the overall CPWMP model and other process-based figures. It is through using the combination of these that the probability of success of the program is increased.
Figure 12: Pharmacy Industry Implementation

11: Recommendations for the design of a CPWMP Model
Figure 13: Overall Implementation Plan (Parallel Process)
11.4.4 Resources

The anticipated resources that would be required to assist pharmacists in the RCT phase of the programme will fundamentally be driven by the remuneration that can be negotiated for the trail to go to the pharmacist to provide the service. A prototype of the client programme diary will be necessary as well as a prototype of the training manual and facilitators to help implement the programme with pharmacists. A counselling area for the client pharmacist consultations will also be important or at the very least the options outlined in Section 6.2.5. Other anticipated resources have been identified in the programme models and include:

- Consent and referral forms.
- Pedometers, tape measures and scales.
- Web-based or telephone support area (optional at this stage if implementation facilitators are active).
- Blood pressure measuring equipment.
- Provision of a healthcare professional network, all who have been made aware of the programme and wish to participate including:
  - GPs
  - Physiotherapists
  - Specialists
  - Dieticians
  - Psychologists
  - Exercise Physiologists
  - Gyms.
12 Appendix 1: Critical Literature Review Research Focusing Questions.

1. Why have previous PGoA/Government, PSA and other public health campaigns not been widely adopted by Community Pharmacy, including Diabetes, Asthma, Self Care and Stop Smoking Campaigns? Why have HMRs (Home Medication Reviews) been more widely adopted by Community Pharmacy?

2. What other public health programmes have been successful and why (eg 10,000 steps programme, QUIT)?

3. What are the future public health issues that need to be incorporated into a Community Pharmacy based weight management programme (e.g. childhood obesity) and can they be incorporated?

4. What are the capabilities and economics of Community Pharmacy at present to undertake the continual support, counselling and participate in Public Health initiatives: including basic pharmacist skill set, training, qualifications, infrastructure (work load), quality control, legal and ethical issues?

5. Current weight management programmes in community pharmacy:
   - Opportunities
   - Limitations (impact on Community Pharmacy)

6. Is remuneration necessary what type and how distributed?

7. What is the situation in other areas of the world, what is community pharmacy involvement in public health weight management issues? Is Community Pharmacy in Australia better served to collaborate with other health professionals in weight management?
8. What psychological and sociological issues need to be considered for a successful weight management programme? Is this likely in a Community Pharmacy setting from a psychological and sociological setting?

9. What is the physiological basis of obesity and what are current drug treatments and complementary medicine alternatives?

10. What are the current (non-pharmacy) models of weight management available in Australia and what are their success rates, why are some successful and others not (includes looking at recommended exercise, nutrition)?

11. How does Lifeweight® and other Community Pharmacy programmes compare with non-Community Pharmacy weight management programmes. Does it solve the problems other public health programmes have suffered when run from Community Pharmacy?


The spreadsheet has been developed in Excel to allow for ease of use. It takes a one year view of the revenue and costs incurred in operating the weight management program, both at the individual pharmacy level and for the pharmacy industry, as represented by the PGoA. The aim is to determine the flow of money, revenue, operating cost and capital costs, to determine under what conditions the pharmacy receives an adequate return on its investment, and similarly for the PGoA.

While the spreadsheet shown in this report is by definition static, it is intended that this analysis be used in an interactive manner if it is to have value. All cells in the spreadsheet have been locked, to avoid changing the arithmetic, with the exception of the yellow shaded cells on the Summary tab. these are the input assumptions that need to be varied to understand how the economics of the program varies with changing assumptions.
14 Appendix 3: Summary of project methodology.

Figure 14: Methodology: Stages One and Two: Community Pharmacy Weight Management Project.

Successful Tender Document


Further refinement of questions from meetings with Specialist Consultants and Researchers.

Meeting with Community Pharmacy Focus Group: questions and methodology discussed, further refinement undertaken.

Critical Literature Review Undertaken by 10 experienced and expert researchers. Overseeing from Specialist consultants with meetings between researchers and their respective specialist consultant.

Interim report submitted and accepted by the EAG

Compilation of the results of Critical Lit Review and NHMRC Clinical Guidelines and other Government policies. Report and initial overall model developed with component algorithms.

Further refinements through discussions and meetings with Specialist consultants, researchers, and Community Pharmacy Focus Group.

Report and Overall model with component algorithms submitted 6/7/05.

Stage One: Literature Review Community Pharmacy Weight Management Project

Stage Two: Model Design Community Pharmacy Weight Management Project

NEXT TENDER: Stages 3 and 4: Implementation and Evaluation. For further detail on future directions see Figures 13, 14, 15 of report. Note figures include where a Randomised Control Trial and Stakeholder discussions would occur and is a representation of processes beyond Stage 2 of the community pharmacy weight management project.
15 References

therapy, exercise, behaviour therapy or combinations of these interventions. Journal of Human Nutrition and Dietetics 2004;17:293-316.


197. Amcal. Letter entitled Amcal tackles obesity crisis with national weight management program. Available from
213. Raisch D. Barriers to providing cognitive services. Am Pharm 1993;NS33:54-8.


15: References
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</tr>
<tr>
<td>Cost of supporting material / customer</td>
<td>$30</td>
<td></td>
</tr>
<tr>
<td>Average annual number of customers for a pharmacy</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Cost to customer of the program</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>Program subsidy to the local pharmacy</td>
<td>$100</td>
<td></td>
</tr>
<tr>
<td>Total number of pharmacies adopting the program</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Federal Govt subsidy to Guild / customers</td>
<td>$20</td>
<td>Not all pharmacies will adopt the program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This could be a charge from the Guild on to the pharmacy which is then added to local pharmacy subsidy.</td>
</tr>
</tbody>
</table>