



Australian Government  
Department of Health and Ageing



The Pharmacy  
Guild of Australia

# Building Organisational Flexibility to Promote the Implementation of Primary Care Services in Community Pharmacy

Researchers: Prof S.I. (Charlie) Benrimoj, Eleonora Feletto and Laura Wilson



**FINAL REPORT**

---

## ACKNOWLEDGEMENTS

---

### **PARTICIPANTS**

Interview participants  
Survey participants  
Intervention Participants

### **ASSISTING PHARMACISTS**

Nick Logan  
Lachlan Rose

### **WORKSHOP FACILIATORS**

Julie Allan  
Bruce Annabel  
Humphrey Armstrong  
S.I. (Charlie) Benrimoj  
Eleonora Feletto  
Wendy Poyser  
Alison Roberts

### **PHARMACY GUILD OF AUSTRALIA**

Meryl Kane  
Sue Leitch  
Magda Markezic  
Cathie Marshall  
Erica Vowles

This report was produced with the financial assistance of the Australian Government Department of Health and Ageing. The financial assistance provided must not be taken as endorsement of the contents of this report.

The Pharmacy Guild of Australia manages the Fourth Community Pharmacy Agreement Research & Development which supports research and development in the area of pharmacy practice. The funded projects are undertaken by independent researchers and therefore, the views, hypotheses and subsequent findings of the research are not necessarily those of the Pharmacy Guild.

## ACRONYMS

Acronym	Explanation
ABS	Australian Bureau of Statistics
APP	Australian Pharmacy Professional Conference
CBD	Central Business District
CPA	Community Pharmacy Agreements
DAA	Dose Administration Aid
DMAS	Diabetes Medication Assistance Service
GP	General Practitioner
HMR	Home Medicine Review
KPI	Key Performance Indicator
NDSS	National Diabetes Service Scheme
PAMS	Pharmacy Asthma Management Service
PBS	Pharmaceutical Benefits Scheme
PGA	Pharmacy Guild of Australia
PMP	Patient Medication Profile
PSA	Pharmaceutical Society of Australia
QCPP	Quality Care Pharmacy Program
RMMR	Residential Medication Management Review
RPBS	Repatriation Pharmaceutical Benefits Scheme
SMART	Specific, Measureable, Achievable, Realistic, Time-bound
SME	Small to Medium sized Enterprise
SWOT	Strengths, Weaknesses, Opportunities, Threats

## GLOSSARY OF TERMS

The technical and research related terms used in this report are outlined and explained in Table A.

*Table A: Glossary of Terms*

Term	Definition	Reference in Text
Professional Pharmacy Services	The term “professional pharmacy services” is referred to in the literature as cognitive pharmaceutical services, primary care services, pharmaceutical care and enhanced services. Cognitive pharmaceutical services are defined as “professional services provided by pharmacists, using their skills and knowledge to take an active role in contributing to patient health through effective interaction with both patients and other health professionals.” <sup>1</sup>	For the purpose of this report the terms ‘professional pharmacy services’ and ‘services’ are used.
Community Pharmacy Agreement	These are five year agreements between the Commonwealth Government of Australia and the Pharmacy Guild of Australia on behalf of community pharmacy owners. <sup>2</sup>	The relevant details of the CPA are discussed on page 1.
Organisational Flexibility	Volberda defines organisational flexibility as “the degree to which an organisation has a variety of managerial capabilities and the speed at which they can be activated, to increase the control capacity of management and improve the controllability of the organisation” <sup>3</sup>	The application of organisational flexibility to this research is outlined on pages 3-4.
Qualitative Interviewing	Qualitative research methods are used to enhance knowledge of a particular topic area and develop an understanding of unknown subject based on the perceptions of the participant. <sup>4</sup> Semi-structured interviews were used in the study, enabling the participants to use their own narratives to express their views. <sup>5</sup> The researchers’ role in qualitative methods is that of an ‘active shaper’ of the data. <sup>6</sup>	The use of this method is outlined on page 6.
Constant Comparison	The constant comparison method of coding was used where “newly gathered data are continually compared with previously collected data and their coding.” <sup>7</sup> This process is continued until no new themes emerge, thus reaching a point referred to as “data saturation.” <sup>7</sup>	This is referred to on page 6.
Exploratory Factor Analysis	Exploratory factor analysis is a statistical analysis applied to a set of variables with the aim of identifying subsets of variables that are correlated to each other. The subsets are said to represent underlying factors. <sup>8,9</sup>	The method is outlined on page 7.
Confirmatory Factor Analysis	Confirmatory factor analysis is a technique used to test a scale designed to explain a set theoretical framework. This analysis evaluates an existing theory and prior research in relation to a specific model for a new sample. <sup>10</sup> It was used to test a scale of organisational flexibility in the context of community pharmacy	The method is outlined on page 8.
Cluster Analysis	Cluster analysis is a multivariate analysis technique that identifies groups of cases or respondents based on their characteristics. The characteristics used to identify the groups are based on the items used to product the clusters. <sup>9</sup>	The method is outlined on page 8.
Discriminant Analysis	Discriminant analysis used to analyse the different between groups based on a series of independent variables (e.g. pharmacy size) <sup>9</sup>	The method is outlined on page 8.

## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS.....</b>	<b>II</b>
<b>ACRONYMS .....</b>	<b>III</b>
<b>GLOSSARY OF TERMS .....</b>	<b>IV</b>
<b>TABLE OF CONTENTS.....</b>	<b>V</b>
<b>BACKGROUND AND RATIONALE.....</b>	<b>1</b>
BACKGROUND.....	1
RATIONALE.....	2
ORGANISATIONAL FLEXIBILITY .....	3
<b>RESEARCH QUESTIONS .....</b>	<b>4</b>
<b>DEFINITIONS .....</b>	<b>5</b>
<b>OBJECTIVES .....</b>	<b>5</b>
<b>METHODOLOGY.....</b>	<b>6</b>
<b>STAGE 1 – QUALITATIVE INTERVIEWS .....</b>	<b>6</b>
DESIGN .....	6
PARTICIPANTS.....	6
SAMPLE.....	6
DATA COLLECTION AND ANALYSIS .....	6
<b>STAGE 2 – QUANTITATIVE SURVEY .....</b>	<b>7</b>
DESIGN .....	7
PARTICIPANTS.....	7
SAMPLE.....	7
DATA COLLECTION AND ANALYSIS .....	7
<b>STAGE 3 – INTERVENTION: WORKSHOP AND FOLLOW UP VISIT .....</b>	<b>8</b>
DESIGN .....	8
PARTICIPANTS.....	9
SAMPLE.....	9
DATA COLLECTION AND ANALYSIS .....	9
<b>RESULTS.....</b>	<b>10</b>
<b>STAGE 1 – QUALITATIVE INTERVIEWS.....</b>	<b>10</b>
<b>STAGE 2 – QUANTITATIVE SURVEY .....</b>	<b>11</b>
<b>STAGE 3 – INTERVENTION: WORKSHOP AND FOLLOW UP INTERVIEW .....</b>	<b>13</b>

<b><u>LIMITATIONS .....</u></b>	<b><u>16</u></b>
<b><u>DISCUSSION .....</u></b>	<b><u>17</u></b>
<b>STAGE 1 – QUALITATIVE INTERVIEWS .....</b>	<b>17</b>
<b>STAGE 2 – QUANTITATIVE SURVEY .....</b>	<b>18</b>
<b>STAGE 3 – INTERVENTION .....</b>	<b>19</b>
<b><u>CONCLUSION.....</u></b>	<b><u>21</u></b>
<b><u>REFERENCES .....</u></b>	<b><u>23</u></b>
<b><u>APPENDICES .....</u></b>	<b><u>26</u></b>

---

# BACKGROUND AND RATIONALE

---

## Background

The focus of this research was to investigate the capacity of community pharmacy to provide professional pharmacy services<sup>a</sup>. In this context, it examined the factors affecting past experience of community pharmacy in the provision of these services and the environment in which it operates. This research was stimulated by national and international reports showing concerns regarding to the implementation of services.<sup>11-14</sup>

The capacity and desirability of community pharmacy to promote and conduct effective interventions in order to improve the quality of service delivery and the health of the population is explicitly recognised in the Community Pharmacy Agreements (CPAs) between the Commonwealth Government and the Pharmacy Guild of Australia (PGA). The Fourth CPA (effective 2006 – 2010) has been executed in six parts to address varying elements of community pharmacy.<sup>2</sup> Parts 2 and 3 discuss the remuneration associated with the dispensing function of community pharmacy, including mark-up and associated professional fees for medications listed on the PBS. Part 5 relates specifically to professional pharmacy programs and services, setting out the priorities and allocated government funding to support the provision and implementation of these services. It set aside \$568 million to fund pharmacy professional services through specific remuneration to pharmacists and pharmacies for their delivery. Funding is spread across five key programs, two of which focus on service provision. These are:

1. Better Community Health (\$260 million) encompassing the Quality Care Pharmacy Program (QCPP) administered through the Pharmacy Guild and funding for a range of other programs including:
  - a. Dose administration aids (DAA)
  - b. Patient medication profiling service (PMP)
  - c. Practice change and education incentive scheme
  - d. Diabetes (DMAS) and asthma (PAMS) disease management
  - e. Counselling for dispensing of emergency contraception, and
  - f. Communicable disease prevention initiatives

Funding for Research and Development is also made available under this program.

2. Medication Reviews (\$150.3 million). This funding included continued support for the Medication Review Program both at home (Home Medicine Reviews, HMR) and in residential care (Residential Medication Management Reviews, RMMR). Provision was also made to support accreditation and a facilitators' program.

Community pharmacy is undergoing a transformation, evolving from its product supply orientation to that of a business capable of providing professional pharmacy services to the community while importantly continuing its traditional activities. Effective implementation and delivery of these services necessitates the “pharmacists, using their skills and knowledge, to take an active role in contributing to patient health through effective interaction with both patients and other health professionals”.<sup>1</sup> The “average” community pharmacy is thus a multi-faceted blend of a small business delivering products and services in a retail environment, and a critical component of the health system providing services to the public.

The environment in which community pharmacy operates is one of commercial necessity to run a financially viable and accountable business on the one hand, and configuring operations, product supply and service delivery to meet appropriate standards of professional conduct and competence as health care providers, on the other.<sup>11</sup> Meeting the expectations and requirements of the community, profession, suppliers, financiers and government demands much of community pharmacy, particularly in the context of the substantial shift in its orientation from a business model centred on product supply to one incorporating service delivery.<sup>11</sup> The four key factors driving this shift include:

---

<sup>a</sup> The term “professional pharmacy services” is also referred to in literature as cognitive pharmaceutical services, primary care services, pharmaceutical care and enhanced services. For the purpose of this report the terms ‘professional pharmacy services’ and ‘services’ are used.

- compelling research evidence of the significant burden imposed by medication related harm;<sup>15, 16</sup>
- the unique capacity of pharmacists as health professionals;<sup>11</sup>
- government policy;<sup>17</sup> and,
- the evolution of the profession in national and international terms.<sup>12</sup>

There are also significant financial imperatives as community pharmacy seeks to reposition itself in terms of its business orientation to ensure its future financial viability, particularly in the face of the reduction by government in the margins on medications.<sup>11, 18, 19</sup>

Importantly, community pharmacy is uniquely placed to implement effective strategies to assist the community in optimal medication management. This is because of the available expertise and capacity in their workforce consisting of highly qualified health professionals with a strong professional commitment to integrated health care.<sup>20</sup> Community pharmacy is uniquely accessible – there are approximately 5000 community pharmacies across Australia, located in urban, rural and remote communities.<sup>21</sup> Many of these pharmacies are owned or staffed by local community members and are thus well positioned to lead and mentor local health improvement programs and interventions. Research has shown the effectiveness of health care interventions by community pharmacy.<sup>22, 23</sup>

## Rationale

This research project has focused on identifying the needs and examining the current capacity of community pharmacy to facilitate its effective operation in this new dual role. The study moves beyond the statistics showing that Australia is well positioned in terms of providing dedicated funds to community pharmacy in return for service provision.<sup>24</sup> It focuses on the practice and business issues facing community pharmacy as it repositions itself to meet the expectations and requirements of a service provider.

The optimal implementation of professional pharmacy services is an issue of international concern. This has seen most developed countries attempt to introduce a model of community pharmacy operation and funding which places delivery of services and associated therapeutic products at its core.<sup>12, 13, 21, 25</sup> Research evidence emanating from these countries indicates that there has been only limited uptake of services by community pharmacy and that, although much progress has been achieved, it has not yet been able to optimally and effectively implement the necessary business and operational changes.<sup>11, 14, 26, 27</sup>

There is a question as to whether Government and professional organisations have directed sufficient resources and programs of the necessary level towards assisting community pharmacy in making required changes.<sup>28</sup> Programs have not been as effective as anticipated. The initial programs have adopted an approach focused on providing clinical education (training the pharmacists who deliver the services) and a service delivery payment (directed to the pharmacy to motivate the delivery of services) with some limited payments to encourage enrolment and support infrastructure changes. However, evidence of both implementation and the lack of sustained service delivery suggest that existing programs, incentives and resources are not meeting the needs of community pharmacy. Critically, programs do not adequately or optimally assist changing the environment in which community pharmacy operates to make a successful transition to a new model of business orientation incorporating service delivery.

Community pharmacy has identified its need for assistance in effecting change, adjusting business models, planning for the future and adapting to their dynamic environments. Research suggests that community pharmacy as a whole faces challenges in its attempts to deliver services sustainably and effectively because of the difficulties encountered in integrating service provision with existing business models at current capacity.<sup>11</sup> The implementation of professional pharmacy services requires changes in the way pharmacies operate and are managed; some of these changes are incremental, others large scale.<sup>11, 29</sup>

Anecdotally it has been said that pharmacists need more assistance in making these changes and are cognisant of their lack of capability, capacity and expertise to make the necessary adjustments to their operations. The profession and government are keen to promote an effective transition and to ensure optimal service quality and impact; this is evident from programs and support already provided. However, the problem lies in difficulties in the



practical day to day context of delivering services, dispensing medications, supplying products, retailing non pharmaceutical goods and operating as a viable and sustainable community pharmacy.

Previous research on the barriers and facilitators to service implementation has predominantly focused more on the individual practitioners' needs, not on the community pharmacy as an organisation.<sup>30, 31</sup> In an exception to this, Roberts et al identified a series of facilitators for change in Australian community pharmacy which included:<sup>1, 32</sup>

- Building relationships with general practitioners locally
- Planning and goal setting
- Engaging the whole pharmacy team
- Suitable pharmacy layout
- Attracting and training staff
- Generating consumer demand
- Establishment of support networks
- Financial viability and sustainability of the services

A further study recommended a large-scale, industry-wide change management program, however, the areas in which organisational capacity to promote service delivery had to be built and/or strengthened were not addressed in depth.<sup>11</sup> The organisational view integrates the individual pharmacy practitioners in the context of their professional and operational environments, takes due regard of the influence of political and legislative pressures, and makes allowances for the importance of stakeholders such as local community expectations and needs.<sup>33</sup> It thus brings together in its analysis the internal and external environments of community pharmacy and its operations.

This study attempts to develop an understanding of the environment of community pharmacy and its impact on service delivery in an organisational context addressing the specific issues of capacity building to enable service delivery and change management programs to be successful. In looking to identify a framework for development of appropriate support and education for community pharmacy in making this organisational shift and capacity building, we have identified the theory of organisational flexibility as having the requisite components.<sup>34</sup> We have used this framework to look at:

- Identifying areas which require capacity building
- Suggesting processes to enhance the integration of the professional and business aspects of community pharmacy; and
- Adapting and extending the current use of pharmacy infrastructure to incorporate sustainable service delivery

Organisational flexibility provides a framework for guiding strategic practice and business change in a holistic manner and facilitating the change to a service focused pharmacy. To our knowledge this is an innovative approach not previously researched in community pharmacy.

## Organisational Flexibility

The concept of organisational flexibility refers to the ability to adapt and change in response to what is happening both internally and externally to an organisation. Its principles focus on the enhancement of two components:<sup>34</sup> managerial capabilities<sup>b</sup>, and organisational design<sup>c</sup>

Where organisational change refers to actual changes that an organisation undergoes in response to an external or internal condition or driver, organisational flexibility focuses on increasing the organisation's capabilities to allow change to happen with more ease. In this context, the application of organisational flexibility theory seeks to examine how pharmacists and pharmacy staff can use their knowledge and expertise effectively, building the capacity of community pharmacies to integrate professional and business aspects; and thus extend the current use of pharmacy infrastructure to accommodate the provision of professional pharmacy services.

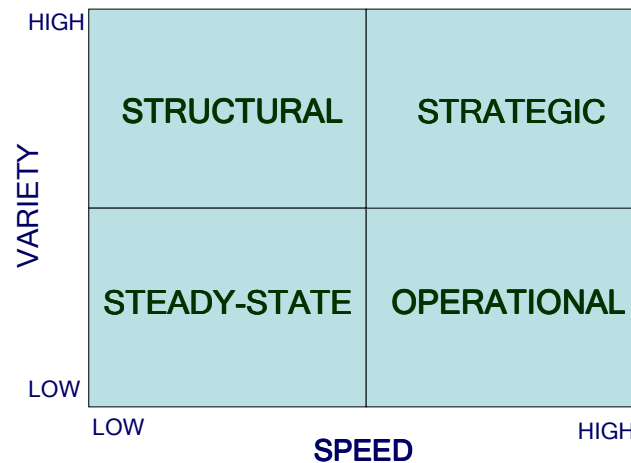
---

<sup>b</sup> the capabilities of all employees and their ability to integrate knowledge and learning into the organisation

<sup>c</sup> the structure, technology and culture of an organisation to build the capacity of, and speed at which the organisation is able to foster change.

Variations in managerial capabilities have been defined in the literature using four “types” of flexibility.<sup>34</sup> They are defined in terms of the quantity or quality of managerial capabilities, and the speed at which these capabilities can be activated. Figure 1 illustrates the characterisation of these types of organisational flexibility (these are defined in Table 1, found in the “Definitions” section).

Figure 1: *Types of Organisational Flexibility*



Organisational flexibility has been found to result in improved business performance, or viability.<sup>35</sup> Thus this framework has been chosen to identify how capacity can be built to provide services and support the viability of community pharmacies.

## RESEARCH QUESTIONS

The overall objective of this project was to investigate and identify areas which would build the capacity of community pharmacy to increase the rate of implementation of professional pharmacy services using an organisational flexibility framework.

We have used organisational flexibility to scientifically analyse the information we have acquired from community pharmacy. Specifically, we sought to gather information to assist us in understanding how products and services were integrated in community pharmacy, and how this integration could be altered to optimise the viability of community pharmacy.

The information gathered could be critical in assisting with effective future planning and interventions for community pharmacy. **The research findings from this study can be used to better inform existing and future education and training and change management programs for community pharmacy, thus enhancing the capacity and capability of community pharmacy to contribute to improved health outcomes for the Australian population through the implementation of professional pharmacy services.**

## DEFINITIONS

Table 1: Definitions: Types of Organisational Flexibility

Type of Flexibility	Definition
Steady-State	an organisation which implements constant procedures, without changing. This is typically the approach taken when the environment is stable. However, when the environment changes the organisation does not respond by adapting or modifying their procedures.
Operational Flexibility	where there is a static situation in the relationship between the organisation and the environment, resulting in the business having a short term orientation in planning activities in association with predictable changes in the environment.
Structural Flexibility	where managerial capabilities are used to adapt the structure, including decision and communication processes, depending on the dynamic pressures either internal or external exerted on the organisation. The demands of structural flexibility necessitate that the business has a medium term time orientation in planning.
Strategic Flexibility	where an organisation demonstrates an ability to engage in proactive strategic initiatives. The focus is on the goals and organisational activities being less structured and non-routine in order to accommodate changing conditions. The application of this sort of flexibility generally results in the business having a long term perspective in its planning and operations.

Source: Volberda<sup>34</sup>

## OBJECTIVES

The overall objective of this project was to address building the capacity of community pharmacy to increase the rate of implementation of primary care services using an organisational flexibility framework. Specific objectives are detailed in Table 2.

Table 2: Specific Project Objectives

	Objective	Project Stage
1.	Documenting and measuring current capacity and existing types of flexibility in pharmacy	Addressed in Stages 1 and 2
2.	Undertaking a needs assessment to target areas with potential for improvement	Addressed in Stage 2 of the research (Section 1: Needs Assessment)
3.	Identifying resources required by community pharmacy to build capacity to change	Addressed in Stage 1 of the research and Stage 2 (Section 1: Needs Assessment)
4.	Creating tools to assist pharmacy staff to utilise their skill base and structure when integrating services into professional and business models, and	Addressed in Stage 3 of the research and was informed by the results of Stages 1 and 2
5.	Developing and trialling a pilot intervention program to build the capacity to provide professional pharmacy services.	Addressed in Stage 3 of the research and was informed by the results of Stages 1 and 2

The project was conducted in three stages, using three different research methods. They are (1) qualitative interviews, (2) a quantitative survey and (3) an intervention workshop and follow up.

## METHODOLOGY

### Stage 1 – Qualitative Interviews

The qualitative study was conducted to understand the current business models used in pharmacies, how this affected service implementation, integration and perceptions of their business viability. The research objectives focused on:

- Understanding and documenting dimensions of organisational flexibility in relation to pharmacies' product/service offering
- Identifying existing business models in pharmacies and their relationship to both product/service offering and organisational flexibility
- Identifying the pharmacy's product/service offering mix within their existing business model
- Informing the development of a quantitative survey.

#### *Design*

Semi-structured interviews were conducted in 30 community pharmacies across Australia. The purposive sample was identified through consultation with industry experts.<sup>36</sup> Pharmacies were chosen based on an understanding of their business model in relation to their product/service offering and level of experience with service implementation. The pool of participating pharmacies covered rural towns (n=6), regional (n=11) and urban centres (n=13) and represented independent pharmacies (n=11) as well as those affiliated with a corporate banner group (n=19).

An interview guide was developed from literature on organisational flexibility and adapted for community pharmacy (Appendix 1). The themes of organisational flexibility were explored covering: pressures from the external environment, business strategy and planning, decision making, leadership style, staff management and training, use of technology and the viability of the pharmacy. The concept of viability in pharmacy was framed in terms of perceived success and business performance.<sup>37</sup> A separate interview guide for the senior staff member was adapted to incorporate their role in the pharmacy (Appendix 2). The interview guide was pre-tested with two pharmacy owners and one senior staff member to establish face validity. Two researchers were present in 24 of the 30 interviews to minimise bias and interviews were continued until no new content or themes emerged.<sup>7</sup>

#### *Participants*

The participants invited to take part in this stage of the project were all employees or owners of community pharmacies. Pharmacy owners were initially contacted by telephone, invited to participate and asked to identify appropriate interviewees in their pharmacy. Potential participants were explained the purpose of the interview and the intended use of the information. Participation was entirely voluntary and participants were free to leave the research at any stage (The University of Sydney Human Research Ethics Committee Approval No. 11-2007/10504).

#### *Sample*

In qualitative research, statistical representativeness is not a primary concern when the objective is to understand a process or depict a range of opinions.<sup>4</sup> The number of participants interviewed (n=57) represents the use of a purposive sample of community pharmacists across Australia.

#### *Data collection and analysis*

All interviews were audio taped and transcribed, with data collected remaining confidential. Identifiable characteristics were excluded from the transcribed information to be analysed with the identity of participants known to the core research team. The interview transcripts were used to analyse the data through an inductive coding process of constant comparison using the qualitative data management program, NVivo.<sup>6,7</sup>

## Stage 2 – Quantitative Survey

Based on the findings from Stage 1 of the project and existing literature, a survey was developed (Appendix 3). Specifically the survey aimed to measure current capacity and existing types of flexibility in pharmacy, undertake a needs assessment to target improvement areas and identify resources required to build capacity to change. The survey was divided into four parts. These assessed:

- Section 1: Needs Assessment
- Section 2: Flexibility Scan
- Section 3: The External Environment and This Pharmacy, and
- Section 4: General Pharmacy Information.

### *Design*

The survey research involved three stages: pre-test, pilot and main study. A pre-test of the survey was conducted with a selected group of nine practicing community pharmacists. This involved testing the survey items to gauge the appropriateness of the wording and reduce the overall number of items. This was conducted in November 2008. A pilot study was undertaken to establish the validity and reliability of the instrument in December 2008 with the main study sent out in February 2009. The face, content and construct validity were all rigorously assessed (Appendix 4) and the instrument was found to be valid and reliable.

### *Participants*

A database of approximately half of the community pharmacies in Australia (n=2500) was obtained from the PGA. A subset of the sample was taken for the pilot study (n=392) and a final database of 2006 pharmacies was used in the main mail survey. The minimum required response rate was 15% in the main study to receive sufficient responses for factor analysis, 10 cases (useable responses) per variable.<sup>38</sup> Additionally, from previous research it was postulated that approximately 2000 pharmacies would be surveyed to provide a representative sample of the Australian community pharmacy.<sup>1, 39</sup> The pharmacies were stratified based on their geographic location to include representative proportions from urban, regional and rural areas. (The University of Sydney Human Research Ethics Committee Approval No. 11-2008/11353).

### *Sample*

The pilot survey yielded a response rate of 19% (n=75), achieving the minimum number of cases needed to perform exploratory factor analysis.<sup>38, 8</sup> The main mail survey was sent to 2006 community pharmacies with a response rate of 19.7% (n= 395). The representativeness of the sample was assessed in comparison to previous surveys conducted in Australia with community pharmacies.<sup>24</sup> This showed that the sample was representative in terms of metropolitan vs. non-metropolitan pharmacy location in comparison to the Guild Digest (Metropolitan: 55% vs. 60%,  $\chi^2 = 1.042$ ;  $p=0.307$ ).<sup>24</sup> However, the average pharmacy size was 227m<sup>2</sup> for this survey, higher than the latest reported average of 151m<sup>2</sup>.<sup>24</sup>

### *Data collection and analysis*

A survey package was used for all three stages of the research (pre-test, pilot and main) and included a letter of invitation inviting the pharmacist-in-charge to participate in the study, a participant information statement, a survey and a reply paid, addressed envelope. A code number was assigned to each reply paid envelope. This code was used to delete the responding pharmacy's details from the mailing database so that no further reminders were sent to them. The identifying envelope was then immediately destroyed. Using the Dillman "total design method", reminder letters were sent to pharmacies at two time points during the study to encourage participation.<sup>40</sup>

The data analysis techniques of confirmatory and exploratory factor analysis were used on various scales of the survey. Exploratory factor analysis is a statistical analysis applied to a set of variables with the aim of identifying subsets of variables that are correlated to each other. The subsets are said to represent underlying factors.<sup>8, 9</sup> Exploratory factor analysis was considered most appropriate for the needs assessment scale due to the investigative

nature of the scale, the early stage of scale development and a desire to understand the scale's underlying constructs (for both the importance measure and the improvement measure).<sup>41, 42</sup> (Appendix 5)

Confirmatory factor analysis is a technique used to test a scale designed to explain a set theoretical framework.<sup>43</sup> Here it was used to assess the validity of an existing organisational flexibility scale (organisational flexibility scan) developed for large manufacturing firms and adapted for community pharmacy.<sup>35</sup> (Appendix 6) The results of the confirmatory factor analysis were used to group the pharmacies into the four different types of flexibility. This was done using the descriptive technique of cluster analysis designed to identify patterns and groupings in data.<sup>9</sup> Finally, the relationship between the groupings of the pharmacies was tested against the pharmacy demographic information using the technique of discriminant analysis. This analysis allows for the comparison of a category or groups against other independent variables.<sup>9</sup>

## Stage 3 – Intervention: workshop and follow up visit

This intervention built on the two prior stages and involved an educational workshop with community pharmacists as well as a follow-up face-to-face visit to their pharmacy. The aim was to trial and qualitatively evaluate a practical support program designed to assist Australian community pharmacies in building their capability for implementing and managing professional pharmacy services.

### *Design*

A one-day educational workshop was developed using results from Stages 1 and 2. Specifically the results of the need analysis were used to set the content of the workshop. The workshop was designed to assist pharmacies to improve their capacity in the area of service delivery.

The content of the workshop presentations, and the supporting manual, consisted of five sections:

1. Building Organisational Flexibility,
2. Creating a Strategic Direction,
3. Creating a Health-services Image,
4. Staff Management, and
5. Creating an Awareness of External Support and Resources.

Sections 2-5 incorporated the key issues identified in Stage 2 and were the main focus of the intervention.

Each section of the manual was designed using a combination of results from previous research and material from experts in each area (Appendices 7 & 8), and included:

- an explanation of the concepts and how they relate to service provision,
- practical examples from pharmacies previously interviewed to highlight how these issues relate to practice,
- questions for participants to answer, designed to stimulate thinking in each topic area; and
- points participants might need to consider for the future.

Six case studies were also included in the manual detailing pharmacies that were operating and delivering professional pharmacy services. Finally, a series of workshop tasks were developed to guide participants through each section and identify specific areas that may require attention and improvement in the delivery of services in their pharmacy.

The workshop was followed up by an on-site face-to-face pharmacy visit involving a semi-structured interview. Participants were also given assistance, as requested, in the following areas:

- strategy development
- ideas for pharmacy layout
- ideas for local area marketing and communicating a health-focused image
- possible changes to staff structure
- discussing possible changes with other staff members

## **Participants**

Survey respondents were asked to indicate as part of a survey (Stage 2) if the research team could contact them in regards to the study. Intervention participants were then chosen from NSW respondents who indicated they were willing to be contacted again and those who had implemented one or more services. These participants were then telephoned by a member of the research team and asked a series of questions to gauge their eligibility for the intervention. If the pharmacy met the criteria for inclusion, they were invited to participate in the study (Appendix 9) (The University of Sydney Human Research Ethics Committee Approval No. 04-2009/11726).

## **Sample**

The list of survey respondents indicated a potential sample of 69 community pharmacies. The intended sample size was 25-30 community pharmacies. Of the potential sample, 51 pharmacies were contacted. However, due to a number of factors, only 19 were able to participate in the study. A pharmacy owner or manager was asked to represent the pharmacy in the workshop in an effort to target an individual with decision making power and the ability to make practical changes. The pool of participating pharmacies was predominantly urban (n=13) with some regional (n=4) and rural pharmacies (n=2). Independent pharmacies (n=10) and those affiliated with a corporate banner group (n=9) were equally represented. The pharmacies were subjectively categorised into a type of flexibility after their follow-up visit, steady-state (n=8), operational (n=5), structural (n=4) and strategic (n=2).

## **Data collection and analysis**

Workshop evaluations and participant feedback interviews were conducted to evaluate the program. Costs of facilitating the workshop were also calculated by the research team. A basic evaluation form was used to collect data confidentially from participants regarding their opinion on the usefulness of both workshop and the manual prior to leaving the workshop (Appendix 10). All participants but one completed this evaluation after the workshop (95% response rate).

The semi-structured feedback interview was conducted during the on-site face-to-face visit by one or more of the researchers. All workshop participants were contacted by phone two weeks after the workshop follow-up. A topic guide was developed to seeking feedback and review of the following (Appendix 11):

- knowledge gained from the program,
- usefulness of the program,
- behaviour through actions taken, and
- attitude to professional pharmacy services and the future.

The researchers classified pharmacies into groups, based on the four types of organisational flexibility, and developed a business case for these groups, where a business case was interpreted as being an informal summary justifying a project.<sup>44-46</sup>

Business cases were developed from the interviews with participants. These were designed for educators and policy makers to use in developing targeted programs and specifically approaching pharmacies at different levels of experience and expertise in service provision. In other instances, a business case could include longitudinal financial data, tracking a business over a number of years. In this study, however, this was not feasible due to the time period over which the study was conducted. Additionally, any reporting of business information could have compromised the confidentiality of participants due to the small sample size (n=19) and the nature of the study. Pharmacists attended one of two workshops and other participants could easily identify pharmacies other than their own from reported material. Therefore, ethically, it was inappropriate for the researchers to attempt to collect this data.

The business cases developed provide qualitative based evidence on methods to build capacity of community pharmacies in order to support the provision of professional pharmacy services. Each group's business case was designed to:

- Define the group and their positioning in relation to service provision
- Provide feedback on how a practical support workshop might be organised
- Outline the impact of this workshop on pharmacy
- Analyse how the communication for the group might be strategically approached



- Describe and provide advice on the planning the next steps for pharmacies in this group and specifically elucidate enablers that may accelerate the implementation and of service provision.

Data on the cost incurred to conduct the workshop was also collected to develop a simple cost effectiveness assessment.

## RESULTS

### Stage 1 – Qualitative Interviews

The study identified four business models of Australian community pharmacies that exhibited all four types of organisational flexibility. These models were: classic community pharmacy (n=8), retail destination pharmacy (n=5), health care solution pharmacy (n=9) and networked pharmacy (n=8) and showed that pharmacies were choosing to position their business and incorporate services in one of four ways:

- Classic community pharmacy – a pharmacy that relies on traditional products and services without making significant change to their current business model, and is predominantly driven by viability of the dispensary. In this model there was an ambivalent approach to adopting funded professional pharmacy services. A pharmacy owner using this model stated: *“we are probably reasonably protected... but I don’t suppose we can be complacent about it.”*
- Retail destination pharmacy – a pharmacy that has changed to expand on the front of shop offer and positioned themselves as a “one-stop shop” for customers and is predominately driven by their retail offering in the front of shop. Owners of these pharmacies were trying to introduce services but they lacked the understanding of how services could be incorporated into daily operations and their potential financial return. As explained by a pharmacy owner: *“If I could see services getting a return on investment then I would employ a pharmacist full time to do services. At this point in time there is no return on investment.”* There was a subset of this group taking a more proactive approach to service provision but there was little or no integration of services with the rest of the business. Price focused pharmacies are part of this group.
- Health care solutions pharmacy – a pharmacy that uses a professional image and services to differentiate their business. The business is driven by this position as a health care provider with its future viability linked to professional services. A pharmacy owner described the approach used to making decisions in the pharmacy: *“Every time a new product has to come into the [pharmacy] we always look at our mission statement and say “is this where we’re heading? Is this the way we want to go?” [If] it’s not going to give the message that we’re into health, it’s gone.”*
- Networked pharmacy – is an alliance of a small number of pharmacies creating a local group that can provide a broad range of products and professional services to customers. Viability comes from meeting all the needs of their local market through a broad offering. This strategy to maintain viability was described by one pharmacy owner: *“Rather than have someone else come in... the best option for us [was] to take on board a second pharmacy... we’d rather be our own competition.”* This model could be a combination of the individual pharmacies in the group pursuing any of the models above.

Although these four models were identified, there was also evidence of subsets within the models. A change in strategic position was often in response to increased competition in the local environment. In the cases where a price focused pharmacy came into an area, existing pharmacies were forced to consider changing their business model. They generally either copied the competitors’ model by reducing their prices or differentiated the pharmacy by implementing professional pharmacy services.

The study subjectively found that community pharmacies were exhibiting all four types of organisational flexibility identified in the literature; steady-state, operational, structural and strategic. The manifestations of these types of flexibility were highlighted in the four identified business models above (see Table 3).



Table 3: Organisational Flexibility Type and corresponding Community Pharmacy Business Model

Type of Flexibility <sup>34</sup>	Manifestations in Community Pharmacy
<b>Steady-State</b>	Pharmacies existing in “steady state” have not changed their practices significantly to incorporate services or alter their existing business model in any other way. This type of pharmacy is characterised by its complacency to the external environment and uncertainty in regards to the future. The business model for this type of flexibility is <b>classic community pharmacy</b> .
<b>Operational Flexibility</b>	Pharmacies with operational flexibility can be characterised by an emphasis on providing products and services to customers quickly and efficiently. As a <b>networked pharmacy</b> , they form part of an informal network of pharmacies in a close geographical area and cater to various target markets. As a <b>retail destination pharmacy</b> , they increase their physical capacity and product range to attract customers based on their retail offering.
<b>Structural Flexibility</b>	Pharmacies exhibiting structural flexibility have extended the conventional pharmacy product/service offering by developing services in a few key areas and making the necessary structural changes to implement these services, for example including introducing new facilities for services. This type of pharmacy is characterised by structural changes but this is often in the absence of any link to overall business strategy. Some <b>health care solution pharmacies</b> use this type of flexibility.
<b>Strategic Flexibility</b>	The owners of pharmacies exhibiting strategic flexibility take a proactive approach to managing their business. They use the support functions to free the pharmacist's time for the provision of services, but they maintain a high level of involvement in all facets of the pharmacy's operations. This type of pharmacy is characterised by its focus on integrating its product/service offering with the overall image of the pharmacy and supporting this through effective internal practices. This type of flexibility was manifested in both the <b>health care solution pharmacy</b> and <b>networked pharmacy</b> .

## Stage 2 – Quantitative Survey

The quantitative survey consisted of two key sections – the needs assessment and the organisational flexibility scan. The needs assessment was divided into two parts to identify (1) the factors that were important when implementing services (importance measure) and (2) the factors that needed improvement for the implementation of services (improvement measure). The exploratory factor analysis, designed to identify the underlying groups of variables, showed that there were three factors for the importance measure and three factors for the improvement measure. For the importance measure, they were:

- planning and performance,
- people and processes, and
- service awareness and infrastructure.

For the improvement measure, they were:

- planning, performance and service awareness,
- infrastructure, and
- people and processes.

All the factors in the solutions demonstrated good reliability and construct validity (Table 4).

Table 4: Characteristics of the Factor Solutions

Factor	Needs	Responses, n	Items, n	Item Loading Range	Cronbach's $\alpha$	% of Variance Explained
Importance (Maximum likelihood extraction, Direct Oblimin rotation)						
	Planning & Performance	355	7	0.7-0.5	0.8	31.3
	People & Processes	355	3	0.8-0.4	0.7	6.8
	Service Awareness & Infrastructure	355	5	0.7-0.3	0.7	4.5
Improvement (Maximum likelihood extraction, Direct Oblimin rotation)						
	Planning, Performance & Service Awareness	355	9	0.8-0.4	0.9	33.4
	Infrastructure	355	3	0.9-0.6	0.8	7.9
	People & Processes	355	4	0.9-0.3	0.7	5.7

Although the factors identified in the two measures, (importance and improvement), were not identical, the issues identified across both measures covered five key areas related to service provision. In essence, respondents indicated that these were the five key areas in which they required support. These areas are:

1. **Planning** was referred to as creating a business plan for the service, using practical case studies as examples, and guides for what could be done with specially trained staff to provide the service and using support from external consultants to aid the implementation process.
2. **Performance** was related to the setting of financial goals and allocation of financial resources to the service provision.
3. **Service awareness** was used to refer to the understanding and acceptance of the service provision from the customer and the motivation of staff to provide the service.
4. **People and processes** referred to resource management in relation the number of staff and creating processes for the staff to build the capabilities and capacity to provide the service. The processes refer to having specialised training and operational procedures for service implementation.
5. **Infrastructure** of the pharmacy referred to the physical capacity of the pharmacy in terms of layout and creating dedicated areas for service provision, but was also coupled with infrastructure associated with human resources or the capability infrastructure. This referred to having “an established core staff team” and “specially trained pharmacist staff” as important to service provision.

The confirmatory factor analysis showed that the organisational flexibility scan, made up by the items of the amended 20-item scale, could fit the data. The scan required modification to fit the context of community pharmacy (Appendix 6). The scan tested the types of flexibility<sup>d</sup> and associated items for each factors showed that:

- **Operational flexibility** was identified through a focus on daily practice rather than planning for the future. For example, these pharmacies used one year plans and outsourced services such as Home Medicine Reviews,
- **Structural flexibility** was identified through (1) an emphasis on using employees' skills in service provision, (2) developing business relationships with others (3) fostering a pharmacy structure that could be easily modified and (4) adopting a medium term focus of 2-5 years.
- **Strategic flexibility** was identified through (1) the integration of new initiatives, such as service provision, in daily operations and (2) working with governmental agencies or other health care professionals to develop new initiatives.

<sup>d</sup> In the scan, steady state translated to negative (disagree) responses across the items. As a result of this, Verdu-Jover et al determined that the construct of steady state would not be part of the scan and has not been tested statistically.<sup>35</sup>

The cluster analysis was used to classify the responding pharmacies into one of four groups (Table 5). These results may not be representative of the total population and are reflective of the pharmacists that responded to the survey. The general perception is that many pharmacies are the steady state type of flexibility. Whether this is the case or not is debatable. The discriminant analysis used the cluster grouping to analyse the relationship between these groups and the demographic information. This showed that there was no significant difference between the groups and pharmacy size, location, ownership structure or corporate banner group membership.

Table 5: Cluster Analysis: Type of Flexibility

Type of Organisational Flexibility	Number of Respondents	Percentage
Steady-State	37	10.4%
Operational Flexibility	89	25.1%
Structural Flexibility	109	30.7%
Strategic Flexibility	120	33.8%
Total	355	100%

## Stage 3 – Intervention: workshop and follow up interview

Both organisational flexibility and the five key areas related to service provision were used as the basis for the design of the workshop. Overall the feedback from the participants was positive. They reported finding value in attending the workshop and having a researcher visit their pharmacy. Participants who had already undergone some degree of business training expressed their desire to participate in an MBA-style workshop rather than the less structured and basic style used in the intervention. On the other hand, participants with no previous training commented on benefit of informal and less structured workshops. Although the informal nature of the workshop facilitated discussion between participants that was seen to be useful and insightful, participants commented that they would have liked to follow the manual in a more structured way. The example of using the workshop tasks outlined in the manual was given as a potential method of improving the format and structure of the workshop (Appendix 7 pp 71-85).

The data from the evaluation form (shown in Appendix 10) and the field notes from the follow-up interviews were summarised and used to develop four business cases based on the type of flexibility exhibited (Appendix 12 & 13). The business cases showed that each type of flexibility had characteristics similar to the types of flexibility evidenced in the qualitative stage. The different sections of the workshop impacted on the 19 participating community pharmacies in various ways. This has been summarised below:

1. **Creating a strategic direction: strategic, business and financial planning for service delivery:** In general, pharmacy owners took the concepts discussed at the workshop and used them to evaluate their product and service offering in the pharmacy. The type of business model and organisational flexibility appeared to be related to the actions taken. For example, pharmacies using *operational flexibility* had existing strategies focused on the retail side of their businesses. Whereas *steady state* pharmacy participants expressed awareness that they should develop their strategic position of their business further. The actions taken in this area overall were:
  - a. Considering or planning for the implementation of more professional services
  - b. Visiting other pharmacies to gather ideas or taking ideas from case studies
  - c. Financial analysis and management – incorporating professional services into point-of-sale data
  - d. Category analysis and management – decreasing underperforming product areas
  - e. Reinforcing or considering the pharmacy's strategic direction.
2. **Creating a “Health Services” Image:** In creating an image based on service provision, most participants focused on the concepts of changing the physical layout to be more conducive to the provision of services and increasing communication with external stakeholders. The participants from structurally flexible pharmacies were considering more specific changes to their pharmacy layout to promote services e.g. using a forward pharmacy model. The actions taken in this area overall were:

- a. Changing pharmacy layout – to incorporate professional service areas (such as counselling rooms) or decreasing non-pharmacy specific product areas in order to be able to increase health-focused product or service areas
  - b. Implementation of 'forward pharmacy'
  - c. Improved or increased communication with local GPs
  - d. Communicating a health focused image through:
    - i. Health talks to local schools and organisations
    - ii. Dedicated health information sections in the pharmacy
    - iii. Health focused window displays.
3. **Staff Management:** The workshop overall stimulated discussions between participants and their staff about change and implementing services. It also appeared to encourage change to the staff management to reflect services provision in both strategically and structurally flexible pharmacies. Participants from operationally flexible pharmacies changed the responsibilities of the pharmacy staff to potentially incorporate more services as opposed to any other type of change in this area. The actions taken in this area overall were:
- a. Discussing changes with staff and involving staff in workshop tasks
  - b. Restructuring staff in order for professional staff to focus on professional aspects
  - c. Considering employing more professional staff
  - d. Encouraged staff appraisals to clarify roles and incorporate services
  - e. Incorporating professional services into staff performance measures and rewards
  - f. Incorporating staff training in professional services

**The participating pharmacists expressed clear needs for tools that could help them implement and sustain service delivery. These were:**

- **On-site support;**
- **IT programs for services that integrate with point-of-sale and dispensing software;**
- **Financial tools such as spreadsheets for monitoring KPIs for services;**
- **Step-by-step implementation guides/plans for each service detailing the process for each section – planning, image, staff; and**
- **Practical examples from case studies and networking with other pharmacy owners/managers.**

A clear (and distinctively different) strategy became apparent for stimulating service delivery for pharmacies based on their type of organisational flexibility (Table 6). These strategies could be used to target promotional and support activities that are individualised to groups of pharmacies.

Table 6: *Strategies for stimulating service delivery in different types of pharmacies*

Types of Flexibility	Strategy for stimulating service delivery
<b>Steady State</b>	The tagline for this group was “unmotivated and unsure”. They were initially unmotivated to provide services because they were unsure of how to integrate services into their daily practice. For this group to begin implementing services the importance of service provision needs to be reinforced. The owners need to develop a more detailed understanding of the necessity and usefulness of services in pharmacy. They need detailed implementation guidelines for each service that show them the step by step process they should go through in each area. This needs to be supported by holistic support ranging from financial analysis of their businesses to overcoming practical issues.
<b>Operational</b>	The tagline for this pharmacy was “prove it to me”. This group had either tried and rejected service provision or were focused on finding services that matched their existing business position. The main emphasis was on the financial implications of services and reinforcing the return of investment they would see from changing their orientation. Working in pharmacies geared towards product sales, they were looking for systems that could help breakdown services in a similar way.
<b>Structural</b>	The tagline for this group was “looking to be inspired”. This group provided services in select areas, considered that change was a possibility but were not sure how to approach this. In hearing the experience of others and networking with other pharmacists interested in service provision, they were inspired to make changes in their pharmacies. These changes focuses either on integrating the services in the pharmacy overall or making service provision sustainable through building specific service areas or adding new services.
<b>Strategic</b>	The tagline for this group was “getting better”. Their strategic orientation meant that they were already quite well developed in their approach to services but were always looking for ways to further develop. They found the workshop useful as it provided the opportunity to share ideas and it stimulated momentum to keep moving forward. Practical tools, such as integrated IT programs, were cited as important ways of sustain service delivery.

In the limited group of 19 pharmacies in the NSW area, a simple cost effectiveness assessment was conducted of the intervention (Table 7). After completing the intervention, it was difficult to assign an effect cost for individual pharmacies. **This analysis shows that the average cost per pharmacy for the intervention was \$847.08.**

Table 7: Cost Effectiveness Assessment of the Intervention

	Friday Workshop	Sunday Workshop	Total
Workshop Manual Preparation			\$ 1,750.00
Workshop Manual Printing			\$ 1,059.50
Participants	9	10	19
Time Taken for Workshop	6 hours 30 minutes	5 Hours 30 Minutes	12 Hours
Number of External Workshop Presenters (@\$750 per day)	6	5	\$ 8,250.00
Catering			\$ 550.00
Other: Participant expenses (Parking etc) Consultant expenses (Flights, Parking etc)			\$ 1,550.00
Follow-Up Expenses: Incorporated Researchers time @\$35 per hour and a per diem allowance of \$60			\$ 2,935.00
<b>TOTAL COST FOR 19 PHARMACIES</b>			<b>\$ 16,094.50</b>
<b>COST PER PARTICIPATING PHARMACY</b>			<b>\$ 847.08</b>

## LIMITATIONS

The limitations are based on the ground breaking and exploratory nature of the study. The theoretical framework of organisational flexibility had not been applied to community pharmacy prior to this study, the needs of community pharmacies in implementing services had not been analysed and an intervention focused on building the capacity to implement services had not been proposed or trialled. The limitations of Stage 1 are based on the lack of generalisability of qualitative findings. The use of a purposive sample was insightful in developing an understanding of the business models and elements of organisational flexibility but does not aim to be extrapolated to the broader community at this point. Additionally, four business models were found but the subsets within these models suggest that there are potentially newer models still emerging.

In Stage 2, though statistical analyses were possible, a larger sample would have enabled more robust analyses. If the research sample had been larger ( $n > 600$ ) this would have enabled the scales, such as the needs assessment to be developed (through an exploratory factor analysis) with one sample and confirmed (using confirmatory factor analysis) in a second sample. The low response rate could be due to the large number of research projects being conducted in community pharmacy simultaneously as this was cited by both respondents and non-respondents as a major inhibitor to their participation in this research project.

In Stage 3, the limitations stemmed from the small sample size and the time allocated to this stage of the research. With only 19 pharmacies the results of this stage are not generalisable to the broader population. They do, however, give an indication of potential trends emerging from groups of pharmacies. The measures of change were qualitative and over a short period of time (from 2-4 weeks). This was due to the time period over which this stage was conducted and the scope of the study. Further studies should test these findings over a longer period of time (e.g. 2-5 years) to adequately measure change.

## DISCUSSION

Community pharmacy is clearly an industry in transition and further development and change can be expected. The question is whether this change occurs in a policy vacuum and is solely decided by market forces or whether there is an overall framework developed by the profession to provide leadership to pharmacy owners and managers. This research commences the discovery and examination of the characteristics and needs of the industry but it is nascent as community pharmacy is still evolving and emphatic statements cannot yet be made.

### Stage 1 – Qualitative interviews

The impact of changes in the external environment on the organisational flexibility of community pharmacies appears to have produced at least four business models which provide services to varying degrees. The characteristics of these models suggest that there are potentially newer models or subsets of models still emerging. That is, community pharmacy seems to be transitioning. It is therefore very important that the specific needs of pharmacies in making these transitions are identified, particularly in order to allow them to adopt different types of flexibility and thus to effectively implement services and build capacity.

The emergence and adoption of new business models were often stimulated by transforming local environment. Often when a price discounting pharmacy appeared it prompted a rapid change of strategic position in neighbouring pharmacies. At this point it may be surmised that the inherent nature of community pharmacies is to react to external changes rather than anticipate them. This poses a number of questions as to the sustainability of the more reactive pharmacy models and the services they provide. Much of the current debate concerns the implementation of services but there needs to be greater consideration given to their sustainability. This study, however, showed that pharmacies becoming proactive do exist and perhaps others could be provided with assistance to build their capacity in order to operate the same way.

**Key Finding 1: Various business models of community pharmacy are developing, driven by market forces and individual pharmacy owner decisions in the absence of an overall policy framework. This research found that service implementation needs to be approached in a holistic way, taking into account the business and professional environment in which it operates.**

Interestingly, not all the pharmacies in this study were able to communicate a clearly defined strategy. The models showed that, as economic pressure was placing a high dependence on the dispensary, pharmacies were in the initial stages of diversifying but had not achieved this position clearly enough. This often presented their customers with a lack of clarity of the pharmacy positioning. Positioning a pharmacy as a health care provider was dependent on the philosophical standpoint of the pharmacy owner and the perspective the business' future. The concept of creating a critical mass or bundle of services was crucial to establishing the viability of the services. In addition, once the owner had made a commitment to make services part of the pharmacy there was a need to diffuse this throughout the pharmacy to generate staff support. The concept of securing staff support has been highlighted as a facilitator of implementation in many previous studies.<sup>11, 1</sup> Additionally, the culture of the pharmacy promoted either operational efficiencies and retailing or service provision through structural efficiencies. However the critical point, as reinforced later by the workshops results, was that when strategic flexibility was used with an underlying philosophy of health care provision, services were more likely to be successfully integrated into the pharmacy. This is an important point for all policy makers to consider.

In the initial stage of research it was evident that when pharmacies were subjected to changes in their local environment it stimulated change in philosophical and business positioning. At times service provision was used as the key element of this change; this was when strategic flexibility was exhibited. This was used in two of the four business models: health care solutions pharmacy or networked pharmacy. Structural flexibility stimulated service specific changes in the pharmacy through alterations to facilities or personnel. Operational flexibility was exhibited in the retail destination pharmacy where the retail aspect of pharmacy was being taken advantage of without intentionally incorporating the extended role of pharmacy. They were increasing their efficiency as retailers. Finally the group of pharmacies in steady state was also the classic community pharmacy model and exhibited complacency to change.



**Key Finding 2:** The qualitative interviews showed that community pharmacies exhibit all four types of organisational flexibility – *steady state, operational, structural and strategic* – manifested in four business models: *classic community pharmacy, retail destination pharmacy, health care solution pharmacy and networked pharmacy*. The integration of the business model and organisational flexibility type influence how services are implemented into the pharmacy operations.

**Key Finding 3:** Where services are implemented to differentiate the pharmacy, a health care provider focus is adopted. This holistic approach to health care provision suggests that using *strategic flexibility* enables services to be integrated most effectively.

## Stage 2 – Quantitative Survey

The analysis showed that there were three similar factors arising from the importance and improvement measures (the three factors explained approximately 40-50% of the variance). This indicated that the underlying constructs driving community pharmacy from a product and service model to a service and product model are complex and varied. The similarity of factors for the two measures could be clear indication of the current needs of the community pharmacy industry or alternatively, a result of the survey format which used the same items for both measures.

The major factor was “Planning and Performance” in the importance measure and “Planning, Performance and Service Awareness” in the improvement measure. These factors can be sub-divided into three concepts, not discerned in the statistical analysis, perhaps suggesting that the concepts are intrinsically related for practising pharmacists. Respondents highlighted the need to focus on the business and financial planning for service integration and a wish to have practical cases. They also seek financial resources to support these services in conjunction with staff who are specifically trained and motivated. It was indicated that service awareness was both important and needed improvement through knowledge of the service to customers and customer feedback.

The analysis highlights the importance of these concepts and the critical question for policy makers remains how quickly programs can be restructured. Current programs are not meeting needs sufficiently to encourage the widespread implementation of professional pharmacy services. To accelerate the rate of implementation the needs of community pharmacies need to be heeded by incorporating these concepts efficiently in delivered programs. Increased implementation would support the continued emphasis of seeking remuneration for existing or additional services. The successful uptake of these programs is a crucial element in supporting future negotiations.

The second factor in the improvement measure concerned the physical layout, for example including dedicated area for service provision. This result is not surprising as community pharmacies have been traditionally designed to maximise product sales, with a paucity of design layout models for service delivery. In the qualitative study, pharmacy owners told of their recruitment of experts from outside pharmacy to create service oriented designs. Service orientated designs for pharmacies should be promulgated to pharmacy owners who wish to change their current business platform.

The second factor, “people and processes” in the importance measure was related to staffing and processes issues. This suggests that transforming to a service model may require more staff with specialised knowledge as well as defined operational processes. Industry change requires a new set of skills for staff. However, the challenge for community pharmacy will not necessarily be the training of pharmacists in services, as Australian universities have incorporated these into their curriculum. Rather, the challenge will be in the financial implications of increased staff numbers and skills. There appears to be a reluctance to invest in staff development. This may be a reflection of the position of community pharmacy as a small business with a more limited financial capacity to provide development opportunities or their past reliance on others, such as the pharmaceutical industry, to provide adequate education and training. Staffing costs are a critical financial indicator that pharmacy owners monitor carefully. There are industry accepted norms for staffing costs/turnover ratio in a product model, but the higher ratio in a service model results in pressure on the viability of the pharmacy.



The third factor in the importance measure combines the physical layout concept from the improvement measure with service awareness. This highlights the significance of creating a pharmacy design that supports a service orientation not only for service delivery but making the services visible to customers. This design should be supported by a core pharmacy team and specially trained pharmacists that can reinforce the service orientation through their skills and image they portray to the customer. The third factor in the improvement measure labelled “People and Processes” is clearly related to the second factor in the importance measure.

In summary the study has provided the initial steps in developing a tool for a need assessment in the area of implementing service in community pharmacy. Pharmacists clearly need support for changing their businesses from a product to a service orientation in at least five areas; planning (business planning), performance (financial planning), people and processes (staff management), service awareness (marketing) and infrastructure (design layout).

**Key Finding 4: The five key areas for capacity building were: planning, performance, service awareness, people and processes, infrastructure.**

**Key Finding 5: The study identified that community pharmacy owners need more practical business management assistance to develop the capacity to change and adapt in this new environment.**

## Stage 3 – Intervention

Previous research and this intervention have shown that providing information to pharmacists regarding service implementation is not sufficient to increase uptake. The intervention provided evidence of having stimulated the thinking of pharmacy owners and managers by identifying ways in which services could be more effectively implemented. A practical impact of the intervention (see results section and Appendix 13) was seen, even though long term change could not be measured.

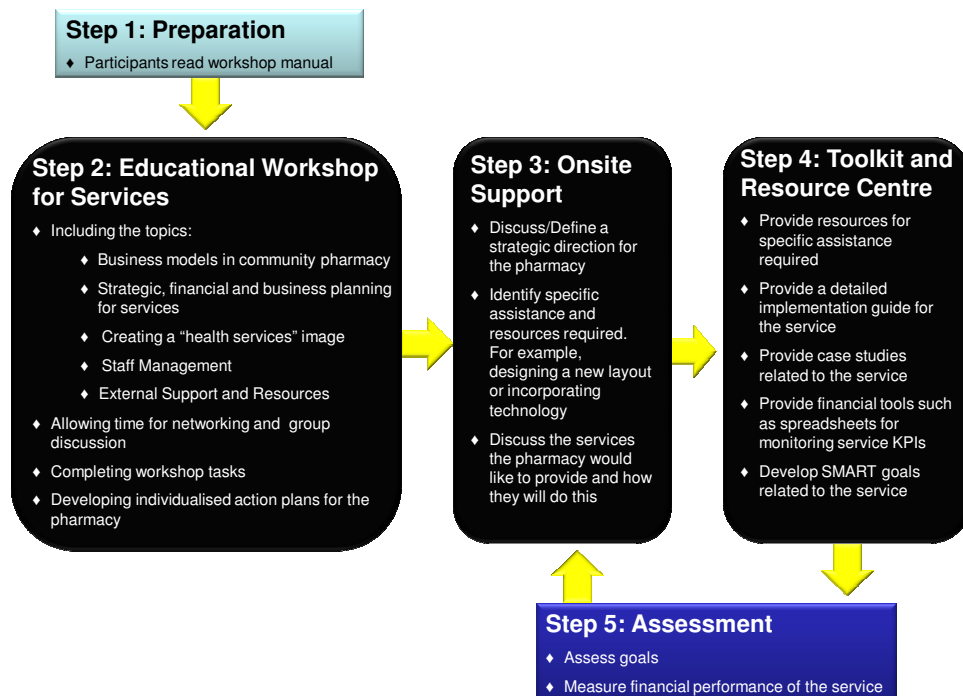
**Key Finding 6: The trialled intervention program – including a workshop and on site support – provided structured assistance in management issues such as strategic direction, creating an image of a health care provider and staff management. The assistance was seen to be practical and tailored to the needs and characteristics of the different groups.**

**Key Finding 7: The intervention was positively received by this sample of pharmacists and had an immediate and practical impact on the business operations and planning in the community pharmacies. It promoted flexibility, strategic operations and the potential to integrate services in pharmacies.**

Figure 2 outlines the steps taken in Stage 3 of this study as well as crucial pre and post support. Overall it comprises five key steps. The core elements (steps 2-4) are an educational workshop, on-site support and a resource centre. This would be reinforced by steps 1 and 5 – pre-program preparation and a post-program assessment of performance and progress. More specifically, these steps are:

- Pre-preparation: involving background reading of relevant topic areas such as strategic planning
- Educational workshop for services: in small, interactive group workshop where pharmacists can hear from experts in different areas and discuss new ideas and issues with other pharmacists
- On-site support: this continuous support should be over the long term (3-5 years) to ensure that service delivery is sustained. Support could be in form of on-site visits to pharmacies to help define or refine the direction of the pharmacy to include service provision and provide further contacts in the areas in which the pharmacy specifically needs to develop e.g. pharmacy layout
- Toolkit and resource centre: providing a centralised pool of resources for assistance and information relation to the provision of all services. This would also be an interface between pharmacists and experts in the key areas pharmacies need to improve. Tool-kits should be provided with service specific information to assist in implementation, including guidelines, relevant professional standards, case studies of other pharmacies etc.
- Assessment: involving the development of assessable goals and indicators that can be benchmarked against industry standards to set the level and depth of service delivery for community pharmacy

Figure 2: National Implementation Program



It is important to note that there is not one best model of practice that should be applied to all pharmacies. The aim of any support program should be to provide pharmacists with a number of options or potential business models and allow them to choose the elements most relevant to their pharmacies.

Overall the research showed that there are specific areas in which capacity can be built in community pharmacies to support the implementation of professional pharmacy services – a process of change that will require support over an extended period of time.

**Key Finding 8: The theoretical framework of organisational flexibility can be used to investigate and identify areas in which capacity needs to be built to provide services and guide the development and delivery of holistic programs to support community pharmacy.**

**Key Finding 9: The level of change and capacity building required in community pharmacy is complex, and requires significant support and time to occur.**

## CONCLUSION

The focus of this research was to investigate the capacity of community pharmacy to provide professional pharmacy services by examining the factors affecting the experience of community pharmacy in the business and health care environments in which it operates.

The first stage of this research, the qualitative interviews, showed that pharmacies choosing to implement services are strategically differentiating their businesses to become focused health care providers. This holistic approach to the health care focus should inevitably influence the sustainability of services. The health care solutions and networked pharmacy models are best suited to integrate services and that creating a strategically flexible model supports the integration of products and services. However it also appears that all types of business models are attempting to incorporate service provision to some extent.

The question for the profession is whether it wishes to promote service provision in all type of pharmacies. In addressing this question there will be much debate on the role of government, professional organisations, universities and other stakeholders. If the future of community pharmacy truly lies in a mix of product and professional pharmacy services a health care solutions pharmacy and networked pharmacy positions are currently the most effective models in achieving this mix. The challenge, however, will be in building the capacity of other models to integrate services and successfully providing leadership and support for an industry in transition.

It is clear from the analysis of the quantitative survey (Stage 2) that there are gaps in the capacity of community pharmacy that could be addressed through business and management programs. The five key areas identified should be taken into consideration and developed into actionable steps. However, efforts to build capacity in order to increase the probability of service uptake should take into account different types of pharmacies and potentially differing needs.

Through the intervention, including a workshop and follow up interview, the third stage of this project enable identified needs to be addressed in order to build the capacity to provide professional pharmacy services. It is clear that an increased awareness of professional pharmacy services among customers, pharmacy staff and other health care professionals is required. Cultural change is required by owners, managers, staff and other influential as well as the creation of cost structures to support a service delivery focused model.

Organisational flexibility, as a theoretical framework, has proved a useful tool in understanding the challenge of service implementation and the related capacity and integration issues in community pharmacy. Current available assistance is focused more on developing the clinical skills of individual pharmacists or the retailing aspects of pharmacy rather than service provision, with few resources provided to address these emerging needs. Professional associations could consider developing different support programs for individual groups of pharmacies and adapting content for their specific needs. It is apparent that developing strategic thinking and developing the business model of a pharmacy to incorporate the role of a health care provider is a critical step before practice change and service implementation can be successful.

The level of change required in pharmacy is complex and will require significant support from professional associations. The capacity and infrastructure of the professional associations and other support networks for community pharmacies needs to be sufficient to meet the breadth of these needs. Without support, the success of sustainable service delivery is questionable. Currently pharmacies are in different stages of development and require different levels to support to transition to the role of a service provider. Any change management programs to assist in this transition, as proposed in previous studies, should take into account both sets of needs identified as well as the mode of delivery trialled and evaluated.<sup>29, 32, 47</sup> To be effective, the provision of information in regards to services should not be didactic or forceful but rather a presentation of options which pharmacies can then align strategically with their business to optimise their long term viability. In the long term, it will be the ability to gradually incorporate and bundle new services in the practice of pharmacy that will support the viability of the industry.

The preliminary evidence suggests that a targeted program of education and on-site support, based on a sophisticated understanding of the organisational needs and characteristics of community pharmacy, can be effective. **Therefore, it is recommended that a national trial is implemented and evaluated to support of service**

**implementation.** An optimal program should involve a preparation, workshop attendance, on-going on site support underpinned by a resource centre providing tool kits for each service and integrating information on matters related to services and their implementation.

Relevant policy initiatives are essential to continue and encourage the momentum for change. These initiatives need to both focus on supporting and building on the capacity of the pharmacies already implementing services to increase the potential sustainability of their provision, and provide support and development tools for those pharmacies yet to integrate a sustainable, service delivery model.

## REFERENCES

1. Roberts AS, Benrimoj SI, Chen TF, Williams KA, Aslani P. Practice change in community pharmacy: quantification of facilitators. *Ann Pharmacother*. 2008 ;42(6):861-8. DOI 10.1345/aph.1K617
2. The Commonwealth of Australia. The Fourth Community Pharmacy Agreement [Internet]. 2005 ;Available from: [http://www.health.gov.au/internet/main/publishing.nsf/Content/F7FBDB333D030BFFCA2570C000003A44/\\$File/4cpacompile.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/F7FBDB333D030BFFCA2570C000003A44/$File/4cpacompile.pdf)
3. Volberda HW. Building the Flexible Firm: How to remain competitive. Oxford: Oxford University Press; 1998.
4. Kvale S. *InterViews: An introduction to qualitative research interviewing*. Thousand Oaks: Sage Publications; 1996.
5. Groleau D, Zelkowitz P, Cabral IE. Enhancing Generalizability: Moving From an Intimate to a Political Voice. *Qual Health Res*. 2009 ;19(3):416-426. DOI 10.1177/1049732308329851
6. Whiteley AM, Whiteley J. The familiarization study in qualitative research: from theory to practice. *Qual Res J*. 2006 ;6(1):69-85.
7. Bowen GA. Naturalistic inquiry and the saturation concept: a research note. *Qual Res*. 2008 ;8(1):137-152. DOI 10.1177/1468794107085301
8. Tabachnick BG, Fidell LS. *Using Multivariate Statistics*. Fourth Edition. Boston: Allyn & Bacon; 2000.
9. Hair JF, Black WC, Babin BJ, Anderson RE, Tatham RL. *Multivariate data analysis*. Sixth Edition. New Jersey: Pearson Education International; 2006.
10. Harrington D. *Confirmatory factor analysis*. Oxford: Oxford University Press; 2009.
11. Roberts AS, Benrimoj SI, Dunphy DC, Palmer IC. *Community pharmacy: strategic change management*. Sydney: McGraw-Hill Medical; 2007.
12. UK Department of Health. *Pharmacy in England: building on strengths - delivering the future*. England: UK Department of Health; 2008.
13. Canadian Pharmacists Association. *Blueprint for pharmacy, designing the future together*. Canadian Pharmacists Association; 2009.
14. Bond CM. Evolution and change in community pharmacy [Internet]. London: Royal Pharmaceutical Society of Great Britain; 2003. [cited 2009 Mar 22] Available from: <http://www.rpsgb.org.uk/pdfs/chevcommphsyn.pdf>
15. National Prescribing Service. *Medication Safety in the Community: A Review of the Literature* [Internet]. Surry Hills: National Prescribing Service; 2009. Available from: [http://www.nps.org.au/\\_\\_data/assets/pdf\\_file/0008/71675/09060902\\_Meds\\_safety\\_June\\_2009.pdf](http://www.nps.org.au/__data/assets/pdf_file/0008/71675/09060902_Meds_safety_June_2009.pdf)
16. Rothman R, Weinberger M. The role of pharmacists in clinical care: where do we go from here? *Effective Clinical Practice*. 2002 ;591-94.
17. Australian Government Department of Health and Ageing. *National Medicines Policy* [Internet]. Canberra: Commonwealth of Australia; 2000. Available from: [http://www.health.gov.au/internet/main/publishing.nsf/Content/0241A32640D477CACA256F18004685E4/\\$File/nmp2000.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/0241A32640D477CACA256F18004685E4/$File/nmp2000.pdf)

18. Benrimoj SI, Frommer MS. Community pharmacy in Australia. *Aust Health Rev.* 2004 ;28(2):238-246.
19. Gadiel D. Harmacy: The Political Economy of Community Pharmacy in Australia [Internet]. St Leonards: The Centre for Independent Studies; 2008. Available from: [http://www.cis.org.au/policy\\_monographs/pm89.pdf](http://www.cis.org.au/policy_monographs/pm89.pdf)
20. Hatoum H, Akhras K. 1993 Bibliography: a 32-year literature review on the value and acceptance of ambulatory care provided by pharmacists. *Ann Pharmacother.* 1993 Sep 1;27(9):1106-1119.
21. Benrimoj SI, Roberts AS. Providing patient care in community pharmacies in Australia. *Ann Pharmacother.* 2005 ;39(11):1911-7. DOI 10.1345/aph.1G165
22. Benrimoj SI. A Cost-Benefit Analysis of Pharmacist Only (S3) and Pharmacy Medicines (S2) and Risk-Based Evaluation of the Standards [Internet]. Canberra: The Pharmacy Guild of Australia; 2005. Available from: [http://www.guild.org.au/uploadedfiles/Research\\_and\\_Development\\_Grants\\_Program/Projects/2001-502\\_fr.pdf](http://www.guild.org.au/uploadedfiles/Research_and_Development_Grants_Program/Projects/2001-502_fr.pdf)
23. Roughead L, Semple S, Vitry A. The Value of Pharmacist Professional Services in the Community Setting: A systematic review of the literature 1990-2002 [Internet]. Canberra: The Pharmacy Guild of Australia; 2002. Available from: [http://www.guild.org.au/uploadedfiles/Research\\_and\\_Development\\_Grants\\_Program/Projects/2002-507\\_fr.pdf](http://www.guild.org.au/uploadedfiles/Research_and_Development_Grants_Program/Projects/2002-507_fr.pdf)
24. The Pharmacy Guild of Australia. Guild Digest: A survey of independent pharmacy operations in Australia financial year 2005-2006. Canberra: The Pharmacy Guild of Australia; 2007.
25. Costa S, Santos C, Silveira J. Community Pharmacy Services in Portugal. *Ann Pharmacother.* 2006 Dec 1;40(12):2228-2234. DOI 10.1345/aph.1H129
26. Rovers JP, Currie JD, Hagel HP, McDonough RP, Sobotka JL. A practical guide to pharmaceutical care. Second Edition. APhA Publications; 2003.
27. Desselle SP, Zgarrick DP. Pharmacy Management: Essentials for all practice settings. New York: McGraw Hill; 2004.
28. Plunkett W. All aboard or miss the boat. *Australian Journal of Pharmacy.* 2009 ;90(September):34.
29. Dunphy DC, Palmer IC, Benrimoj SI, Roberts AS. Change management and community pharmacy [Internet]. Sydney: The University of Technology, Sydney; 2004. [cited 2009 Feb 1] Available from: [http://www.guild.org.au/research/project\\_display.asp?id=273](http://www.guild.org.au/research/project_display.asp?id=273)
30. Odedina FT, Segal R, Hepler CD. Providing Pharmaceutical Care in Community Practice. *J Soc Admin Pharm.* 1995 ;12(4):170-180.
31. Rossing C, Hansen EH, Krass IK. Barriers and facilitators in pharmaceutical care: perceptions and experiences among Danish community pharmacists. *J Soc Admin Pharm.* 2001 ;19(2):55-64.
32. Roberts AS, Benrimoj SI, Chen TF, Williams KA, Aslani P. Quantification of facilitators to accelerate uptake of cognitive pharmaceutical services in community pharmacy [Internet]. Sydney: The University of Sydney; 2004. Available from: [http://www.guild.org.au/research/project\\_display.asp?id=263](http://www.guild.org.au/research/project_display.asp?id=263)
33. Roberts AS, Hopp T, Sørensen EW, Benrimoj SI, Chen TF, Herborg H, et al. Understanding practice change in community pharmacy: a qualitative research instrument based on organisational theory. *Pharm World Sci.* 2003 ;25(5):227-34.
34. Volberda HW. Organizational Flexibility: Change Preservation. A Flexibility Audit & Redesign Method. Groningen: Wolters-Noordhoff; 1992.

35. Verdu-Jover AJ, Llorens-Montes JF, Garcia-Morales VJ. Environment-flexibility coalignment and performance: An analysis in large versus small firms. *J Small Bus Manage.* 2006 ;44(3):334-349. DOI 10.1111/j.1540-627X.2006.00175.x
36. Berg BC. *Qualitative research methods for the social sciences.* Boston: Allyn & Bacon; 1989.
37. Reijonen H, Komppula R. Perception of success and its effect on small firm performance. *J Small Bus Ent Dev.* 2007 ;14(4):689.
38. Pett MA, Lackey NR, Sullivan JJ. *Making Sense of Factor Analysis.* Thousand Oaks: Sage Publications; 2003.
39. Berbatis CG, Sunderland VB, Joyce A, Bulsara M, Mills C. Characteristics of Australia's community pharmacies: National pharmacy database project. *Int J Pharm Prac.* 2007 ;15(4):265-271. DOI 10.1211/ijpp.15.4.0003
40. Axford R, Carter B, Grunwald G. Enhancing Dillman's total design method for mailed/ telephone surveys using current technology to maximise cost-benefit ratios. *J Sociol.* 1997 Jan 1;33(3):387-393. DOI 10.1177/144078339703300307
41. Hurley AE, Scandura TA, Schriesheim CS, Brannick MT, Seers A, Vandenberg RJ, et al. Exploratory and Confirmatory Factor Analysis: Guidelines, Issues, and Alternatives. *J Organ Behav.* 1997 ;18(6):667-683. DOI 10.1002/(SICI)1099-1379(199711)18:6<667::AID-JOB874>3.0.CO;2-T
42. Ford JK, MacCallum RC, Tait M. The Application of Exploratory Factor Analysis in Applied Psychology: A Critical Review and Analysis. *Pers Psych.* 1986 ;39:291-314. DOI 10.1111/j.1744-6570.1986.tb00583.x
43. Schumacker RE, Lomax RG. *A beginner's guide to structural equation modeling.* New Jersey: Lawrence Erlbaum Associates, Publishers; 1996.
44. Bentley C. *Practical PRINCE2.* Norwich: The Stationery Office; 1998.
45. Healy P. *Project Management, Getting the job done on time and in budget.* Port Melbourne: Butterworth-Heinemann; 1997.
46. Lockyer K, Gordon PJ. *Project Management and Project Planning.* Seventh Edition. Harlow: Prentice Hall: Financial Times; 2005.
47. Roberts AS, Benrimoj SI, Chen TF, Williams KA, Gadiel D, Ridoutt L, et al. An investigation into business and professional facilitators for change for the pharmacy profession in light of the Third Guild/Government Agreement [Internet]. Sydney: The University of Sydney; 2003. Available from: [http://www.guild.org.au/research/project\\_display.asp?id=241](http://www.guild.org.au/research/project_display.asp?id=241)

---

## APPENDICES

---