

# Independent Review of Community Pharmacy Services (Stage One)

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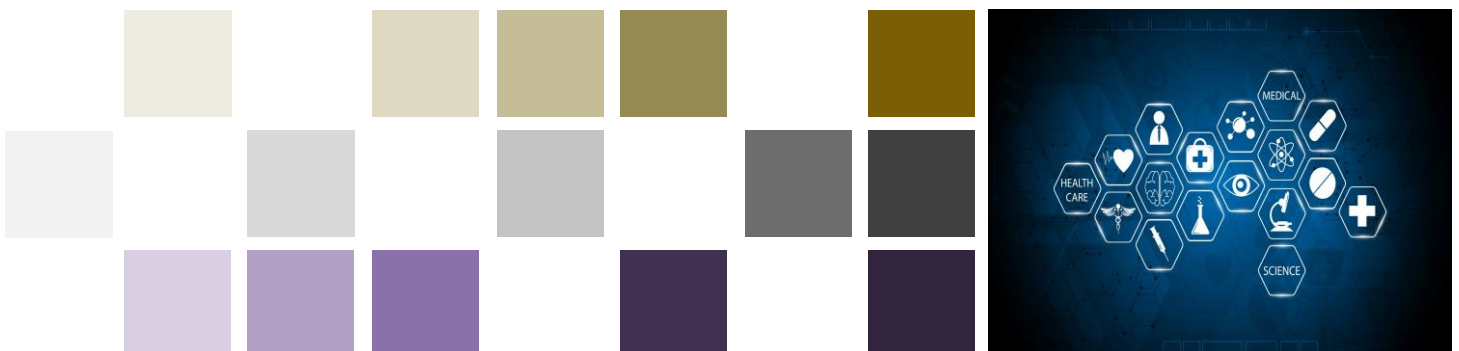
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# Glossary

**Abbreviation****Stands for**

CCPG	Canterbury Community Pharmacy Group
DHB	District Health Board
GP	General practitioner
ICPSA	Integrated Community Pharmacy Services Agreement
IBD	Inflammatory Bowel Disease
INR	International normalised ratio (test)
LCS	Locally commissioned service
LTC	Long-term and chronic (illnesses)
MAS	Minor ailments service
MCPG	Midlands Community Pharmacy Group
MUR	Medicines use review
NAAR	National Annual Agreement Review
NZ	New Zealand
PHO	Primary Health Organisation
TAS	Technical Advisory Service
UK	United Kingdom

## Executive summary

A community pharmacy is not simply a business entity. Although as with any business, a community pharmacy must be profitable, it also has a responsibility to meet the health care needs of the public. One perspective of community pharmacy is that it provides a distribution system for patients to access medicines, while at another level, it is a setting for an individual pharmacist to apply their professional duties in health care. These intertwined roles imply that the operation of community pharmacy encompasses multiple levels.

We propose a version of a framework employed by Hermansyah et al (2016), defining the pharmacist at the following levels:

- pharmacist (or “micro”) level - the pharmacist as an individual practitioner
- business (or “meso”) level - community pharmacy as an institution and business and
- sector (or “macro”) level - community pharmacy as part of the broader health care system.

For the community pharmacy sector to succeed and flourish, the systems, incentives and strategies at the pharmacist, business and sector levels need to align. Challenges often arise when there is a conflict between levels – such as when what makes the most business sense for the community pharmacies is not optimal for community pharmacy’s contribution to the broader healthcare sector.

### Assessment of community pharmacy

Informed by our review of the literature and from consultation with key stakeholders across the sector, we assessed the current status of the community pharmacy sector at the pharmacist, business and sector levels.

The key themes identified are summarised below.

#### Pharmacist level

- There is general acceptance that most pharmacists are well trained and capable of delivering the range of services that are being demanded of the community pharmacy sector
- As their role has evolved, community pharmacists have been asked to do more, with an expansion of their roles to include the provision of more clinical services. Despite this, pharmacists remain under-utilised, and are still heavily tied to their dispensing functions
- Medicines optimisation represents an area which community pharmacists can bring the full range of their medicines expertise to fulfil a function of roles to help patients
- There are also a range of challenges facing the pharmacist workforce, including questions about remuneration, stress and burnout and an unclear career future.

#### Business level

- Community pharmacies are seen as the most accessible arm of the primary healthcare sector who offer a range of services and products demanded by consumers

- However, there are notable access gaps, particularly among vulnerable populations such as Māori, Pasifika and rural communities, where the current business model and non-representative workforce create challenges with engaging with these communities
- Sustainable funding of community pharmacies is also a major challenge, with the current funding model still heavily incentivising volume dispensing over the provision of clinical services, uncertainty around the current funding model and negative business impacts from COVID-19
- Innovation does occur in the sector, but tends to only occur in pockets of community pharmacies across NZ, and rarely scales up to the national level

## **Sector level**

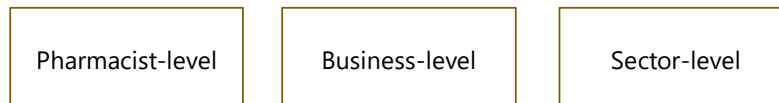
- As a result of challenges facing community pharmacy businesses, the sector as a whole has only had marginal success in improving equity outcomes
- A movement towards a more integrated healthcare system represents a potential way forward, but this would require a vision and a clear articulation of the roles and responsibilities across the primary healthcare sector
- Before an integrated healthcare system can be realised, however, there are a number of barriers that need to be overcome, including breaking down cultural differences across professions, investments into IT and technological upgrades, a more collaborative approach to care and increased trust between DHBs and community pharmacy
- The entry of large retail pharmacy groups into the NZ market has also change the dynamic of the market, and the sector needs to identify how to best leverage the strengths of large retail pharmacy groups and local community pharmacies to complementary effect
- Meso-level organisations, which have been seen in parts of NZ, could add significant value by helping community pharmacies in regions coordinate, strategise and plan at a sub-national level

## **Framework for evaluating and identifying potential options for Service Re-design**

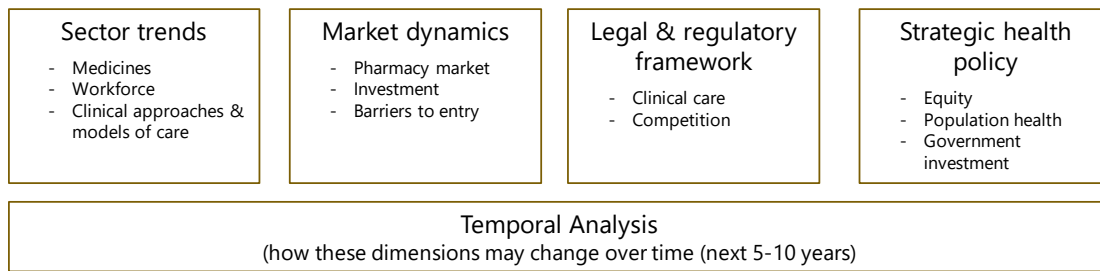
It was evident from the analysis undertaken for the preparation of this report that the mechanisms for driving future change to community pharmacy service models are likely to require a multi-dimensional approach across the three levels of the community pharmacy sector. Given this, there is a need to develop and agree an evaluation framework that can be applied for the next stages of the Service Model and Funding Review. Our suggested framework is outlined in the figure below.

Framework for evaluating potential service re-design

**1. Consider issues at all three levels of community pharmacy...**



**2. ...in the context of the policy and business environment...**



**3. ...then determine the appropriate mechanisms for driving change**

1. Market structure
2. Commercial/funding arrangements
3. Clinical service delivery model
4. Workforce strategy

Table E1 below summarises some the relevant considerations at each of the three levels of community pharmacy and potential change options based on this suggested framework.

Table E1 Evaluating and identifying potential change options for Service Re-design

Level	Pharmacy	Business	Sector
<b>Issues to address</b>	<ul style="list-style-type: none"> <li>Workforce dissatisfaction with remuneration, work-life balance, stress, career trajectory</li> <li>Sustainability of future workforce</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability of business model</li> <li>Alignment of activities with desired population health outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Transition towards a primary healthcare model that improves population health outcomes, including improved equity of outcome</li> </ul>
<b>Sector trends</b>	<ul style="list-style-type: none"> <li>Skills and remuneration should align with the role that community pharmacists serve and not just dispensing</li> <li>Community pharmacists are trained to provide the full range of services that take advantage of their specialist skillset</li> <li>Community pharmacists have a clear career trajectory under the integrated healthcare model</li> </ul>	<ul style="list-style-type: none"> <li>Funding model needs to encourage integration activities</li> <li>Funding model should align with activities that are best served by community pharmacy in an integrated model, such as medicines optimisation, minor ailment service and medicine use reviews, as well as dispensing</li> <li>Funding model needs to allow for innovation and flexibility to enable pharmacies to service local needs</li> <li>Community pharmacy business models need to meet expectations of community pharmacists and enable their retention</li> </ul>	<ul style="list-style-type: none"> <li>Integrated healthcare model should have a vision and clearly articulate the role of community pharmacy under this vision</li> <li>Community pharmacies need to be financially viable under the integrated system</li> <li>Role of pharmacist under an integrated system needs to meet pharmacist expectations and desires</li> <li>Need to overcome barriers to transition towards an integrated healthcare system</li> <li>Need to coordinate community pharmacies to better provide services</li> </ul>
<b>Market dynamics</b>	<ul style="list-style-type: none"> <li>Potential segmentation of community pharmacy sector could impact the skills demanded from pharmacists by different segments of the market</li> </ul>	<ul style="list-style-type: none"> <li>Need to consider sustainable future business models for both large retail pharmacy groups and local community pharmacies</li> </ul>	<ul style="list-style-type: none"> <li>Need to consider how to both large retail pharmacy groups and local community pharmacies can complement each other to improve health outcomes</li> </ul>
<b>Legal and regulatory framework</b>	<ul style="list-style-type: none"> <li>Potential changes to rules for prescribing following implementation of Therapeutic Products Bill could change prescribing model</li> </ul>	<ul style="list-style-type: none"> <li>Need to consider any competition implications of entry of large retail pharmacy groups into the sector</li> <li>Potential changes to rules for prescribing following implementation of Therapeutic Products Bill could result in new services</li> </ul>	<ul style="list-style-type: none"> <li>Need to consider regulatory implications and requirements of a more integrated system, including competition impacts across sectors</li> </ul>



<p><b>Strategic health policy</b></p>	<ul style="list-style-type: none"> <li>• Need for greater representation amongst pharmacists and skills to provide culturally appropriate services to improve equity of outcomes</li> <li>• Focus on improving population health outcomes, which will require pharmacists to think more strategically and better understand their local communities</li> </ul>	<ul style="list-style-type: none"> <li>• Need to consider potential methods for community pharmacy to improve outreach and provide culturally appropriate services</li> <li>• Focus on improving population health outcomes – need to align incentives for community pharmacies to undertake activities that improve population health outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• More integrated healthcare system should enable elements that can improve equity of outcomes that were not available previously such as collective outreach</li> <li>• Integrated system should enable activities that improve population health outcomes such as data sharing, improved patient intelligence and effective system-wide triage</li> </ul>
<p><b>Change options</b></p>	<ul style="list-style-type: none"> <li>• Review the efficacy of the current training and support regime for pharmacists and how this might need to change with a transition to more clinical services</li> <li>• Undertake a review of pharmacist workforce trends and identify key challenges to address</li> <li>• Review the potential career trajectories for young pharmacists and consider what this future trajectory should be</li> <li>• Development of specialist training pathways for community pharmacists for Māori, Pasifika and rural and regional practice.</li> </ul>	<ul style="list-style-type: none"> <li>• Review the community pharmacy funding model, including consideration for the different incentives for retail pharmacy groups and local community pharmacies</li> <li>• Review funding and models of care for outreach programs to vulnerable populations</li> <li>• Develop a model for rollout of minor ailment services across community pharmacies</li> <li>• Develop a model of care for community pharmacy focused on medicines optimisation.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a strategy for moving towards a more integrated primary healthcare sector, including development of a sector strategy that articulates the role of community pharmacy in an integrated healthcare system and the actions needed for integration</li> <li>• Establish an organisation to act as a coordinator and champion integration across the primary healthcare sector</li> <li>• Invest in technology and IT to address gaps that currently constrain a more integrated system</li> <li>• Consider establishing funding to assist community pharmacies to move to a more integrated business model</li> <li>• Establish meso-level organisations across the community pharmacy sector in NZ.</li> </ul>

# 1. Introduction

This report was commissioned by the Central Region Technical Advisory Service (TAS) on behalf of District Health Boards (DHBs) as input into the first stage of the Service Model and Funding Review agreed by the National Annual Agreement Review (NAAR).

## 1.1 The Service Model and Funding Review

Each of the just over 1,000 community pharmacy providers throughout Aotearoa has entered into a contract (the Integrated Community Pharmacy Services Agreement or ICPSA) with their local District Health Board (DHB) for the provision of community pharmacy services.

The Service Model and Funding Review<sup>1</sup> considers the range of services provided by community pharmacy and their ability to:

- Meet current and future access and community pharmacy service needs of New Zealanders
- Address inequity of outcomes
- Support a sustainable community pharmacy sector
- Be founded on relevant national and international reviews, strategies, evidence, experience and best practice.

The desired outcome of the Service Model and Funding Review is a framework for services and funding supporting the effective delivery of citizen-centred community pharmacy services, and that better address inequity, fairly and sustainably.

### 1.1.1 The purpose is to identify change options

The purpose of the Stage One Independent Review of Community Pharmacy Services report (the Review) is to identify best practice evidence-based services aligned with New Zealand's strategic direction for pharmacy/pharmacist services, including identifying any potential change options for current community pharmacy services.

The review identifies opportunities for improvements and gaps in current knowledge that will need to be addressed in future work.

As per the Terms of Reference (see Appendix A), the report considers the following:

#### ***Current community pharmacy service models***

- Whether the current services are meeting the access and community pharmacy service needs of New Zealanders, and in a consumer-centred, integrated way that addresses inequity of outcomes
- Whether current community pharmacy service models help DHBs:

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<sup>1</sup> Service Model and Funding Review, Terms of Reference for the Independent Review of Community Pharmacy Services (Stage One)

- a. Identify, understand and address issues of equity in access to community pharmacy services
- b. Provide population access to community services for all New Zealanders
- c. Purchase integrated services to support vulnerable populations – including Māori, Pacific, rural, people over 65 years, those living with chronic conditions
- d. Provide population-based locally commissioned integrated services within each DHB.

### ***Future community pharmacy service models***

- Potential changes to current community service models that provide more consumer-focused services that:
  - a. Improve health equity and access for Māori and other vulnerable populations
  - b. Reduce regional inequities
  - c. Are based on population health approaches
  - d. Are integrated.

### ***Other relevant matters to current community pharmacy services***

- Consideration of other relevant issues including
  - a. Sustainability issues for current community pharmacy services
  - b. Independent Review of Wage Cost Pressures
  - c. Quality and competency issues for delivery of services by pharmacists and pharmacy technicians
  - d. Any issues relating to existing or future legislation (e.g., Therapeutics Products Bill) and any other professional and regulatory requirements
  - e. Any other issues identified as relevant to community pharmacy service models.

## **1.2 Approach based on interviews and a literature review**

The Review is based on the following steps:

### ***Desktop Review***

A high-level review of the information and material available in relation to the community pharmacy including:

- *Previous reviews, published strategic documents and plans* – published reports and any available stakeholder submissions to relevant strategic reviews including: Health & Disability System Review 2020, Waitangi Tribunal Health Services and Outcomes Inquiry 2019, COVID-19 impact and lessons, ICPSA Schedule 1 Review, Ministry of Health Pharmacy Action Plan 2016-20 and DHB strategic visions documents
- *Published research, policy papers and commentary* – available research, publications and policy papers both in New Zealand and any comparable jurisdictions internationally with a focus on:
  - different types of pharmacy service models and how models address access of services (particularly in regional areas), how models drive equity of service across population types, regions and socio-demographics
  - integration of pharmacy service models with other healthcare services

- sustainability of service models
- governance and leadership in pharmacy service models.

### ***Stakeholder interviews***

We interviewed stakeholders across the following sector groupings:

- District Health Boards (DHBs)
- pharmacy policy
- pharmacy representative bodies
- pharmacy operators
- Primary Health Organisations (PHOs)
- Māori health organisations.

Details of these stakeholder consultations are provided in Appendix B.

## 2. Assessment of the community pharmacy sector

This chapter provides an organising framework and sorts the findings from our review of the literature and feedback from stakeholder consultation under that framework.

### 2.1 An organising framework

A community pharmacy is not simply a business entity. Although as with any business, a community pharmacy must be profitable, it also has a responsibility to meet the health care needs of the public. One perspective of community pharmacy is that it provides a distribution system for patients to access medicines, while at another level, it is a setting for an individual pharmacist to apply their professional skills in health care. These intertwined roles imply that the operation of community pharmacy encompasses multiple levels.

We propose a version of a framework employed by Hermansyah et al (2016), defining the pharmacist at the following levels:

- pharmacist (or “micro”) level - the pharmacist as an individual practitioner
- business (or “meso”) level - community pharmacy as an institution and business and
- sector (or “macro”) level - community pharmacy as part of the broader health care system.

For the community pharmacy sector to succeed and flourish, the systems, incentives and strategies at the micro, meso and macro levels need to align. Challenges often arise when there is a conflict between levels – such as when what makes the most business sense for the community pharmacies (meso) is not optimal for community pharmacy’s contribution to the broader healthcare sector (macro).

Some conflict between the priorities at each level will be inevitable. The entities at each level all have different priorities and foci.

We consider several key questions facing pharmacists and the community pharmacy sector at each level as a basis for considering potential change options in the following chapter (Table 1). This includes an assessment not only of whether community pharmacy service needs and access are currently being met, but also issues that have implications for the long term provision of community pharmacy services in NZ.

Table 1 Key questions guiding assessment of the community pharmacy sector

Level	Key questions
Pharmacist	Are community pharmacists adequately trained to meet community pharmacy service needs? What are community pharmacists’ current role? What should the roles and responsibilities of pharmacists be? How satisfied are pharmacists with their current and future prospects?
Business	What services do community pharmacies offer their communities?

	<p>How effective have community pharmacies been in improving access to vulnerable populations in their communities?</p> <p>How financially sustainable are community pharmacies?</p> <p>What innovations are occurring in community pharmacies in NZ and internationally?</p>
Sector	<p>Has the community pharmacy sector reduced inequity?</p> <p>How effective has the community pharmacy sector been in improving health outcomes as part of the broader healthcare system?</p> <p>How effective has the community pharmacy sector been in providing integrated services?</p> <p>What is the ideal role for different types/segments of community pharmacies as part of the broader healthcare system?</p> <p>What changes need to occur at a system level for community pharmacy to maximise its value to patient care?</p>

## 2.2 Assessment of community pharmacy – individual pharmacist level

In assessing the effectiveness at the level of the individual pharmacist, we consider the effectiveness of pharmacists in providing community pharmacy services to the NZ population, and how the current state of the community pharmacy sector impacts individual pharmacists with respect to their careers and the sustainability of the pharmacist workforce.

While this has a relatively smaller number of issues to consider, there are critical issues to identify and resolve. A well-trained and motivated pharmacist workforce is at the heart of everything the community pharmacy sector does, and any threats to the sustainability of this workforce would constrain any ambitions for the sector to undertake a broader and more sophisticated range of services and care.

As of June 2020, there were 3,906 registered practising pharmacists in NZ, a rate of approximately 7.8 pharmacists per 10,000 people, which is slightly lower than in Australia, the UK and Canada.<sup>2</sup> Of these, 3,071 (79%) worked in community pharmacy.

### 2.2.1 Community pharmacists are well trained and capable

There is general acceptance that most pharmacists are well trained and capable of delivering the range of services that are being demanded of the community pharmacy sector. Most pharmacists felt they had the appropriate knowledge needed for providing most clinical services based on interviews with community pharmacists. However, some pharmacists have been reluctant to offer clinical activities (e.g. vaccination) because it was not part of their traditional training.

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<sup>2</sup> Pharmacy Council of NZ (2020) Workforce Demographic Report 2020, available at: <https://www.pharmacycouncil.org.nz/wp-content/uploads/Workforce-Demographic-Report-2020.pdf>

New graduates were actively looking to be involved with these services. However, some sector stakeholders consulted in the preparation of this report noted that new graduates can often lack contextual skills and training, such as:

- awareness about their local community demographics (one stakeholder noted that community pharmacy needs to get better at understanding what is important to their communities),
- understanding of cultural, socioeconomic and epidemiological factors, and
- understanding how they may impact patient behaviour and interactions.

This knowledge is often important for helping the pharmacist to view their patient's health in a more holistic way, and research suggests enhanced and extended pharmacy services were more successful among pharmacists with greater awareness of local needs<sup>3</sup>. Continual development of these contextual skills alongside technical skills will remain an important part of maximising the value of community pharmacists to the healthcare system.

## **2.2.2 Community pharmacists are being asked to do more**

It is generally agreed upon by both the international literature and a variety of stakeholders that community pharmacists play a critical role in community health and primary care, and that they generally enjoy high levels of public trust. That literature and those stakeholders also agree community pharmacists have specialisation and expertise in medicines wherever medicines are used, which is in all parts of primary care. This role requires a high degree of technical expertise combined with clinical judgment.

In terms of responsibilities, this role includes:

- the dispensing of prescription medication,
- enhancing consumer health literacy,
- improving medicines safety, and
- providing health professional support where medicines are relevant.

There are also other specific parts of the healthcare sector where medicines are involved in which pharmacists could have a role, such as in the aged care sector, a more active role in management of mental health issues, the management of long-term long term conditions and the provision of vaccinations.

### **Expansion of services to include provision of clinical services**

Both the Health and Disability Review and the Pharmacy Action Plan 2016-20 identified the broadening expansion of the role of community pharmacists beyond dispensing of medicines and towards the provision of clinical services to patients.

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<sup>3</sup> Hattingh et al (2019) Successful Implementation and Provision of Enhanced and Extended Pharmacy Services

There were several observations by stakeholders, as follows:

- Stakeholders echoed support for this sentiment, noting that many pharmacists also wish to expand their role beyond dispensing, and towards providing services and activities allowing them to bring their clinical knowledge and skills in service of their communities.
- Stakeholders generally agreed that community pharmacists across NZ genuinely want to help their communities and go the extra mile for their patients (even in the absence of remuneration, such as with delivery of medications to patients), and this suggests that the current roles and responsibilities of community pharmacists aligns with their own preferences and view of the role in improving patient health outcomes.

### **In practice, pharmacists remain under-utilised**

In practice, however, stakeholders observe that community pharmacists are still heavily tied to dispensing as their primary role and are often limited in their ability to move beyond the desk and into more clinical practice. This has limited the extent to which community pharmacists have been utilised across NZ, and there has been broad agreement that community pharmacists' clinical knowledge remains underutilised.

### **2.2.3 A focus on medicines optimisation makes greater use of community pharmacists' technical expertise**

Stakeholders re-iterated the importance of the role of community pharmacists as custodians and specialists of medicines. Many saw several opportunities to make greater use of this knowledge that could represent a natural evolution of the community pharmacist's role.

Medicines optimisation, defined as a patient-centred, collaborative approach to managing medication therapy that is applied consistently and holistically across care settings to improve patient care and reduce overall health care costs<sup>4</sup>, was highlighted in the Health and Disability System Review as a key role for community pharmacy going forward.

As part of medicines optimisation, the community pharmacist is not only focused on what volumes of medication to prescribe to a patient, but how that medication fits into the patient's lifestyle, or how the patient's lifestyle would need to change to maximise the value from the medicines. This would include a range of activities with both technical and non-technical aspects, including:

- medication packing
- home delivery and home health assessments (e.g. gathering broader health intelligence, such as falls risks)
- medicines administration
- medication reconciliation and reviews
- medication adherence programs

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<sup>4</sup> Easter and DeWalt (2019) The Medication Optimization Value Proposition: Aligning Teams and Education to Improve Care



- medicine management programs.

Ideally, these functions would occur alongside the patient themselves as well as the patient's GP, as part of an overall health strategy to optimise the health of the patient. In such a situation, the patient themselves is an active member of the health strategy and recognises and understands their role in the recovery pathway.

Some pharmacists have also developed expertise in clinical areas of medicines, such as mental health. Pathways and models of care that allow these more specialist community pharmacists to practice in their areas of specialisation and allow them to add additional value to their communities and the broader primary care system.

## **2.2.4 There are also challenges facing the future of the community pharmacist workforce**

Discussions with stakeholders identified several concerns about the current state of the community pharmacist workforce, which have led young pharmacists to leave the profession. These include:

- changes in the profession and uncertainty about the future
- being tied to the dispensary and being unable to use their clinical training
- long work hours
- perceptions of poor salaries compared to other professions such as medicine or engineering.<sup>5</sup>

### **Wage erosion**

Stakeholders raised the issue that suppressed funding for the community pharmacy sector has in turn resulted in significant wage erosion. In Australia, where similar workforce trends are being observed, many community pharmacists are moving into industry and hospital pharmacist roles, with the two main reasons for this being the perceived greater stability of these sectors compared to community pharmacy, and the higher wages within both these areas.<sup>6</sup> A similar sentiment was echoed from stakeholders in the NZ context.

The Wage Cost Pressures Review that is being undertaken alongside this report will provide greater insight on how remuneration for community pharmacists compares to other professions and the extent to which this impacts the current and future community pharmacy workforce.

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<sup>5</sup> The suggested salary bands for community pharmacists described in the Pharmacy Society Salary Banding Guide 2017 are:

- Dispensing pharmacist - \$65,000 - \$75,000
- General pharmacist - \$75,000 - \$100,000
- Pharmacist facilitator - \$100,000 - \$120,000
- Primary care support pharmacist - \$130,000 - \$140,000
- Pharmacist prescriber - \$130,000 - \$170,000

<sup>6</sup> Australian Journal of Pharmacy (2018) Community pharmacy shortages driving salary growth, available at: <https://ajp.com.au/news/community-pharmacy-shortages-driving-salary-growth/>

## **Stress caused by COVID-19**

This decrease in real income has been compounded by the impacts of COVID-19, where pharmacists have been at the frontline of primary care, but without always having the proper protective equipment and unclear protocols on how best to manage the risks associated with the pandemic. This reportedly created a great deal of stress and anxiety for community pharmacists, on top of the existing challenges faced by community pharmacists from the issues listed above.

## **Ownership is too hard**

Some stakeholders noted that young pharmacists have been described as having a greater clinical focus and preferred salaried positions to owning pharmacies, which is viewed as “too hard, with huge hours, compliance and risk” that they are not willing to bear. This is a trend that is likely to continue. Pharmacists who own pharmacies are heavily leveraged into their pharmacies, which limits the extent to which they can be flexible in response to changes in their environment, as was the case with COVID-19.

These challenges have raised questions about the ongoing sustainability of the community pharmacy profession in its current state. Whilst we understand there is some anecdotal evidence that some younger pharmacists are considering other career options, it is not clear at this point in time whether this is affecting the number of new registrations or the total number of pharmacist registrations.

In the absence of improvement, both in terms of remuneration and evolution of the role to meet expectations and preferences of the new generation of community pharmacists, some stakeholders noted there is a risk this could lead to a future decline in the number and quality of community pharmacists attracted to the profession.

## **2.3 Assessment of community pharmacy – business level**

We consider the extent to which community pharmacies as businesses and institutions have met the access and community pharmacy service needs of the NZ population. We also consider how financially sustainable current community pharmacies are and assess whether the current funding model is viable for community pharmacies in the long run.

### **2.3.1 Community pharmacy are providing a range of services to their communities**

The general sentiment from stakeholders is that community pharmacists are performing their stated roles of medicines dispensing, providing clinical advice to patients, and provision of services such as vaccinations, smoking cessation programs and medicines education that benefit both their patients and the healthcare system at large (helping to divert a number of patients from GP and ED visits).

## Seen as accessible

Many respondents noted that community pharmacy represented the most accessible arm of the primary healthcare system, and the widespread presence of community pharmacies across NZ means that most of the population has ready access to some form of community pharmacy services.

Access to a wide range of medicines is also seen across NZ, but the benefits of this outcome are debated. Community pharmacies are offering a wider range of treatments and medicines, including increasingly niche medicines and products, which are low volume and high cost. While access to these niche medicines is theoretically beneficial to the local community, it also creates significant holding costs for these community pharmacies, which adds costs to their business for little return.

## Considerable variation in additional services

Many community pharmacies also provide additional services to their communities, including delivery of medicines to patients at their homes, undertaking medicines use reviews and medication therapy assessments. Quality of these services was generally rated by stakeholders as being acceptable, with one stakeholder noting that the tender model for procurement of these services by DHBs acts as an implicit form of quality control, as poor-quality service providers will not receive contracts in the future.

The exact range of additional services (outside of the ICSPA) tend to vary across DHBs, and while community pharmacies have generally been available to provide services in response to their community needs, these are often commissioned by DHBs. There is significant variation in the range of services offered across NZ based on the priorities of each of the DHBs. Overall, there are far fewer of these services being offered than stakeholders would like to see.

## New entrants reduce cost barriers to medicine

The entry of large retail pharmacies such as Chemist Warehouse and Countdown into the community pharmacy space have also adopted commercial strategies based on pricing (i.e., not charging for co-payments and advertised lower prices for some medicines). While lower prices are beneficial for most consumers, it may also improve access to medications and range of other community pharmacy services for patients who would otherwise not be able to purchase medicines. In 2018-19 It was estimated 207,000 adults (5.3%) had unfilled prescriptions due to costs.<sup>7</sup> While it is not clear whether the presence of large retail pharmacies could directly address this cohort, it nonetheless highlights the significance of price as a driver of equity and access to medicines. Notably, research suggests that Māori and Pacific people were significantly more likely to defer purchasing prescription medication due to cost than Pakeha<sup>8</sup>, suggesting equity issues relating to price directly affect Māori and Pasifika communities.

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<sup>7</sup> Ministry of Health (2020) based on data from the NZ Health Survey 2018-19, available at: [https://minhealthnz.shinyapps.io/nz-health-survey-2018-19-annual-data-explorer/ w\\_2eb0f488/ w\\_ded08aac/#!/key-indicators](https://minhealthnz.shinyapps.io/nz-health-survey-2018-19-annual-data-explorer/ w_2eb0f488/ w_ded08aac/#!/key-indicators)

<sup>8</sup> Jatrana et al (2010) Ethnic differences in access to prescription medication because of cost in New Zealand

### 2.3.2 But there are identified access gaps, particularly for vulnerable populations

While community pharmacists were capable of providing a range of services, a gap identified by many stakeholders is the limitations from the binding of many community pharmacy services to the physical location of the pharmacy.

Māori and Pasifika populations were identified as two groups where cultural attitudes often meant that many individuals often did not look to engage with the healthcare system and were less likely to step into a community pharmacy, even if they needed it.

#### Pharmacists are tied to pharmacies

There are several dimensions to this issue:

- The first relates to the limitations of the current funding model, in which many community pharmacists are less able to extend their practice beyond the four walls of the pharmacy building, as the majority of income is from dispensing and retail activities which cannot occur outside the pharmacy.
- Some stakeholders talked about the need for the healthcare system to bring healthcare services directly to vulnerable communities, but these types of outreach programs are not common.

#### Māori and Pasifika underrepresented

Stakeholders also note that Māori and Pasifika tend to be largely underrepresented in both community pharmacies and community pharmacy decision making, which limits the ability of community pharmacies to more acutely respond to the specific cultural and population needs of these populations. The result is a community pharmacy experience that is not as effective in reaching these populations. For example, Māori or Pasifika (along with men more broadly) were more likely to treat pharmacies as prescription 'depots', being less likely to buy over-the-counter, pharmacist only medicines or engage with clinical advice or services.<sup>9</sup>

As of June 2020, only 2% of pharmacists were Māori and only 1% of pharmacists were Pasifika, statistics that reflect both groups being underrepresented within the population of practising pharmacists. As a benchmark, according to the 2018 census 764,556 and 381,642 people in New Zealand identify as Māori or Pasifika respectively. This equates to 0.15 pharmacists per 10,000 population that identify as Māori versus a Māori population density of 1,528 people per 10,000 population. For Pasifika, there are 0.05 Pacific pharmacists per 10,000 population versus a Pasifika population density of 763 people per 10,000 population.<sup>10</sup>

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<sup>9</sup> Green et al (2012) Indigenous and Immigrant Populations' Use and Experience of Community Pharmacies in New Zealand

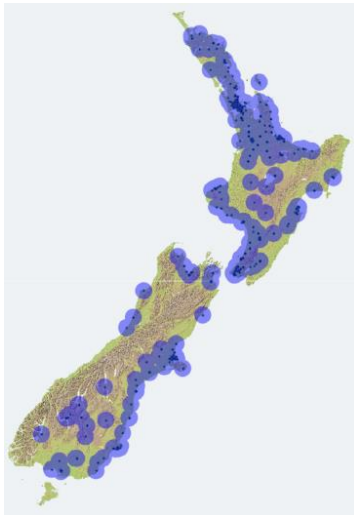
<sup>10</sup> Pharmacy Council of NZ (2020) Workforce Demographic Report 2020, available at: <https://www.pharmacycouncil.org.nz/wp-content/uploads/Workforce-Demographic-Report-2020.pdf>

A greater focus on the health of these populations is becoming a focus for many parts of the healthcare system, but this focus must also include and embed people and organisations from these populations if they are to be successful. The workforce should ultimately reflect the community that is being served, and as such, it has to be acknowledged that a universal approach to all community pharmacies will not work in this regard – targeting these populations will likely require a tailored, culturally-appropriate and place-based response that is not being delivered across the sector at this time.

### **Rural areas may not be served well by the current model**

Rural patients are another vulnerable population that may not always have access to the full range of community pharmacy services. Community pharmacy trends have tracked with population distributions across NZ, and they have largely centralised in areas of higher population (see Figure 1 below, although it is expected this trend has continued since 2010). This has resulted in the departure of some community pharmacies from rural towns, and in turn, some rural towns have been left with limited access to community pharmacy services.

Figure 1 Pharmacy locations and 25 km circles in 2010



Source: Norris et al (2014) Geographical access to community pharmacies in New Zealand

Despite their best efforts, rural and regional pharmacies face several ongoing challenges including attracting and retaining staff, and ongoing financial challenges that can limit the medicines and services they can offer. Some stakeholders also raised the equity issue the co-payment created, where the additional cost disincentivised poorer patients from filling prescriptions.

Many of these challenges are not unique to community pharmacy, and reflect challenges faced by rural and regional health services more broadly. However, stakeholders have commented that the current model of funding, even with support from the government to help community pharmacies in these regions, is not allowing community pharmacies in these areas to provide services that best fill the needs of these areas.

Stakeholders also considered it possible that an interprofessional holistic approach to rural and regional healthcare may be needed – although rural and regional community pharmacists will have to decide what role they wish to play in such an approach.

### **2.3.3 Sustainable funding is a major challenge facing community pharmacies**

One of the major issues highlighted by both stakeholders and the literature related to the current funding model for community pharmacy services.

#### **Dispensing is still heavily incentivised over clinical services**

Despite a recent split of pharmacy funding that separated dispensing funding from services funding, many stakeholders still felt that the current funding model still heavily incentivised volume dispensing over provision of clinical services. Pharmacies still have to prioritise dispensing in order to remain viable.

This focus on dispensing creates issues for pharmacies and pharmacists who want to partake in a more active clinical role with their patients but are unable to do so, since these activities often take time and resources away from the key revenue generator, namely dispensing. Many pharmacists also reported that their workloads had increased following the introduction of the CPSA in 2012, which in turn took time away from other activities.<sup>11</sup>

#### **Clinical services are intertwined**

In many instances, clinical advice and dispensing were often intertwined, and some community pharmacists felt the funding split reflected a lack of understanding by the DHBs of what pharmacists do. Even under the new contract model, it is not clear that a community pharmacy that is focused on providing clinical services is sustainable. Community pharmacies choose between activities which support financial viability and those which can help improve population health outcomes.

#### **Uncertainty in new contracting and funding models**

While NZ is not the first jurisdiction to implement a split funding model (notably, the UK implemented a similar split of community pharmacy funding between dispensing and services in its latest funding contract), many pharmacists in 2012 felt the new funding model was unclear and poorly explained, which made it very difficult for pharmacy operators to predict what their revenue would look like under the new model. Many felt the change came too quickly, without allowing pharmacists and pharmacies a chance to adapt and forward plan.<sup>12</sup>

As part of this transition, the funding model included a number of elements to help smooth the transition from a dispensing-focused model to a more service-focused model. This included transitional payments over two years to help community pharmacists transition their businesses to a more service-based role, and calculators and tools to help pharmacists determine their revenue figures under different stages of the transition. The contract noted these payments "recognise(s)

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<sup>11</sup> Kinsey et al (2016) Funding for change: New Zealand pharmacists' views on, and experiences of, the community pharmacy services agreement

<sup>12</sup> *ibid*

pressures in relation to the engagement with local Primary Care Networks, implementing new working practices and staff training to support new services”<sup>13</sup>.

## **Retail activity impacted by COVID-19**

Several stakeholders also highlighted the reliance of community pharmacies on retail sales to maintain their financial viability and act as cross-subsidies to enable the delivery of services to the community that would otherwise be too costly. This was significantly impacted by COVID-19, which resulted in a sharp decline in retail sales in the months during and following lockdowns, which in turn had major financial impacts on many community pharmacies.

### **2.3.4 Innovation occurs around NZ, but tends to be small scale**

In our discussions with stakeholders there were cases of innovation highlighted across NZ, but a common theme was that these tended to be pilot or small scale innovations, dependent on particular individuals in DHBs and pharmacy, and were scattered in spots across the country with very few scaling up to a national level.

Several stakeholders noted the challenges that arise from the large number of DHBs, each of which has its own priorities and method of working. This creates additional contracting and co-ordination costs and inhibits dispersion of innovation.

### **Examples of specific innovations depend largely on the pharmacist**

Examples of some cited innovations included:

- hub-and-spoke models between a central community pharmacy which dispensed to aged care centres, prisons and/or other community pharmacies
- community pharmacy acting as a triage service for other parts of the healthcare sector
- offering medicines use reviews and medication therapy assessment services, where pharmacists review and optimise the medications prescribed and their use by the patient
- mental health screening and addiction programs such as clozapine and methadone programs
- increased use of Pharmacy Accuracy Checking Technicians (PACTs) to free time of community pharmacists from dispensing, and allowing them to provide more clinical services
- clinical pharmacists whose focus is on engaging with patients and providing services instead of dispensing.

Some other potential innovations were also raised by stakeholders, but these would need a more thorough investigation (and would likely require reconsideration of the funding model) before being meaningfully implementable. This included:

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<sup>13</sup> National Health Service (2020) The Community Pharmacy Contractual Framework for 2019/20 to 2023/24

- taking pharmacists beyond the four walls of the pharmacy and into the community, with mobile pharmacy and medications
- enrolling patients to pharmacies for services (as part of a broader integrated system)
- centralised dispensing for complicated and expensive medicines
- prescribing pharmacists for a constrained set of medicines.

### **Robots are here but are not having an impact**

More broadly, technological innovation such as robotic and automated dispensing has been introduced in several NZ pharmacies, but has not yet achieved widespread adoption across the sector (likely due to high upfront costs and a lack of scale in pharmacy distribution). While the impact of widespread adoption would be unclear, there are examples internationally of robotic dispensing freeing community pharmacists from dispensing, which in turn allowed them to focus their attention on patient care and clinical services.<sup>14</sup>

### **2.3.5 There are a variety of service innovations in community pharmacy internationally**

There are examples of several innovations occurring in community pharmacy internationally. We need to be careful of interpretation since, in each country, the community pharmacy sector will differ across jurisdictions based on market, policy, historical and cultural factors. The core health sector role is, however, mature and stable.

As in NZ, community pharmacists around the world are increasingly functioning as care extenders to counter primary care provider shortages with a focus on addressing the substantial problems and associated costs due to the inappropriate use of medication. For the purposes of this review, we have considered service innovations from the UK, Canada and Australia. The international examples below illustrate how NZ pharmacy service offerings could continue to evolve in a more systematic fashion. Many of these initiatives are already offered to some degree in New Zealand, but not in a systematic manner at scale across whole populations.

#### **Enhanced medicines use reviews (MURs) <sup>15</sup>**

The Leicestershire Pharmacy Federation recently started a collaboration with secondary care to develop an enhanced Medicines Use Review (MUR) program for people with Inflammatory Bowel Disease (IBD). One of the greatest expense contributors in the treatment of patients with Crohn's Disease or ulcerative colitis is the disease progression following flare-ups which require emergency interventions from secondary care. These flare-ups are usually due to medicine non-adherence which this service aims to reduce.

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<sup>14</sup> Cadham Pharmacy in Scotland is a notable example: <https://www.positive-solutions.co.uk/2017/06/21/delivering-enhanced-patient-care-cadham-pharmacy-health-centre/>

<sup>15</sup> Based on a summary from Quay (2018) Innovation in community pharmacy services in the UK, available at: <https://www.pharmaceutical-journal.com/opinion/blogs/innovative-community-pharmacy-services-in-the-uk/20204819.blog?firstPass=false>



The programme builds on the basic principles of the existing MUR framework with pharmacists initially supporting the patient in gaining a deeper understanding of the condition and how to optimise their medicines regime. Patients are then enrolled onto a support program with online assistance and 24-hour care line access to specialist IBD and Crohn's nurses for up to twelve months. As we all know, adherence is a major issue not only for people with IBD but almost all patients with long-term conditions so this is definitely a key area for community pharmacists to add value to patient care and integrate our profession into a multidisciplinary approach to good clinical practice.

### **International normalised ratio (INR) testing<sup>16</sup>**

This service of monitoring patients' INR and adjusting warfarin doses by pharmacists has been in motion for several years, being carried out by the Day Lewis pharmacy, commissioned by hospitals in South London. Researches are now seeing more and more evidence of enhanced patient outcomes and satisfaction as a result of this pharmacy-led service. Tests are carried out on the spot in the pharmacy. Patients can wait for the results and be advised of dose adjustments if necessary. This service also includes household visits for housebound patients. With growing evidence in support of its effectiveness, this is a service bound to grow exponentially soon.

### **Sore throat testing<sup>17</sup>**

Another pharmacy service which has been piloted by several independent pharmacies and pharmacy chains is the sore throat test. More than a million patients visit their doctors because of sore throats which may or may not be caused by bacterial infections. In an effort to reduce the burden on GPs and contribute towards antimicrobial stewardship, pharmacists are now carrying out throat swab tests for Streptococcus A, a common bacterium associated with sore throats. Patients are then prescribed antibiotics if appropriate.

This initiative also allows pharmacists a chance to identify cases that require further medical attention such as laryngitis, tonsillitis or glandular fever. While there are many obvious benefits to the service, such as helping avoid any unnecessary visits to the GP and inappropriate antibiotic prescribing, it has received mixed reviews as there is a lack of cost-effectiveness analyses and some say that this service does not really go beyond normal care.

### **Minor ailment service (MAS)**

Community pharmacies in the UK offer a minor ailment service, where community pharmacies offer free advice, treatment and referral to patients for a pre-defined list of minor ailments. This includes (but is not limited to) ailments such as acne, allergies, headaches, diarrhoea, coughs and hay fever.<sup>18</sup>

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<sup>16</sup> ibid

<sup>17</sup> ibid

<sup>18</sup> Based on <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2017/03/nhs-minor-ailment-service-local-pharmacy/documents/00515251-pdf/00515251-pdf/govscot%3Adocument/00515251.pdf>

To be eligible for the service the patient must register with a pharmacy and provide some basic information. The MAS helps promote patient self-care for minor ailments, and redirects them from consultations with GPs or ED. MAS are also used in Canada and Australia, with a recent study in Australia estimating that MAS added 0.003 QALYs at an incremental cost of \$7.14 when compared to usual pharmacist care.<sup>19</sup>

### **Pharmacist Clinic<sup>20</sup>**

The University of British Columbia Pharmacist Clinic is a university-owned, pharmacist-led patient care clinic, that does not dispense or supply medicines; instead, pharmacists provide patients with consultations free-of-charge, which last for up to an hour, in order to review and help manage their medicines. The clinic is co-located with a physician's clinic to enable joint consultations to occur if required. While at the clinic, each patient receives a full assessment, including family history, medicines, natural products and immunisations. The clinic also has a follow-up service with the patient and care team to ensure the agreed upon plan is properly implemented.

While it is not technically a community pharmacy, it provides a training and testing ground for the role of pharmacists in a more consultation and service-focused system. The clinic is financed through several channels, which differ from typical community pharmacies:

- salaries for clinic staff are paid by the university and consultations with patients are partly paid for by the government
- pharmacists charge the provincial government for medication reviews, as well as receiving remuneration from public or private insurance plans
- services such as vaccinations also bring in some revenue.

## **2.4 Assessment of community pharmacy – sector level**

We consider the role which community pharmacy plays in the broader primary healthcare system, and how effective this model and the community pharmacy sector are at delivering services and improving population health.

### **2.4.1 Vision and clarity of roles and responsibilities across primary care are needed**

In the assessment of the business-level of community pharmacy, stakeholders felt that the current business and funding model (and the incentives they create) have meant that the community pharmacy sector has been only marginally successful in driving improved equity of outcomes, as the pursuit of improving community outcomes often comes at significant cost to the individual pharmacy. Greater integration of healthcare services represents a potential model of care that allows for the

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<sup>19</sup> Dineen-Griffin et al (2020) Cost utility of a pharmacist-led minor ailment service compared with usual pharmacist care

<sup>20</sup> See <http://www.vancouversun.com/health/future+pharmacy+arrives+early/9785404/story.html>

provision of a more comprehensive health service, that would more efficiently allocate resources, leverage knowledge and drive more equitable outcomes in areas that are currently underserved.

Both the Health and Disability Systems Review and the majority of stakeholders identified an integrated primary healthcare system, where all different parts of primary care including community pharmacies, GPs, physiotherapists, allied health etc...) all work in collaboration as a single cohesive system, and “no door is a wrong door”, as the future of primary healthcare. However, to date, there has been limited success in realising this transition.

## **Cultural differences between health professionals**

It is clear from conversations with many stakeholders that there has been little success in a movement towards an integrated approach across the different parts of the primary care sector. Part of this is cultural – many stakeholders spoke about how the different parts of the primary care sector remain very siloed, and that in many cases, pharmacists and GPs are often in direct conflict and competition with each other, engaging in patch protection to preserve their current standing. One stakeholder commented that in many ways, community pharmacies often innovate in ways that are focused on increasing their range of offerings to include things that other parts of the primary healthcare system can perform, rather than seeking to fill a gap in the existing system.

## **The funding model inhibits integration**

The current funding model for community pharmacy (as well as for GP) also creates challenges for a movement towards greater integration. A more integrated approach to healthcare requires a greater deal of collaboration and consultation to determine an optimal approach for each patient’s care, which takes time that could otherwise be spent on revenue generation.

If the current business model does not reward these types of activities, they are activities that are positive for patients but are ultimately costly for the business. As a result, integrated activities remain highly variable across some community pharmacies and other parts of the primary healthcare sector.

## **A need for an articulated vision**

The lack of an articulated vision and meaningful framework for an integrated healthcare system means that small improvements towards integration between community pharmacy and other parts of the primary care sector will remain inconsistent and heavily dependent on the existing relationships between businesses. This is not a sustainable or efficient way to improve integration across the primary care sector, as ultimately, there is little incentive for businesses to participate in a more integrated approach, and the result has been inconsistent levels of integration across the sector.

A vision needs to be clearly articulated that identifies which functions of the primary care system are best provided by which part of the system, and funding then needs to follow that correctly aligns the incentives of the individual agents with the desired outcomes of the broader integrated health system. This could represent a significant departure from the current business model for several different parts of the healthcare system, as well as a willingness for different sectors to discuss and agree upon the activities that they should or should not be doing.

## 2.4.2 There are also several practical barriers to integration

Beyond the need for a clear and articulated vision for an integrated primary healthcare system, stakeholders also raised several other challenges that constrain the movement towards a more integrated approach for community pharmacy. These include:

- **Data and information technology limitations** that prevent smooth sharing of patient information across the healthcare sector – one stakeholder noted that the current system does not “close the loop” on patient information, and so they do not really know what happens to patients after they are referred to other parts of the healthcare system. Other stakeholders also noted that much of the technology used by the community pharmacy sector is dated and not taking advantage of modern advances in technology, preventing real-time access to patient data and population health trends.
- Need to **break down cultural barriers between professions** in primary care which results in different parts of the health care sector pursuing their priorities individually, rather than as a collective team
- **Community pharmacy still often does not often have a “voice at the table”** – while the sector often assists DHBs from a service offering perspective, they are not always part of the broader discussions on how to solve local health problems
- Some stakeholders raised the issue of a **lack of trust between DHBs and the community pharmacy sector** that limits the ability to have a more nuanced and sophisticated discussion on how best to address each DHB’s specific challenges

There will not be one single solution that will address all these issues, and it will likely be an incremental process for these changes to occur. However, steps will need to be taken to begin to address these barriers for an integrated primary care system to emerge.

## 2.4.3 Different segments of the community pharmacy sector should serve different functions

Segmentation is likely to occur in the pharmacy sector, and these segments may fulfil different (but complementary) functions in the broader healthcare system. The economics that underpin the business model for retail pharmacy groups and local community pharmacies are fundamentally different, and the sector would be wise to try and take advantage of the different strengths that these two segments offer to help improve access and outcomes for communities across NZ.

### Economies of scale for retail pharmacy groups

Retail pharmacy groups have significant advantages borne from economies of scale, which allows them to provide access to a wide variety of medications at lower prices. However, the scale of these businesses is not only advantageous for pricing, but also allows for coordination of services and products across each of their locations. This means that these businesses can have a more streamlined and coordinated approach to the rollout of any services or products that are aimed at these population groups. They also enjoy a potentially larger pharmacist workforce by the nature of their

centralised processes, meaning they could have more pharmacists available to provide a wider range of services.

### **Community pharmacies embedded in a community**

In contrast, local community pharmacies offer benefits as they (and the pharmacists who work in them) are more firmly embedded into a local community, as well as being more flexible in being able to respond and adapt to provide the services that are specifically demanded in a particular community.

As many of these activities may be small scale, they would not be services that would necessarily be provided by larger retail pharmacy groups. This would include the management of long-term chronic (LTC) illnesses, where patients return to the pharmacy regularly for ongoing treatment, and other types of treatment that involve more hands-on patient management, particularly in rural and regional areas where large retail pharmacies may not be located. Notably, many local community pharmacies (especially in rural and regional areas) may only have a small number of pharmacists, which may be an advantage for services such as management of LTC illnesses, as patients are likely interacting and seeing the same pharmacist for each visit.

It is possible that the dispensary range of these community pharmacies would be reduced, only requiring them to hold the most common medications, and they work alongside a centralised dispensary which would more efficiently dispense lower volume, high cost medications in a hub-and-spoke model.

There is reason to believe both types of community pharmacy can be sustainable and viable. Research on consumer loyalty to pharmacies in Australia found that marketing on price may attract patients to community pharmacies, yet loyalty was more influenced by consumers' perceptions of quality - that the pharmacy was a pleasant environment with highly competent staff who communicate well and help with the purchase of medicines.<sup>21</sup>

#### **2.4.4 Meso-level organisations would be beneficial for the community pharmacy sector to help strategise, plan and coordinate**

The community pharmacy sector is represented by important organisations such as the Pharmacy Guild of NZ and the Pharmaceutical Society of NZ. However, these are national organisations with a view on the major issues facing the whole of the sector. Not all challenges and opportunities facing community pharmacies are necessarily best addressed at a national level.

Community pharmacies in some regions have developed and formed representative organisations such as the Canterbury Community Pharmacy Group (CCPG) and Midlands Community Pharmacy Group (MCPG), which act as advocacy, strategic and coordinating bodies for their members. These

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<sup>21</sup> Carter et al (2018) Consumer Loyalty to Community Pharmacies: Perceived Service Quality versus Price-Competitiveness.

organisations undertake a range of activities, including seeking out opportunities and service contracts, organising and providing training and planning to pharmacists, collecting data and research and preparing submissions on relevant issues. Many of these functions would be more difficult for individual community pharmacies to undertake but can be more efficiently performed by these representative bodies.

The representative bodies also allow for a more coordinated and cohesive approach for DHBs to engage with the community pharmacies in their regions. Currently, DHBs typically tender to individual community pharmacies for locally commissioned services (LCS) to help target specific population health outcomes as desired by the DHB. While this approach has had some success in improving DHB outcomes, a whole-of-DHB approach can be difficult to implement, since it requires DHBs to develop separate contracts with each of the individual pharmacies. Compared to this scenario, the MCPG describes their situation as one where they develop business cases for services their members can offer to DHBs (or the DHB contacts them to develop a service offering), and then upon agreement on terms and a contract, the MCPG prepares the necessary training and works with their members to roll out these services to the community. This coordinated approach thus reduces the costs for local community pharmacies and DHBs alike to work collectively to deliver a range of services in a more strategic fashion to realise better population health outcomes (see case study on the following page).

**Case Study: Midland Community Pharmacy Group**

Midland Community Pharmacy Group (MidCPG) is a not-for-profit charitable trust with a membership of approximately 115 pharmacies from across the Midland Region (Waikato, Lakes and Tairāwhiti). MidCPG has developed a suite of services that are delivered in various localities in the Midland Region under contract with DHBs in the region. The range of services, prices and volumes over a recent 12-month period are detailed in the table below:

<b>Service</b>	<b>DHB</b>	<b>Unit price</b>	<b>Approximate volumes for 12 months to 30.06.20</b>
<b>Emergency Contraception Pill ECP</b>	Waikato and Lakes	\$24.33	4,230
<b>Smoking Cessation Initial Counselling</b>	Waikato, Lakes and Tairāwhiti	Initial consult \$30 Referral to Stop Smoking Partner \$15 NRT items \$4.35 per item (max of three)	655
<b>SSRI Education and Support</b>	Waikato	\$50	1,180
<b>Oral Anti-Coagulant Counselling</b>	Waikato, Lakes and Tairāwhiti	\$50	540
<b>Medicine Use Review</b>	Lakes	\$150	130
<b>Pre-Medication Oversight Medicines Assessments</b>	Waikato	\$60	75
<b>TDaP Immunisation for Pregnant Women</b>	Waikato and Lakes	\$49.75	1,020
<b>Sore Throat Swabbing</b>	Waikato	Throat Swab \$20 Antibiotics Education Fee \$5	650
<b>Methotrexate Education</b>	Waikato	\$50	90
<b>Childhood Asthma Management</b>	Waikato	3-month follow up \$15 6-month follow up \$15	
<b>Gout Management Service</b>	Waikato and Lakes	\$50	375

### 3. Potential change options

There is unlikely to be a single solution that will be able to adequately address every one of the challenges facing the community pharmacy sector. There are some major trends in play that will have impacts on the community pharmacy sector and what it should do going forward.

A general movement towards greater integration across primary care is identified as a priority by the Health and Disability Review, and increasingly recognised as the future direction of primary care systems across the world. This means that many of the issues and solutions discussed may not strictly exist within the realm of community pharmacy alone and will likely include actions and levers in other parts of the health system, occurring alongside changes in the community pharmacy sector.

Some issues identified to us by stakeholders are more important than others. For example, challenges facing the community pharmacy sector in terms of sustainability of the pharmacist workforce and sustainable long-term funding for pharmacy businesses are major issues, as it is impossible for the sector to maximise its contribution to the healthcare sector if it is unable to operate in a sustainable fashion. A balance needs to exist that allows for pharmacists to be properly remunerated and satisfied, pharmacies to be profitable and for the sector to work in a way that helps drive improvements to equitable health outcomes.

Timeframes for issues are also important – priority should be given to issues which require immediate attention, where the issues act as barriers to the proper sustainable functioning of the rest of the community pharmacy sector and as an extension, the primary healthcare system. In the following section, we explore the considerations for change options at each level.

#### 3.1 Considerations for pharmacist-level change options

Numerous stakeholders highlighted growing discontent amongst the community pharmacist workforce, driven both by perceptions of lagging wages, dissatisfaction with roles and responsibilities and an unclear future for the profession. These concerns (which have also been reported in other jurisdictions, such as Australia<sup>22</sup>) were most common amongst younger pharmacists, to the extent that stakeholders have cited some young pharmacists leaving the profession to pursue other careers. While we are aware of the Wage Cost Pressures Review that is currently taking place alongside this project, issues beyond remuneration should also be considered to address pharmacist concerns.

Equity of health outcomes are an aspiration sought after by the NZ Government, and it is important to identify what community pharmacists can do to rise to the challenge. There is a need to think about how we train and prepare community pharmacists who serve vulnerable populations, such as pharmacists that serve Māori and Pasifika patients and rural and regional pharmacists. These pharmacists are often faced with situations where more tailored skills or models of care are required, and consideration should be given into developing more formal or specialist training to enable these pharmacists to succeed. Representation from these communities is also important, and actions should

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<sup>22</sup> Australian Journal of Pharmacy (2019) Community pharmacy suffering as pharmacists leave, available at: <https://ajp.com.au/news/community-pharmacy-suffering-as-pharmacists-leave/>



be encouraged to involve Māori, Pasifika and rural and regional pharmacists to develop models of care that work for their communities.

The changes that would be required to rectify these issues also need to consider the broader context of changes that might occur at the business and sectors levels. A movement towards a more integrated primary care system, and a redefinition of the role of community pharmacy in this system would have major implications for the roles and responsibilities undertaken by community pharmacists, as well as the skills and training they would need to add value across the healthcare system. For example, community pharmacists could provide reviews of hospital discharge prescriptions as a means of supporting secondary and tertiary healthcare sectors to reduce drug-related problems.<sup>23</sup> – in an Australian study, 12% of a sample of emergency department re-representations were found to be a result of medication related problems.<sup>24</sup>

In light of changes that could also occur at the business and sector levels, potential change options at the pharmacist-level should focus on addressing the issues that could threaten the sustainability of the future workforce, as well as efforts to prepare pharmacists for a transition towards a more service-focused role.

Potential change options at the pharmacist-level include:

- Review the efficacy of the current training and support regime for pharmacists and how this might need to change with a transition to more clinical services
- Undertake a review of pharmacist workforce trends and identify key challenges to address
- Review the potential career trajectories for young pharmacists and consider what this future trajectory may be
- Develop specialist training pathways for community pharmacists for Māori, Pasifika and rural and regional practice.

## **3.2 Consideration for business-level change options**

Our review highlighted several innovations in services being offered by community pharmacies across NZ and internationally, and while many of them would add value to communities, it is not clear that community pharmacies would offer these services under the current funding model. Many stakeholders commented that the current funding model still heavily incentivises volume dispensing for financial viability, and that even though clinical services are sometimes compensated, the opportunity cost of the time involved in providing them can be substantial.

To this end, a review of the funding model going forward should be considered a priority, as the current model which splits funding for dispensing and services, has not achieved the desired outcomes as originally planned. This should include consideration for how this funding model will incentivise outreach activities to bring services to communities who may not step inside a pharmacy's

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<sup>23</sup> Braund et al (2014) Drug related problems identified by community pharmacists on hospital discharge prescriptions in New Zealand

<sup>24</sup> Whitaker (2019) What Proportion of Unplanned Re-Presentations to an Emergency Department Are Medication Related and Preventable?

doors. Thought should also be given to how this funding model should accommodate the emergence of two segments of the community pharmacy sector, retail pharmacy groups and local community pharmacies, to allow both segments to leverage their complementary strengths.

Furthermore, the Health and Disability Review proposes the planning of population health around localities, which are geographically defined areas with a population between 20,000 and 100,000 people. DHBs would be responsible for ensuring the mix of primary care services in each locality reflects the characteristics of the community, are culturally safe and improve access for consumers and whanau. A new funding model would need to be able to accommodate the variety and place-based focus of this approach.

Against the challenges of sustainable funding, additional services to be provided by community pharmacies should be considered from a pragmatic perspective, with a view towards services that are not overly costly to provide or can be readily remunerated in some way, as these will be the most likely services to be offered more broadly. Minor ailment services, seen in the UK, Canada and Australia, represent one such service, as with proper implementation, they represent a relatively simple fee-for-service offering that can help alleviate demand on other parts of the healthcare sector.

While the changes at a business-level will be influenced by sector level changes, and particularly a movement towards integration, it is likely that the future model of care in primary healthcare will place community pharmacies with a key role in medicines optimisation. As such, where the capacity exists, community pharmacies should be encouraged to develop their medicines optimisation capability and services, as these will likely align with their future service offerings.

Potential change options at the business-level include:

- Review the community pharmacy funding model, including consideration for the different incentives for retail pharmacy groups and local community pharmacies
- Review funding and models of care for outreach programs to vulnerable populations
- Develop a model for rollout of minor ailment services across community pharmacies
- Develop a model of care for community pharmacy focused on medicines optimisation.

### **3.3 Considerations for sector-level change options**

The Health and Disability Review champions a movement towards a more integrated primary care system, where patients experience a seamless journey across the healthcare system. However, while this idea has been discussed at large, progress towards this ideal has been slow and piecemeal, lacking a more strategic approach needed for such a major transformation. Stakeholders widely acknowledged that many parts of the healthcare system remained siloed, with limited collaboration and coordination amongst the different sectors, and this would have to change towards a more collaborative approach to population health. Leadership is needed that brings together the many parts of the healthcare system together and bring them towards a common purpose.

In order for meaningful integration to take place there needs to be a consensus on what a fully integrated healthcare system looks like, and the roles that each sector plays in that integrated system. These roles should play to the strengths of the different parts of the healthcare sector, with a focus on getting patients the right treatment in an efficient a manner as possible. For the community pharmacy

sector this could include the provision and optimisation of medicines across the healthcare sector, as well as taking advantage of the prevalence of community pharmacies across the country to act as a first point of contact and source of triage for the healthcare system.

There would also be a number of challenges to overcome to realise a fully integrated system. The importance of data sharing and information gathering across the system would likely require significant investment into technology to develop and implement a system that works for the different needs of the different sectors. Real-time data would be critical for allowing greater regional coordination and strategic planning to better track trends and outcomes for different populations across the community, which would be a function that could be provided by meso-level organisations.

Consideration will need to be given on how to encourage community pharmacy to transition towards a more integrated system. In the UK Community Pharmacy Contractual Framework for 2019/20 to 2023/24, the Pharmacy Integration Funding allocates funding to a number of initiatives aimed at providing “opportunities for pharmacy teams to spend more time delivering safe and effective clinical services and health improvement for their patients; work in a variety of NHS settings as part of an integrated local primary care team; and to be supported by improved technology.”<sup>25</sup> A similar program for NZ could be an option.

Potential change options at this level include:

- Develop a strategy for moving towards a more integrated primary healthcare sector, including development of a sector strategy that articulates the role of community pharmacy in an integrated healthcare system and the actions needed for integration
- Establish an organisation to act as a coordinator and champion integration across the primary healthcare sector
- Invest in technology and IT to address gaps that currently constrain a more integrated system
- Consider establishing funding to assist community pharmacies to move to a more integrated business model
- Establish meso-level organisations across the community pharmacy sector in NZ.

### **3.4 There is a need for an analytical framework for evaluating potential Service Re-Design**

As outlined in Section 2 of this report, analysis of future community service models will need to be considered through the lenses of the three levels of community pharmacy (Pharmacist-level, Business-level and Sector-level). This will be important to enable analysis of the options in the context of the policy and business environment within which community pharmacy operates and to also identify the most the appropriate mechanisms for achieving the outcomes sought by future changes to the community pharmacy service model. It also recognises that

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<sup>25</sup> From NHS (2020), available at: <https://www.england.nhs.uk/primary-care/pharmacy/pharmacy-integration-fund/>

Issues such as equity of outcome and integration of services do not exist in isolation of the other challenges facing the community pharmacy sector and attempts to improve these outcomes have largely been unsuccessful to date as they have been treated as isolated issues. Instead, changes and initiatives to improve these and other health outcomes need to instead come from the alignment of the broader policy objectives with the incentives that guide the decision makers of the community pharmacy sector, businesses and pharmacists, such that the different agents in the system act collaboratively and in a complementary fashion.

It was evident from the analysis undertaken for the preparation of this report that the mechanisms for driving future change to community pharmacy service models are likely to require a multi-dimensional approach across the three levels of the community pharmacy sector. Given this, there is a need to develop and agree an evaluation framework that can be applied for the next stages of the Service Model and Funding Review.

The key elements of this framework will need to include the following.

## **1. Consider issues at all three levels of community pharmacy...**

There are different issues facing the three levels of community pharmacy, and it is important to understand the sources of the issues that underpin these challenges and how it affects the behaviour and decision making of pharmacists, businesses and the sector as whole. Issues facing the different levels may often come into conflict with other, which is not necessarily an issue, but in such cases, we need to consider which potential changes will address issues in a way that best creates alignment across levels and ensures each level incentivises agents at each level to work collectively towards improving health outcomes.

## **2. ...in the context of the policy and business environment...**

Each of the issues at the three levels needs to be understood and informed by analysis of the current and future policy and business environment both governing and influencing the community pharmacy sector including:

- *Sector trends* – analysis of the key trends in the community pharmacy sector and a more granular analysis of how these are impacting and may influence outcomes into the future. Examples of these highlighted in this stage of the review included the funding of new medicines, pharmacy workforce pressures (both composition and remuneration) and the emerging clinical approaches and models of care being offered in a number of regions.
- *Market dynamics* – analysis of the economic dynamics within the community pharmacy sector and how these are influencing the evolution of the sector (both now and into the future). This will include preparing a more detailed analysis of the current structure of the community pharmacy market (i.e., number of players, market shares, supply chains relationships etc), levels of investment and barriers to entry (competition dynamics). This will be particularly important for considering the overall structure of the community pharmacy market and market segmentation which may be relevant for the design of options for the Service Re-Design.

- *Legal and regulatory framework* – mapping the legal and regulatory framework and governance arrangements for community pharmacy and how this is influencing the current market structure and outcomes. In particular, this will be important for identifying the potential change options and/or impediments to Service Re-design including both from a clinical care perspective and also the market structure (including competition policy).
- *Strategic health policy* – analysis of the broader objectives of the NZ Government’s strategic health policy and the role that community pharmacy sector plays in achieving these objectives. This includes objectives with both specific focus (e.g. improving equity of outcome) and broader focus (e.g. improving population health across NZ) and should consider policy objectives at regional, DHB and national levels. Strategic health policy objectives articulate the changes needed to realise a desired future state, and a Service Re-design should work to address as many of these objectives as possible.

### **3. ...then determine the appropriate mechanisms for driving change**

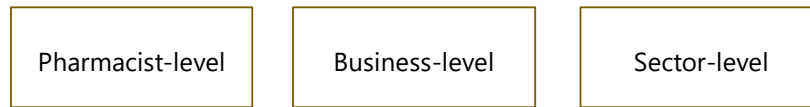
Following the identification of the issues and the broader context that surrounds them, we need to design the parameters of mechanisms that could appropriately be applied for driving change to future community pharmacy service models to realise the desired health outcomes. We have identified four mechanism for how this can be achieved:

- *Market structure* – Changes to the market structure and the role of community pharmacy within the broader primary healthcare sector, including consideration of the activities that the sector should offer (or should not offer) in alignment with the broader strategy for the primary healthcare sector. For example, the approach to Service Re-design could potentially consider a more tailored approach to the structure of the community pharmacy market (i.e., differentiating between urban and rural) and removal of potential impediments to achieving greater scale economies.
- *Commercial/funding arrangements* – Changes to the funding model that underpins how community pharmacies receive remuneration for their activities as defined a given market structure. For example, this could expand on services under the current funding model splitting funding for dispensing and services, or could introduce additional funding for activities aimed at improving integration such as funding for community pharmacy to act in a formal triage role for primary healthcare.
- *Clinical service delivery model* -Changes to the service delivery model which determines how community pharmacy provide their services to patients. This could include the incorporation of different models of care for the range of services that community pharmacies offer, including models of care tailored to reflect the needs of local communities.
- *Workforce strategy* – Changes to the approach to workforce planning and development, including pharmacist training, remuneration and work-life balance and strategic coordination of pharmacists.

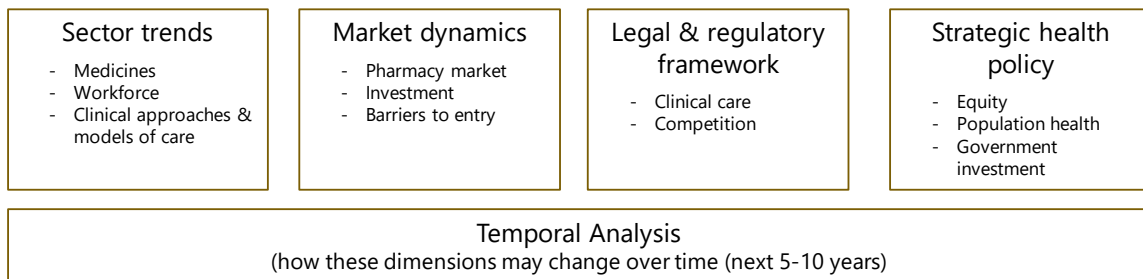
A summary of this framework is illustrated in Figure 3 below.

Figure 2 Framework for evaluating potential service re-design

**1. Consider issues at all three levels of community pharmacy...**



**2. ...in the context of the policy and business environment...**



**3. ...then determine the appropriate mechanisms for driving change**

1. Market structure
2. Commercial/funding arrangements
3. Clinical service delivery model
4. Workforce strategy

Table 2 summarises some of the relevant considerations at each level to arrive at change options at each level of community pharmacy, using the above framework.

Table 2 Considerations for determining change options for a Service Redesign

Level	Pharmacy	Business	Sector
<b>Issues to address</b>	<ul style="list-style-type: none"> <li>Workforce dissatisfaction with remuneration, work-life balance, stress, career trajectory</li> <li>Sustainability of future workforce</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability of business model</li> <li>Alignment of activities with desired population health outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Transition towards a primary healthcare model that improves population health outcomes, including improved equity of outcome</li> </ul>
<b>Sector trends</b>	<ul style="list-style-type: none"> <li>Skills and remuneration should align with the role that community pharmacists serve and not just dispensing</li> <li>Community pharmacists are trained to provide the full range of services that take advantage of their specialist skillset</li> <li>Community pharmacists have a clear career trajectory under the integrated healthcare model</li> </ul>	<ul style="list-style-type: none"> <li>Funding model needs to encourage integration activities</li> <li>Funding model should align with activities that are best served by community pharmacy in an integrated model, such as medicines optimisation, minor ailment service and medicine use reviews, as well as dispensing</li> <li>Funding model needs to allow for innovation and flexibility to enable pharmacies to service local needs</li> <li>Community pharmacy business models need to meet expectations of community pharmacists and enable their retention</li> </ul>	<ul style="list-style-type: none"> <li>Integrated healthcare model should have a vision and clearly articulate the role of community pharmacy under this vision</li> <li>Community pharmacies need to be financially viable under the integrated system</li> <li>Role of pharmacist under an integrated system needs to meet pharmacist expectations and desires</li> <li>Need to overcome barriers to transition towards an integrated healthcare system</li> <li>Need to coordinate community pharmacies to better provide services</li> </ul>
<b>Market dynamics</b>	<ul style="list-style-type: none"> <li>Potential segmentation of community pharmacy sector could impact the skills demanded from pharmacists by different segments of the market</li> </ul>	<ul style="list-style-type: none"> <li>Need to consider sustainable future business models for both large retail pharmacy groups and local community pharmacies</li> </ul>	<ul style="list-style-type: none"> <li>Need to consider how to both large retail pharmacy groups and local community pharmacies can complement each other to improve health outcomes</li> </ul>
<b>Legal and regulatory framework</b>	<ul style="list-style-type: none"> <li>Potential changes to rules for prescribing following implementation of Therapeutic Products Bill could change prescribing model</li> </ul>	<ul style="list-style-type: none"> <li>Need to consider any competition implications of entry of large retail pharmacy groups into the sector</li> <li>Potential changes to rules for prescribing following implementation of Therapeutic Products Bill could result in new services</li> </ul>	<ul style="list-style-type: none"> <li>Need to consider regulatory implications and requirements of a more integrated system, including competition impacts across sectors</li> </ul>

<p><b>Strategic health policy</b></p>	<ul style="list-style-type: none"> <li>• Need for greater representation amongst pharmacists and skills to provide culturally appropriate services to improve equity of outcomes</li> <li>• Focus on improving population health outcomes, which will require pharmacists to think more strategically and better understand their local communities</li> </ul>	<ul style="list-style-type: none"> <li>• Need to consider potential methods for community pharmacy to improve outreach and provide culturally appropriate services</li> <li>• Focus on improving population health outcomes – need to align incentives for community pharmacies to undertake activities that improve population health outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• More integrated healthcare system should enable elements that can improve equity of outcomes that were not available previously such as collective outreach</li> <li>• Integrated system should enable activities that improve population health outcomes such as data sharing, improved patient intelligence and effective system-wide triage</li> </ul>
<p><b>Change options</b></p>	<ul style="list-style-type: none"> <li>• Review the efficacy of the current training and support regime for pharmacists and how this might need to change with a transition to more clinical services</li> <li>• Undertake a review of pharmacist workforce trends and identify key challenges to address</li> <li>• Review the potential career trajectories for young pharmacists and consider what this future trajectory should be</li> <li>• Development of specialist training pathways for community pharmacists for Māori, Pasifika and rural and regional practice.</li> </ul>	<ul style="list-style-type: none"> <li>• Review the community pharmacy funding model, including consideration for the different incentives for retail pharmacy groups and local community pharmacies</li> <li>• Review funding and models of care for outreach programs to vulnerable populations</li> <li>• Develop a model for rollout of minor ailment services across community pharmacies</li> <li>• Develop a model of care for community pharmacy focused on medicines optimisation.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a strategy for moving towards a more integrated primary healthcare sector, including development of a sector strategy that articulates the role of community pharmacy in an integrated healthcare system and the actions needed for integration</li> <li>• Establish an organisation to act as a coordinator and champion integration across the primary healthcare sector</li> <li>• Invest in technology and IT to address gaps that currently constrain a more integrated system</li> <li>• Consider establishing funding to assist community pharmacies to move to a more integrated business model</li> <li>• Establish meso-level organisations across the community pharmacy sector in NZ.</li> </ul>



## Appendix A Terms of Reference

The Independent Review of Community Pharmacy Services (Stage One) seeks to identify best practice evidence-based services aligned with New Zealand's strategic direction for pharmacy/pharmacist services, including identifying any potential change options for current community pharmacy services.

This will include a review of all previous strategic documents related to the delivery of pharmacy/pharmacist services, the output of any consultations and co-design processes as well as looking at international best practice. The expected output is a think piece that will identify opportunities for improvement and gaps in current knowledge that will need to be addressed in future work.

**INCLUSIONS** - the independent review will seek evidence from previous community pharmacy service and contract reviews, the New Zealand pharmacy sector, wider primary healthcare practice, national and international literature and experience to identify and discuss:

1. Whether the current services are meeting the access and community pharmacy service needs of New Zealanders, and in a consumer-centered, integrated way that addresses inequity of outcomes.
2. Whether current community pharmacy service models help DHBs:
  - a. Identify, understand and address issues of equity in access to community pharmacy services,
  - b. Provide population access to community pharmacy services for all New Zealanders.
  - c. Purchase integrated services to support vulnerable populations – including Māori, Pacific, rural, people aged over 65 years, those living with chronic conditions.
  - d. Provide population-based locally commissioned integrated services within each DHB.
3. Potential changes to current community pharmacy service models that provide more consumer-focused services that:
  - a. Improve health equity and access for Māori and other vulnerable populations.
  - b. Reduce regional inequities.
  - c. Are based on population health approaches.
  - d. Are integrated.
4. How the findings of the following might be relevant to community pharmacy services:
  - a. Health and Disability System Review 2020
  - b. Waitangi Tribunal Health Services and Outcomes Inquiry (WAI 2575) 2019
  - c. COVID-19 impact and lessons
  - d. ICPSA Schedule 1 Review

- e. Ministry of Health Pharmacy Action Plan 2016-20
  - f. DHB strategic visions
5. Commentary on other relevant matters relating to current community pharmacy services, such as:
- a. Sustainability issues for current community pharmacy services
  - b. Lessons from the independent Review of Wage Cost Pressures where available, noting the reviews are being undertaken concurrently
  - c. Quality and competency issues for delivery of services by pharmacists and pharmacy technicians
  - d. Any issues relating to existing legislation or future legislation, for example the Therapeutics Products Bill, and any other professional and regulatory requirements.
  - e. Any other issues identified as relevant to community pharmacy service models.
6. Advice on existing funding frameworks and mechanisms, including advice provided within NAAR since the commencement of the ICPSA on 1 October 2018.

## Appendix B Stakeholder Consultation List

The list below provides a summary of the stakeholders consulted for this project.

<b>Sector</b>	<b>Stakeholder</b>
<b>District Health Boards</b>	Cathy O'Malley, Nelson Marlborough DHB Tim Wood, Waitemata DHB
<b>Policy</b>	<i>Ministry of Health</i> Monique Burrows, Andi Shirtcliffe, Trevor Lloyd and Billy Allan <i>Pharmacy Council</i> Michael Pead <i>Pharmac</i> Sean Dougherty
<b>Representative bodies</b>	<i>Pharmaceutical Society</i> Richard Townley and Chris Jay <i>Pharmacy Guild</i> Andrew Gaudin <i>General Practice New Zealand</i> Liz Stockley and Dr Jeff Lowe <i>Māori Pharmacists Association</i> Kevin Pewhairangi, Mariana Hudson and Nora-Jayne Parore
<b>Pharmacy sector</b>	<i>Green Cross Healthcare</i> Glenn Mills and Trish Farrelly <i>Chemist Warehouse</i> Ravniel Singh and Azman Haroon <i>Countdown Pharmacy</i> Jeremy Armes
<b>Community Pharmacy Groups</b>	<i>Midland Community Pharmacy Group</i> Cath Knapton <i>Canterbury Community Pharmacy Group</i> Dr Aarti Patel

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