Integrated Health Care Framework
for Pharmacists and Doctors

WORKBOOK TOOLKIT
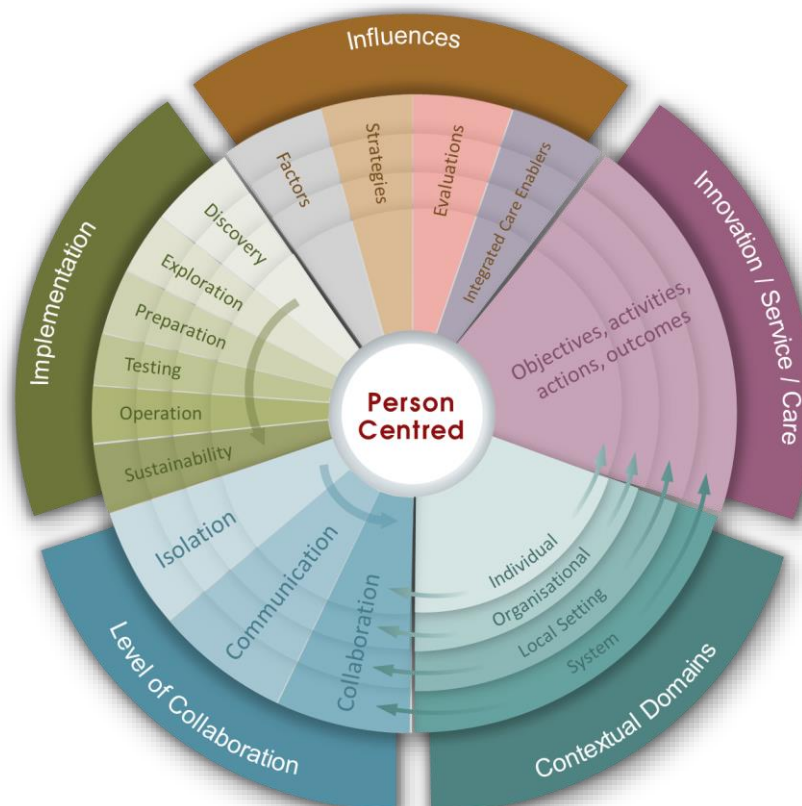
Using this Workbook

This workbook can be used to provide a structure to assist co-development of innovations, services or models of care utilising the PSNZ-NZMA Integrated Health Care Framework for Pharmacists and Doctors.

In the initial stages of developing a new innovation, there are many unknowns:

- I have a rough idea of what I think we need to do, but I'm not sure how to start.
- How do I work out if my idea will actually make any difference and be meaningful to the target patient(s) I have in mind?
- How do I connect everyone who's going to be involved in this service?
- What actually ARE some of the factors that could influence a successful outcome for this?
- What examples of strategies exist to overcome barriers to a successful outcome?
- How am I going to evaluate all this? How do we know if it's working or not?
- How do I know what I'm responsible for and what others in the team are responsible for when delivering this?

The overall intent of the PSNZ-NZMA Framework is to support collaborative development of new innovations and models of care between pharmacists and doctors and all relevant members of a person's healthcare team – and developed so that it is person-centred.

Initial development and thinking in the exploratory stages will be fluid and likely change as the innovation/service or model is shaped. Looking at existing evidence for the service and/or clinical care, then using this to define objectives and roles/responsibilities – before building on this for all aspects of the innovation, considering what would influence the objectives being met, and a successful and sustainable implementation.

This workbook presents a guide to assist consideration of each aspect of the PSNZ-NZMA Framework in the development and implementation of a new innovation/service or model of care. Not all domains may be relevant to the innovation, but they are there for reference when needed.

Appendix 1 provides example data and information from published literature on service development, interprofessional collaboration, person-centred care and implementation science. Use these to inform discussion and development, tailor them to the specific innovation being considered, and supplement with further information from more specific studies, and from what is identified through the collaborative co-development process.

Innovation / Service / Model of Care

DEFINE: objectives, activities, roles, responsibilities, outcomes

What are you trying to do? What are the objectives? What are the intended actions? What are the intended outcomes?

This will influence the aim of the innovation.

What are the potential characteristics of the innovation or service that will define the objectives, methods, activities and outcomes of the service?

NB: Initially collate thoughts, ideas and available information. This will be refined and evolve through a collaborative development process as aims, objectives and factors of importance to various participants further inform the innovation. As will the assessment and application of evidence and standards.

Process:

1. Describe the trigger that signalled the need to consider a new innovation, service, or model of care?
   – This can inform the aim of the innovation
2. Describe an initial viewpoint of the aims and objectives of the innovation
   – NB. this will be refined during the exploration phase of implementation
3. Describe the target population, why the innovation is needed and how they are expected to benefit.
4. Describe all who will be involved in delivering the innovation – they need to be involved in some way in the development.
   – NB: this will be refined during exploration phase.
   – Might include 'participants/patients' in each contextual domain,
   – Initially describe who might do what, what the roles and responsibilities are or could be,
5. Investigate and initially note existing standards of practice, evidence, local / international experience that could inform development and implementation of the innovation
6. Describe some initial factors for integrated person-centred care for the patient that would need to be considered and addressed/managed through the development and implementation process. (Table 1 of Framework document).

Factors to consider:

- Understanding of each other's professional scope(s) of practice, roles and responsibilities – and how they complement each other in the delivery of care, and the *required* scopes/skills/knowledge for the innovation.
- Understanding of where scopes or responsibilities cross – to describe how collaboration between professionals occurs.
  - Eg. a clinical pathway of care from patient self-care, to pharmacist assessment, advice and management, to medical practitioner diagnosis, assessment and management, across other care providers as defined – AND transfer of care/management back from medical care –> to pharmacist –> to patient self-care.
- In a person/whānau-centred model of care, the person/people who are the targeted beneficiaries of the service/innovation are actively involved in the development at all stages.

Notes:

Influences

The '**influences**' are all the:

- **Factors** which can or may influence the objectives of the innovation being successfully achieved,
- **Strategies** to facilitate those that are enablers and address/minimise those that are barriers,
- **Evaluation** measures and processes to monitor successful delivery and implementation, and
- Factors which enable integrated, person-centred care

In the following pages, the influences are described in the context of each '**contextual domain**'. However, they run across ALL aspects of the Framework – sitting in and influencing the stages of **implementation**, influencing **collaboration**, and also in defining the **innovation**. Examples of influences are provided in Appendix 1.

Contextual Domain: **Individual**

Factors

Consider the INDIVIDUALS that will/may have a role in the innovation. This may include:

- The pharmacist(s), doctor(s) and patient(s)
- Pharmacy staff, medical practice/ward/hospital staff, nursing staff
- Carers and support people

Describe the factors of the innovation that would lead to achievement of the defined objectives. What are the enablers, facilitators, and other variables that may influence:

- the innovation or service or model of care – definition, aims, objectives
- degree of integration & 'person-centredness'
- implementation process

Some of the identified factors may begin to describe a strategy for managing barriers and enablers for the innovation's success.

Examples might include: targeted clinical knowledge, communication processes between individuals, shared documentation, how to approach 'target patients', cultural awareness and competence, accessibility, costs, remuneration, training. **Refer to Appendix 1.**

Incorporate the enablers for integrated person-centred care in the context of INDIVIDUALS (Table 1 of the Integrated Health Care Framework)

Who are the individuals directly or indirectly involved, and what factors relate to them?

Identify the person-centred factors to consider.

Identify the barriers and facilitators relating to the individuals that will be involved.

Identify the perspectives, opinions, factors of the individuals that relate to the innovation aims and objectives.

How will information be communicated? How will relevant information be shared across the wider patient-care team?

Notes:

Strategies

What are the strategies that could address barriers and accommodate facilitators/enablers for individuals?

What is the role of the identified individuals in designing and actioning these strategies?

Are there any gaps in the knowledge, skills, and competencies that need to be addressed/achieved?

Refer to Appendix 1.

Notes:

Evaluations

Consider how to evaluate: innovation outcome measures, person-centred care measures, change in enablers/facilitators, progress through the stages of implementation.

Knowing the baseline "status quo" provides a comparison to recognise success.

What evaluations will best measure the factors and strategies, implementation progress and patient/service outcomes?

What does a 'successful outcome' look like for each of the identified INDIVIDUALS – how would we measure/evaluate this? Describe the role of the identified individuals in defining indicators/measures, and in the measurement and evaluation of these.

Examples: successful completion of training programmes, participation in joint-education sessions, patient-feedback/evaluation process implemented, interprofessional team meeting to inform service implementation and delivery defined, implemented.

Notes:

Influences

Contextual Domain: **Organisational**

Factors

Consider the ORGANISATIONS that will/may have a role in the innovation. This may include:

- The pharmacy, medical practice, hospital/hospital ward, Primary Health Organisation (PHO), aged care facility, support agencies

Begin to consider some of the factors of the innovation /service /model of care. What are the enablers, facilitators, and other variables that may influence:

- the innovation or service or model of care
- degree of integration & 'person-centredness'
- implementation process

Enablers for integrated person-centred care in the **ORGANISATIONAL** context (Table 1)

What are the barriers and facilitators within the organisation(s)?

Which organisations will be involved, what are the characteristics of the organisation that must be considered?

What infrastructure will be required?

How will information be communicated?

What funding mechanism is required?

What organisational governance is required?

Does the physical layout and/or workflow need adjusting?

Is there sufficient workforce available to deliver the innovation/service? How will existing practice/workflow/care be affected?

Some of the identified factors may begin to describe a strategy for managing barriers and enablers for the innovation's success.

Notes:

Strategies

What strategies can be put in place to support enablers and overcome barriers for the organisations?

Examples may include: redefining workforce roles to support service delivery, how to consider human resource requirements (eg. leave), identifying a 'champion' within each organisation to drive the innovation/service and to monitor progress/address issues etc. **Refer to Appendix 1.**

Notes:

Evaluations

Consider how to evaluate: innovation outcome measures, patient-centred care measures, change in enablers/facilitators, progress through the stages of implementation.

What evaluations will best measure the factors and strategies, implementation progress and patient/service outcomes?

Knowing the baseline "status quo" provides a comparison to recognise success.

What does a 'successful outcome' look like for the ORGANISATIONS – how would we measure/evaluate this? Describe the role of the identified organisations in defining indicators/measures, and in the measurement and evaluation of these.

Evaluations of strategies, change in factors, implementation progress for organisation(s)

Notes:

Influences

Contextual Domain: **Local Setting**

Factors

Enablers for integrated person-centred care in the Local Setting context (Table 1)

What are the barriers or facilitators of the local setting? What are the characteristics, needs, influences that relate to the local setting? What is the target population and how do local health priorities influence?

Are a number of organisations delivering the innovation /service /model of care? How can development and implementation be supported and experience be shared across organisations?

Is a governance mechanism required at the local level across a number of organisations?

Notes:

Strategies

What strategies can be put in place to accommodate enablers and overcome barriers related to the local setting?

Notes:

Evaluations

Consider how to evaluate: innovation outcome measures, patient-centred care measures, change in enablers/facilitators, progress through the stages of implementation.

What evaluations will best measure the factors and strategies, implementation progress and patient/service outcomes?

Knowing the baseline "status quo" provides a comparison to recognise success.

What does a 'successful outcome' look like for the LOCAL SETTING – how would we measure/evaluate this? Describe the indicators/measures, and the measurement and evaluation of these.

Evaluations of strategies, change in factors, implementation progress related to the local setting factors.

Notes:

Influences

The Patient / Person / Recipient of the Innovation (+/- whanau/family/carers as appropriate)

Factors

Enablers for integrated person-centred care in the System context (Table 1)

What are the barriers or facilitators in each contextual domain level?

Strategies

What strategies can be put in place to accommodate enablers and overcome barriers?

Refer to Appendix 1.

Evaluations

What evaluations will best measure the factors and strategies, implementation progress and patient/service outcomes?

What does a 'successful outcome' look like? How would we measure/evaluate this?

Knowing the baseline "status quo" provides a comparison to recognise success.

Refer to Appendix 1.

Influences

Contextual Domain: **System**

Factors

Enablers for integrated person-centred care in the System context (Table 1)

What are the barriers or facilitators at the system level?

What will be needed from the health system? Is there a supportive funding mechanism? What is the influence of legislation, regulations and/or codes? Are there regulatory barriers to overcome? Does the innovation / service /model of care align with Govt strategy and/or health targets?

Is the innovation /service / model of care being developed across a number of localities? How will development and implementation be supported and experience shared?

What system-level governance mechanism is required?

Begin to consider some of the factors of the innovation /service /model of care. What are the enablers, facilitators, and other variables that may influence:

- the innovation or service or model of care
- degree of integration & 'person-centredness'
- implementation process

(as some factors are identified they may become a strategy itself)

Notes:

Strategies

What strategies can be put in place to accommodate enablers and overcome barriers?

What are the strategies that could address barriers and accommodate facilitators/enablers at the system level?

How can the system provide active and meaningful support?

How will adequate funding be obtained? Will this be sustainable?

Are temporary measures required to accommodate aspects of the innovation / service /model of care during development / testing? What could be a longer-term solution if the innovation is successful? E.g. regulatory changes, unique funding mechanism,

Notes:

Evaluations

What evaluations will best measure the factors and strategies, implementation progress and patient/service outcomes?

What does a 'successful outcome' look like– how would we measure/evaluate this?

Knowing the baseline "status quo" provides a comparison to recognise success.

Evaluations of strategies, change in factors, implementation progress for the system level, or that a system level may want to monitor e.g. Ministry may require measurement and evaluation of specific factors.

Notes:

Level of Collaboration

How well would different levels of pharmacist-doctor collaboration support the principles of integrated person-centred care, and successful development and implementation of the innovation /service /model of care?

Consider the identified collaboration factors, and incorporate as **influences** (barriers/facilitators), **strategies** and **evaluations**, in the development and implementation of the innovation /service / model of care.

Communication Level of Collaboration	Full Collaboration of Care
Would a communication level of collaboration between a pharmacist and doctor be adequate and appropriate for the delivery and/or implementation of the innovation /service /model of care? Can strategies and evaluations further enhance collaboration? Identify the pros and cons of delivery with this level of collaboration – is this acceptable, can gaps be addressed, is a higher level of collaboration mandatory?	What would be the characteristics of a fully collaborative practice between a pharmacist and doctor in the delivery and/or implementation of the innovation /service / model of care? Can strategies and evaluations further enhance collaboration?

Notes:

Strategies

What strategies can be put in place to accommodate enablers and overcome barriers to collaboration?

Notes:

Evaluations

What evaluations will best measure the factors and strategies to improve collaboration?

Knowing the baseline "status quo" provides a comparison to recognise success.

Notes:

Implementation

For each stage of implementation, consider:

How will feedback/information be captured and considered from each contextual domain, during each phase of implementation?

What feedback/information will be required? When will this occur? What processes are available for incorporating into, and refining, the innovation/service? Define the evidence required for each contextual domain, to be satisfied that the innovation is designed and performing at a level that permits full implementation.

How will INFLUENCES that relate to each contextual domain be captured and considered during each phase?

Identify, assess and appraise ALL applicable **factors**, **strategies** and **evaluations** required for the development and implementation of the integrated person-centred innovation /service /model of care **across each contextual domain**.

Consider feasibility and support across each of the contextual domains.

Discovery / Exploration

Research and evaluate existing information that may influence the development and/or implementation of the innovation/service, e.g. clinical evidence, published studies, standards of practice, guidelines and statements, including practices / mechanisms that support integrated person-centred care.

The end of the **exploration** phase will be the decision to adopt or reject the innovation or service. Adoption may be subject to a 'trial' evaluation process.

Individual	
Organisational	
Local Setting	
System	

Notes:

Implementation

Preparation

Following adoption of the innovation/service, prepare to implement the service and strategies.

Plan and implement the strategies required at each contextual level before the testing phase begins.

Use evaluations to adapt and refine service processes and implementation.

Individual	
Organisational	
Local Setting	
System	

Notes:

Implementation

Testing

Conduct initial trial of the innovation/service for a defined period or limited number of individuals.

Key focus of TESTING phase is to evaluate and refine: effect of influences, service objectives are/can be met, effect of strategies, evaluation indicators and processes are appropriate and functioning, identification and accommodation of extra or unforeseen influences. Regular meetings/discussions held between participants to review and refine.

Use evaluations to identify, adapt and refine additional requirements, service processes and implementation.

Define method/process for reviewing the measures and objectives for each contextual level during TESTING that will determine whether the innovation/service is achieving the desired/expected outcomes. At the completion of TESTING, refinements will be complete and the innovation/service will be ready for full implementation.

Individual	
Organisational	
Local Setting	
System	

Notes:

Implementation

Operation

Full provision of the innovation/service is implemented.

Evaluation and monitoring refines service provision and ensures principles of integrated person-centred care are maintained.

Evaluation measures to determine the requirements for sustainable service provision including sustainable resourcing, funding, staffing, patient-centred factors are being achieved, outcomes maintained.

Individual	
Organisational	
Local Setting	
System	

Notes:

Implementation

Sustainability

Continued delivery of the innovation/service, maintaining capacity and support for provision and benefits being demonstrated over an extended period of time.

Service has become routine

Maintain processes of evaluation and continuous quality improvement measures.

Individual	
Organisational	
Local Setting	
System	

Notes:

APPENDIX 1:

Example Influences that may be considered when using the Integrated Health Care Framework for Pharmacists and Doctors

Further specifically applicable influencers, strategies and evaluations should also be researched as part of the service design – Exploration stage of implementation.

For the purposes of the PSNZ-NZMA Framework, the information presented is for your reference, and if used should be redescribed in the context of pharmacists and doctors, pharmacies and medical practices/hospitals etc.

Summaries of key influencers are adapted and/or paraphrased from the following references:

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Innovation / Service / Model of Care

Defining the health innovation, objectives, roles and responsibilities

Consider factors related to the innovation/service:[1]

1. **Source**: Perception of key stakeholders about whether the innovation is externally (for example by a professional body, university, pharmaceutical company, or government) internally (individual pharmacy or pharmacy group) developed.
2. **Evidence strength & quality**: Stakeholders' perceptions of the quality and validity of evidence supporting the belief that the innovation will have the desired outcomes.
3. **Relative advantage**: Stakeholders' perception of the advantage or value of the innovation versus an alternative solution.
    a. Direct financial benefits: Direct financial compensation for example from government, company or patient
    b. Other organisational benefits: Business benefits as a result of the innovation such as increasing patient loyalty, return rates, community rapport, sales, efficiency etc.
    c. Patient benefits: Improved patient outcomes such as health, quality of life, adherence, knowledge confidence etc.
    d. Professional/personal benefits: Professional or personal reward such as increased satisfaction or motivation
4. **Adaptability**: The degree to which an innovation can be adapted, tailored, refined, or reinvented to meet local needs.
5. **Trialability**: The ability to test the innovation on a small scale in the organization, and to be able to reverse course (undo implementation) if warranted.
6. **Implementation complexity**: Perceived difficulty of implementation, reflected by duration, scope, radicalness, disruptiveness, centrality, and intricacy and number of steps required to implement.
7. **Design quality & packaging**: Perceived excellence in how the innovation is bundled, presented, and assembled.
8. **Cost**: Costs of the innovation and costs associated with implementing the innovation including investment, supply, and opportunity costs.
9. **Nature of innovation**: Nature of the service in terms of degree of change from previous habit (organisational practices and work routines) including innovation difficulty and extent of other healthcare professionals' involvement.
10. **Duration**: Duration of innovation including frequency of follow-up and regularity throughout the year.
11. **Quality assurance system**: Method to assess quality of the innovation's implementation and provision.

Role Clarification[2]

To support interprofessional collaborative practice, learners/ practitioners are able to:
- describe their own role and that of others
- recognize and respect the diversity of other health and social care roles, responsibilities, and competencies
- perform their own roles in a culturally respectful way
- communicate roles, knowledge, skills, and attitudes using appropriate language
- access others' skills and knowledge appropriately through consultation
- consider the roles of others in determining their own professional and interprofessional roles
- integrate competencies/roles seamlessly into models of service delivery

To support interprofessional collaborative practice that is patient/client/family-centred, learners/practitioners need to:
- support the participation of patients/clients, their families, and/or community representatives as integral partners alongside with healthcare personnel
- share information with patients/clients (or family and community) in a respectful manner and in such a way that it is understandable, encourages discussion, and enhances participation in decision-making
- ensure that appropriate education and support is provided to patients/clients, family members and others involved with care or service
- listen respectfully to the expressed needs of all parties in shaping and delivering care or services

Integrated Care

Levels of integration and evidence of impact[3]

Examples of integration are reviewed at three levels:

- **The macro level** is one at which providers, either together or with commissioners, seek to deliver integrated care to the populations that they serve. Examples include health maintenance organisations such as Kaiser Permanente and Geisinger Health System, and integrated medical groups.
- **The meso level** is one at which providers, either together or with commissioners, seek to deliver integrated care for a particular care group or populations with the same disease or conditions, through the redesign of care pathways and other approaches. Examples include initiatives to integrate care for older people in North America and Europe, disease management programmes, chains of care and managed clinical networks.

- **The micro level** is one at which providers, either together or with commissioners, seek to deliver integrated care for individual service users and their carers through care co-ordination, care planning, use of technology and other approaches.

Although we have distinguished between these three levels for the sake of analysis, in practice they are often used in combination; this is in recognition of the fact that changes at the macro level, on their own, are limited in their ability to make a difference for service users and also to address the weaknesses of care fragmentation.

Macro summary[3]

Integrated systems take a wide variety of forms while sharing many of the same characteristics. These characteristics include:

- **multispecialty medical groups** in which generalists work alongside specialists to deliver integrated care
- **aligned financial incentives** that avoid the perverse effects of fee-for-service reimbursement, encouraging the prudent use of resources and promoting quality improvement
- **information technology** that supports the delivery of integrated care, especially via the electronic medical record and the use of clinical decision support systems
- **the use of guidelines** to promote best practice and reduce unwarranted variations in care
- **accountability for performance** through the use of data to improve quality and account to stakeholders through public reporting
- **defined populations** that enable doctors and the wider health care team to develop a relationship over time with a 'registered' population
- a **physician–management partnership** that links the clinical skills of health care professionals and the organisational skills of executives
- **effective leadership** at all levels with a focus on continuous quality improvement
- a **collaborative culture** that emphasises team working and the delivery of patient-centred care.

Although there have been no studies that have examined the relative importance of these factors, it is plausible to argue that it is their combined impact that lies behind the achievements of integrated systems rather than individual factors.

Meso summary

Meso-level models take different forms and focus on various population groups. Integrated health and social care for older people has demonstrated the potential to decrease hospital use, achieve high levels of patient satisfaction, and improve quality of life and physical functioning. Kodner's (2009) review of North American models of integrated care for older people identified the following elements as being important in these models:

- **umbrella organisational structures** to guide integration at strategic, managerial and service delivery levels
- **case-managed multidisciplinary team care**, with a single point of contact and coordinated care packages
- **organised provider networks**, with standardised referral procedures, service agreements, joint training, shared information systems, etc
- **financial incentives** to promote prevention, rehabilitation and the downward substitution of services.

Kodner's findings are reinforced by a review of European models of health and social care integration which identified the following key factors as lying behind the positive outcomes delivered by these models:

- case management, geriatric assessment and multidisciplinary teams
- a single entry point
- financial incentives to promote downward substitution (Johri et al 2003).

Micro summary

The tools of care co-ordination are many and varied and are rarely used in isolation. Interventions vary widely in terms of content and criteria of success, so it is difficult to compare them systematically. Different contexts and external factors may also play a part; for example, the impact of one technique within the context of a large integrated delivery system might be different to the impact of the same technique in a more fragmented system. In terms of the tools and techniques reviewed here, which represent only some of those in use, the evidence suggests the following:

- **Care planning**, via the CPA, has been shown to produce high levels of patient satisfaction although roll-out has been patchy.
- Evidence for **case management** is inconsistent, with some initiatives demonstrating positive impacts on quality, outcomes and use of resources, and others having negligible or negative impacts; case management is more likely to offer benefits when targeted at high-risk groups.
- **Patient-centred medical homes** have demonstrated positive early results in terms of admissions and cost-effectiveness. *(eg. healthcare homes in the New Zealand context)*
- Evidence for assigning **personal budgets** suggests that they have the potential to increase satisfaction levels and provide care more efficiently, but they may be more appropriate for some groups than others.
- Use of **electronic health records** and electronic messaging in US integrated systems has reduced patient visits, increased adherence to evidence-based guidelines and facilitated care co-ordination.
- **Telehealth** and telecare show the potential to yield positive results in terms of quality of life and resource use, although robust cost-effectiveness evidence is lacking.

Principles For Integration[4]

I. Comprehensive services across the care continuum

- Cooperation between health and social care organizations
- Access to care continuum with multiple points of access
- Emphasis on wellness, health promotion and primary care

II. Patient focus

- Patient-centred philosophy; focusing on patients' needs
- Patient engagement and participation
- Population-based needs assessment; focus on defined population

III. Geographic coverage and rostering

- Maximize patient accessibility and minimize duplication of services
- Roster: responsibility for identified population; right of patient to choose and exit

IV. Standardized care delivery through interprofessional teams

- Interprofessional teams across the continuum of care
- Provider-developed, evidence-based care guidelines and protocols to enforce one standard of care regardless of where patients are treated

V. Performance management

- Committed to quality of services, evaluation and continuous care improvement
- Diagnosis, treatment and care interventions linked to clinical outcomes

VI. Information systems

- State of the art information systems to collect, track and report activities
- Efficient information systems that enhance communication and information flow across the continuum of care

VII. Organizational culture and leadership

- Organizational support with demonstration of commitment
- Leaders with vision who are able to instil a strong, cohesive culture

VIII. Physician integration

- Physicians are the gateway to integrated healthcare delivery systems
- Pivotal in the creation and maintenance of the single-point-of-entry or universal electronic patient record
- Engage physicians in leading role, participation on Board to promote buy-in

IX. Governance structure

- Strong, focused, diverse governance represented by a comprehensive membership from all stakeholder groups
- Organizational structure that promotes coordination across settings and levels of care

X. Financial management

- Aligning service funding to ensure equitable funding distribution for different services or levels of services
- Funding mechanisms must promote interprofessional teamwork and health promotion
- Sufficient funding to ensure adequate resources for sustainable change

Elements of integrated governance models[5]

1. **Joint planning**
   Joint strategic needs assessment agreed; formalising relationships between stakeholders; joint boards; promotion of a community focus and organisational autonomy; guide for collective decision making; multi-level partnerships; focus on continuum of care with input from providers and users.

2. **Integrated information communication technology**
   Systems designed to support shared clinical exchange i.e. Shared Electronic Health Record; a tool for systems integration linking clinical processes, outcomes and financial measures.

3. **Change management**
   Managed locally; committed resources; strategies to manage change and align organisational cultural values; executive and clinical leadership; vision; commitment at meso and micro levels.

4. **Shared clinical priorities**
   Agreed target areas for redesign; role of multi-disciplinary clinical networks/ clinical panels; pathways across the continuum.

5. **Incentives**
   Incentives are provided to strengthen care co-ordination e.g. pooling multiple funding streams and incentive structures, such as equitable funding distribution; incentives for innovative and development of alternative models.

6. **Population focus**
   Geographical population health focus.

7. **Measurement – using data as quality improvement tool**
   Shared population clinical data to use for planning, measurement of utilisation focusing on quality improvement and redesign; collaborative approach to measuring performance provides transparency across organisational boundaries.

8. **Continuing professional development supporting the value of joint working**
   Inter-professional and inter-organisational learning opportunities provide training to support new way and align cultures; clearly identifying roles and responsibilities and guidelines across the continuum.

9. **Patient/community engagement**

Involve patient and community participation by use of patient narratives of experience and wider community engagement.

10. **Innovation**
   Resources are available and innovative models of care are supported.

Elements to facilitate models of integrated primary–secondary care[6].

1. **interdisciplinary teamwork;**
   - Right mix of interdisciplinary health professionals and roles which predisposes to a well-functioning team
   - Good coordination by personnel with an understanding of care and clearly defined roles
   - Barriers to team functionality included being too busy for direct involvement in comprehensive patient care, inadequate access to other key personnel and lack of role clarity
   - Reported concerns that, without role clarity for referring, duplications and omissions may occur in managing co-morbidities.
2. **communication and information exchange;**
   - Willingness to share information, and supportive managerial and administrative staff
   - A high level of trust regarded as important, as was improved communication and shared follow up supported by electronic reminder systems.
   - Shared governance that enhanced system capacity for effective communication and collaboration and regular interdisciplinary team meetings that enabled information exchange
   - Successful communication channels included case conferences.
   - Co-location facilitated effective communication and information exchange, as well as shared follow up.
3. **the use of shared care guidelines or pathways;**
   - Pragmatic, locally agreed care protocols. The protocols included guidance for transfer of care and review, shared care planning, patient goal-setting and self-management and structured electronic record and recall systems
4. **training and education;**
   - Initial and continuing education, including postgraduate training, to facilitate integrated care for patients with chronic/complex chronic disease.
   - Patient education also identified as a core element.
5. **access and accessibility**
   - Improved access of care as an objective. Patient priorities and preferences respected; geographic convenience, easier parking and better facilities, and the 'one-stop shop' improves communication and gives better access to, and continuity of care in a friendlier, more personal service.
   - Patients appreciate reduced waiting time to their first appointment
6. **a viable funding model.**
   - Viable funding models are essential for continuation of a program after the pilot work has been completed. Concerns around funding related to the cost of the clinic model itself, the impact of the model on existing services, and the uncertainty of future funding.
   - One community model delivered diabetes care at half the cost of usual hospital-based outpatient care. In another, the cost of an integrated model was reported as equivalent to traditional alternatives, while others found additional costs were balanced out by social gains.
   - Studies of costlier integrated care models attributed this to more frequent follow-up appointments, the higher cost of community-based pathology services, the time required for chart audits and patient home visits or the more intense care regimen of the model.

Typologies of Integrated Care[3]
   - **Organisational integration**, where organisations are brought together formally by mergers or through 'collectives' and/or virtually through co-ordinated provider networks or via contracts between separate organisations brokered by a purchaser.
   - **Functional integration**, where non-clinical support and back-office functions are integrated, such as electronic patient records.
   - **Service integration**, where different clinical services provided are integrated at an organisational level, such as through teams of multidisciplinary professionals.
   - **Clinical integration**, where care by professionals and providers to patients is integrated into a single or coherent process within and/or across professions, such as through use of shared guidelines and protocols.
   - **Normative integration**, where an ethos of shared values and commitment to co-ordinating work enables trust and collaboration in delivering health care.
   - **Systemic integration**, where there is coherence of rules and policies at all organisational levels. This is sometimes termed an 'integrated delivery system'.

Influences

The Patient / Consumer / Recipient of the Innovation +/- whanau/family/carers (as applicable)

Factors

Note Table 1 of the PSNZ-NZMA Integrated Health Care Framework for Pharmacists and Doctors

Themes, sub-themes, categories of Patient-Centred Care (PCC)[10]

1. Patient participation and involvement
   - Patient participating as a respected and autonomous individual
     - o Respect for patients' values, preferences, and expressed needs; Patient as a source of control; Patient actively involved and participating; Autonomy
   - Care plan based on patient's individual needs
     - o Care customized according to patient needs and values; Transition and continuity;
   - Addressing a patient's physical and emotional needs
     - o Physical comfort physical care; Emotional support; Alleviation of anxiety
2. Relationship between the patient and the health professional
   - Genuine clinician–patient relationship
     - o Care based on a continuous healing relationship; Clinician patient relationship;
   - Open communication of knowledge, personal expertise, and clinical expertise between the patient and the professional
     - o Knowledge shared and information flows freely; Information, communication and education; Feedback mechanisms to measure patient experience
   - Health professionals have appropriate skills and knowledge
     - o Skill and competency; Attributes of the patient-centred professional;
   - A cohesive and co-operative team of professionals
     - o Cooperation amongst clinicians a priority; Differences in perception of role between doctors, nurses, and patients
3. The context where care is delivered
   - System issues
     - o Policy practice continuum/language used; Access; Barriers to PCC; Supportive organizational system; Therapeutic environment

Contextual Domain: **Individual**

Factors

Factors related to Individuals[1]

1. General knowledge: Domain or general knowledge acquired from education, training, or accreditations on conditions, pharmacology, scientific rationale or the pharmacy environment and management.
2. Knowledge about the innovation: Individual's comprehension with facts, requirements truths, principles and practices related to the innovation
3. Beliefs about the innovation: Individual's agreement with the innovation in terms of their attitude towards, value placed and expected outcomes or consequences.
4. Self-efficacy: Individual belief in their own capabilities to execute courses of action to achieve implementation goals.
5. Individual state of change: Characterisation of the phase an individual is in, as he or she progresses toward skilled, enthusiastic, and sustained use of the innovation.
   a. *Technical skills (experience, capacity & competence):* Familiarity, ability and expertise in performing the tasks involved in innovation provision including interpretation of results.
   b. *Interpersonal skills (experience, capacity & competence):* Communication skills and ability to relate and interact with patients, colleagues and other healthcare professionals.
6. Individual identification with organisation: A broad construct related to how individuals perceive the organisation and their relationship and degree of commitment with that organisation.
7. Other personal attributes: A broad construct to include other personal traits such as tolerance of ambiguity, intellectual ability, learning style, emotions and coping strategies).
8. Values & motivation: A person's professional identity, satisfaction, and intrinsic motivation which may be portrayed as intention and goals.
9. Leadership skills: Ability to inspire and motivate others as well as make sound decisions.
10. Memory, attention and decision processes: The ability to remember and retain information, focus selectively on aspects of the environment and choose between two or more alternatives, dedicate which may be lead to cognitive overload, tiredness, time dedicated to the service and its implementation and self-monitoring.

IPEC Core Competencies for Interprofessional Collaborative Practice[7]

Values/Ethics Sub-competencies:

Work with individuals of other professions to maintain a climate of mutual respect and shared values. (Values/Ethics for Interprofessional Practice)

- Place interests of patients and populations at center of interprofessional health care delivery and population health programs and policies, with the goal of promoting health and health equity across the life span.
- Respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care.
- Embrace the cultural diversity and individual differences that characterize patients, populations, and the health team.
- Respect the unique cultures, values, roles/responsibilities, and expertise of other health professions and the impact these factors can have on health outcomes.
- Work in cooperation with those who receive care, those who provide care, and others who contribute to or support the delivery of prevention and health services and programs.
- Develop a trusting relationship with patients, families, and other team members (CIHC, 2010).
- Demonstrate high standards of ethical conduct and quality of care in contributions to team-based care.
- Manage ethical dilemmas specific to interprofessional patient/ population centered care situations.
- Act with honesty and integrity in relationships with patients, families, communities, and other team members.
- Maintain competence in one's own profession appropriate to scope of practice.

Roles/Responsibilities Sub-competencies:

Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations. (Roles/Responsibilities)

- Communicate one's roles and responsibilities clearly to patients, families, community members, and other professionals.
- Recognize one's limitations in skills, knowledge, and abilities.
- Engage diverse professionals who complement one's own professional expertise, as well as associated resources, to develop strategies to meet specific health and healthcare needs of patients and populations.
- Explain the roles and responsibilities of other providers and how the team works together to provide care, promote health, and prevent disease.
- Use the full scope of knowledge, skills, and abilities of professionals from health and other fields to provide care that is safe, timely, efficient, effective, and equitable.
- Communicate with team members to clarify each member's responsibility in executing components of a treatment plan or public health intervention.
- Forge interdependent relationships with other professions within and outside of the health system to improve care and advance learning.
- Engage in continuous professional and interprofessional development to enhance team performance and collaboration.
- Use unique and complementary abilities of all members of the team to optimize health and patient care.
- Describe how professionals in health and other fields can collaborate and integrate clinical care and public health interventions to optimize population health.

Interprofessional Communication Sub-competencies:

Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease. (Interprofessional Communication)

- Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function.
- Communicate information with patients, families, community members, and health team members in a form that is understandable, avoiding discipline-specific terminology when possible.
- Express one's knowledge and opinions to team members involved in patient care and population health improvement with confidence, clarity, and respect, working to ensure common understanding of information, treatment, care decisions, and population health programs and policies.
- Listen actively, and encourage ideas and opinions of other team members.
- Give timely, sensitive, instructive feedback to others about their performance on the team, responding respectfully as a team member to feedback from others.
- Use respectful language appropriate for a given difficult situation, crucial conversation, or conflict.
- Recognize how one's uniqueness (experience level, expertise, culture, power, and hierarchy within the health team) contributes to effective communication, conflict resolution, and positive interprofessional working relationships (University of Toronto, 2008).
- Communicate the importance of teamwork in patient-centered care and population health programs and policies.

Team and Teamwork Sub-competencies:

Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable. (Teams and Teamwork)

- Describe the process of team development and the roles and practices of effective teams.
- Develop consensus on the ethical principles to guide all aspects of team work.
- Engage health and other professionals in shared patient-centered and population-focused problem-solving.
- Integrate the knowledge and experience of health and other professions to inform health and care decisions, while respecting patient and community values and priorities/preferences for care.
- Apply leadership practices that support collaborative practice and team effectiveness.
- Engage self and others to constructively manage disagreements about values, roles, goals, and actions that arise among health and other professionals and with patients, families, and community members.
- Share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care.
- Reflect on individual and team performance for individual, as well as team, performance improvement.
- Use process improvement to increase effectiveness of interprofessional teamwork and team-based services, programs, and policies.
- Use available evidence to inform effective teamwork and team-based practices.
- Perform effectively on teams and in different team roles in a variety of settings.

Components of models for "Cognitive Pharmacy Service" implementation[8]

Components related to the individual

- Training in clinical and other skills
- Identification of motivators
- Identification of learning resources
- Motivational strategies

Contextual Domain: **Organisational**

Factors

Consider 'Organisational' Factors[1]

1. **Structural characteristics**: The social architecture, age, maturity, size, script volume and location of an organisation.
2. **Staff**: Sufficient and qualified staff/manpower.
3. **Layout & workflow**: Physical arrangement of the organisational environment.
4. **Networks & internal communication**: The nature and quality of webs of social networks and the nature and quality of formal and informal communications within an organization.
5. **Teamwork**: Combined action of a group each doing their own part to aid effectiveness and efficiency.
6. **Autonomy**: Right to self-regulate, work and make decisions independently.
7. **Culture and vision**: Norms, values, and basic assumptions of a given organization including organisational direction.
8. **Implementation climate**: The absorptive capacity for change, shared receptivity of involved individuals to an innovation and the extent to which use of that innovation will be rewarded, supported, and expected within their organisation.
   a. *Tension for change:* The degree to which stakeholders perceive the current situation as intolerable or needing change.
   b. *Compatibility:* The degree of tangible fit between meaning and values attached to the innovation by involved individuals, how those align with individuals' own norms, valued and perceived risks and needs, and how the intervention fits with existing workflows and systems.
   c. *Relative priority: Individual's shared perception of the importance of the implementation within the organisation.*
   d. *Organisational incentives & rewards:* Extrinsic incentives such as goal-sharing awards, performance reviews, promotions, and raises in salary and less tangible incentives such as increased stature or respect.
   e. *Goal setting:* Establishing targets and objectives for the innovation.
   f. *Feedback:* The degree to which goals are clearly communicated, acted upon, and fed back to staff and alignment of that feedback with goals (a)
   g. *Learning climate:* A climate in which a) leaders express their own fallibility and need for team members' assistance and input; b) team members feel that they are essential, valued, and knowledgeable partners in the change process; c) individuals feel psychologically safe to try new methods; and d) there is sufficient time and space for reflective thinking and evaluation.
9. **Readiness for implementation**: Tangible and immediate indicators of organizational commitment to its decision to implement an innovation.

a. *Leadership engagement:* Commitment, involvement, and accountability of leaders and managers with the Implementation.
   b. *Available resources & training:* The level of resources dedicated for implementation and on-going operations including money, training, education and time.
   c. *Access to knowledge & information:* Ease of access to digestible information and knowledge about the intervention and how to incorporate it into work tasks.
10. **Data management system**: Recording system for the innovation and information related to its implementation and provision.
11. **Quality assurance system**: Method or activities to assess quality of innovation implementation and/or provision
12. **Environmental stressors**: Balance between competing demands and/or conflicting roles and available resources, including time.
13. **Organisational support and/or assistance**: Support provided by the organisational group or head office such as advertising, training, monitoring etc.
14. **Experience**: Degree of observation or participation with the innovation or similar innovations previously.

Components of models for "Cognitive Pharmacy Service" implementation[8]

Organisational components

Internal pharmacy environment

- Pharmacy design/layout
- Planning and goal setting
- Documentation of service provision
- Utilisation of support staff and task delegation
- Quality assurance and improvement
- Evaluation of performance and outcomes
- Description/definition of service
- Use of technology
- Policies and procedures manual
- Appointment cards
- Software reminders

External environment

- Relationships with patients, prescribers, and payers
- Target population identification
- Support from a researcher or other pharmacists
- Feedback from pseudo-patrons

Business and financial

- Reimbursement for service provision
- Merchandising plan
- Business plan
- Marketing strategies
- Resource assessment – financial and human
- Management of resources
- 'Packaging' services together

Contextual Domain: **Local Setting**

Factors

Local Setting[1]

1. **Interprofessional network & communication**: The degree to which an organisation is networked and interacts within their profession.
2. **Intraprofessional network & communication**: The relationship, social networks and profile an organisation has with other local healthcare professionals and organisations.
3. **Community's perception about innovation and organisation**: Local population's knowledge, beliefs and expectations regarding the innovation.
4. **Relationship with patients and community**: Profile of the organisation within the community and rapport with their patients.
5. **Demand**: Perception of key stakeholders´ about the level of demand or interest in the innovation including the ease of recruiting patients in the service.
6. **Patient needs & resources**: The extent to which patient needs, as well as barriers and facilitators to meet those needs are accurately known and prioritised by the organisation.
7. **Peer Pressure**: Mimetic or competitive pressure to implement an innovation; typically because most or other key peer or competing organizations have already implemented.

Contextual Domain: **System**

Factors

External System[1]

1. **Laws, policies or regulations**: Includes policy and regulations (governmental or other central entity), external mandates, recommendations and guidelines, pay-for-performance, collaboratives, public or benchmark reporting, or accreditation systems.
2. **Remuneration**: Model and degree of funding.
3. **Healthcare budget & contracts**: Payer polices including the duration and stability of contracts.
4. **Intraprofessional networks & communication**: The degree to which the profession is networked with other healthcare professions and their organisations (cosmopolitism).

5. **Interprofessional relations & leadership**: The degree of consolidarity within the profession and their professional organisations.
6. **Stakeholder buy-in**: Acceptance of service from pharmacy organisations, other healthcare professional organisations and government.
7. **External support and/or assistance**: Support for professional organisations, companies or government in terms of materials, software, guidelines, training.

Strategies

Strategy: Definitions

- **Access new funding**: Access new or existing money to facilitate the implementation
- **Alter incentive/allowance structures**: Work to incentivize the adoption and implementation of the clinical innovation
- **Alter patient/consumer fees**: Create fee structures where patients/consumers pay less for preferred treatments (the clinical innovation) and more for less-preferred treatments
- **Assess for readiness and identify barriers and facilitators**: Assess various aspects of an organization to determine its degree of readiness to implement, barriers that may impede implementation, and strengths that can be used in the implementation effort
- **Audit and provide feedback**: Collect and summarize clinical performance data over a specified time period and give it to clinicians and administrators to monitor, evaluate, and modify provider behavior
- **Build a coalition**: Recruit and cultivate relationships with partners in the implementation effort
- **Capture and share local knowledge**: Capture local knowledge from implementation sites on how implementers and clinicians made something work in their setting and then share it with other sites
- **Centralize technical assistance**: Develop and use a centralized system to deliver technical assistance focused on implementation issues
- **Change accreditation or membership requirements**: Strive to alter accreditation standards so that they require or encourage use of the clinical innovation. Work to alter membership organization requirements so that those who want to affiliate with the organization are encouraged or required to use the clinical innovation
- **Change liability laws**: Participate in liability reform efforts that make clinicians more willing to deliver the clinical innovation
- **Change physical structure and equipment**: Evaluate current configurations and adapt, as needed, the physical structure and/or equipment (e.g., changing the layout of a room, adding equipment) to best accommodate the targeted innovation
- **Change record systems**: Change records systems to allow better assessment of implementation or clinical outcomes
- **Change service sites**: Change the location of clinical service sites to increase access
- **Conduct cyclical small tests of change**: Implement changes in a cyclical fashion using small tests of change before taking changes system-wide. Tests of change benefit from systematic measurement, and results of the tests of change are studied for insights on how to do better. This process continues serially over time, and refinement is added with each cycle
- **Conduct educational meetings**: Hold meetings targeted toward different stakeholder groups (e.g., providers, administrators, other organizational stakeholders, and community, patient/consumer, and family stakeholders) to teach them about the clinical innovation
- **Conduct educational outreach visits**: Have a trained person meet with providers in their practice settings to educate providers about the clinical innovation with the intent of changing the provider's practice
- **Conduct local consensus discussions**: Include local providers and other stakeholders in discussions that address whether the chosen problem is important and whether the clinical innovation to address it is appropriate
- **Conduct local needs assessment**: Collect and analyze data related to the need for the innovation
- **Conduct ongoing training**: Plan for and conduct training in the clinical innovation in an ongoing way
- **Create a learning collaborative**: Facilitate the formation of groups of providers or provider organizations and foster a collaborative learning environment to improve implementation of the clinical innovation
- **Create new clinical teams**: Change who serves on the clinical team, adding different disciplines and different skills to make it more likely that the clinical innovation is delivered (or is more successfully delivered)
- **Create or change credentialing and/or licensure standards**: Create an organization that certifies clinicians in the innovation or encourage an existing organization to do so. Change governmental professional certification or licensure requirements to include delivering the innovation. Work to alter continuing education requirements to shape professional practice toward the innovation
- **Develop a formal implementation blueprint**: Develop a formal implementation blueprint that includes all goals and strategies. The blueprint should include the following:
  - aim/purpose of the implementation;
  - scope of the change (e.g., what organizational units are affected);
  - timeframe and milestones; and
  - appropriate performance/progress measures. Use and update this plan to guide the implementation effort over time
- **Develop academic partnerships**: Partner with a university or academic unit for the purposes of shared training and bringing research skills to an implementation project
- **Develop an implementation glossary**: Develop and distribute a list of terms describing the innovation, implementation, and stakeholders in the organizational change
- **Develop and implement tools for quality monitoring**: Develop, test, and introduce into quality-monitoring systems the right input—the appropriate language, protocols, algorithms, standards, and measures (of

processes, patient/consumer outcomes, and implementation outcomes) that are often specific to the innovation being implemented

- **Develop and organize quality monitoring systems**: Develop and organize systems and procedures that monitor clinical processes and/or outcomes for the purpose of quality assurance and improvement
- **Develop disincentives**: Provide financial disincentives for failure to implement or use the clinical innovations
- **Develop educational materials**: Develop and format manuals, toolkits, and other supporting materials in ways that make it easier for stakeholders to learn about the innovation and for clinicians to learn how to deliver the clinical innovation
- **Develop resource sharing agreements**: Develop partnerships with organizations that have resources needed to implement the innovation
- **Distribute educational materials**: Distribute educational materials (including guidelines, manuals, and toolkits) in person, by mail, and/or electronically
- **Facilitate relay of clinical data to providers**: Provide as close to real-time data as possible about key measures of process/outcomes using integrated modes/channels of communication in a way that promotes use of the targeted innovation
- **Facilitation**: A process of interactive problem solving and support that occurs in a context of a recognized need for improvement and a supportive interpersonal relationship
- **Fund and contract for the clinical innovation**: Governments and other payers of services issue requests for proposals to deliver the innovation, use contracting processes to motivate providers to deliver the clinical innovation, and develop new funding formulas that make it more likely that providers will deliver the innovation
- **Identify and prepare champions**: Identify and prepare individuals who dedicate themselves to supporting, marketing, and driving through an implementation, overcoming indifference or resistance that the intervention may provoke in an organization
- **Identify early adopters**: Identify early adopters at the local site to learn from their experiences with the practice innovation
- **Increase demand**: Attempt to influence the market for the clinical innovation to increase competition intensity and to increase the maturity of the market for the clinical innovation
- **Inform local opinion leaders**: Inform providers identified by colleagues as opinion leaders or "educationally influential" about the clinical innovation in the hopes that they will influence colleagues to adopt it
- **Intervene with patients/consumers to enhance uptake and adherence**: Develop strategies with patients to encourage and problem solve around adherence
- **Involve executive boards**: Involve existing governing structures (e.g., boards of directors, medical staff boards of governance) in the implementation effort, including the review of data on implementation processes
- **Involve patients/consumers and family members**: Engage or include patients/consumers and families in the implementation effort
- **Make billing easier**: Make it easier to bill for the clinical innovation
- **Make training dynamic**: Vary the information delivery methods to cater to different learning styles and work contexts, and shape the training in the innovation to be interactive
- **Mandate change**: Have leadership declare the priority of the innovation and their determination to have it implemented
- **Model and simulate change**: Model or simulate the change that will be implemented prior to implementation
- **Obtain and use patients/consumers and family feedback**: Develop strategies to increase patient/consumer and family feedback on the implementation effort
- **Obtain formal commitments**: Obtain written commitments from key partners that state what they will do to implement the innovation
- **Organize clinician implementation team meetings**: Develop and support teams of clinicians who are implementing the innovation and give them protected time to reflect on the implementation effort, share lessons learned, and support one another's learning
- **Place innovation on fee for service lists/formularies**: Work to place the clinical innovation on lists of actions for which providers can be reimbursed (e.g., a drug is placed on a formulary, a procedure is now reimbursable)
- **Prepare patients/consumers to be active participants**: Prepare patients/consumers to be active in their care, to ask questions, and specifically to inquire about care guidelines, the evidence behind clinical decisions, or about available evidence-supported treatments
- **Promote adaptability**: Identify the ways a clinical innovation can be tailored to meet local needs and clarify which elements of the innovation must be maintained to preserve fidelity
- **Promote network weaving**: Identify and build on existing high-quality working relationships and networks within and outside the organization, organizational units, teams, etc. to promote information sharing, collaborative problem-solving, and a shared vision/goal related to implementing the innovation
- **Provide clinical supervision**: Provide clinicians with ongoing supervision focusing on the innovation. Provide training for clinical supervisors who will supervise clinicians who provide the innovation
- **Provide local technical assistance**: Develop and use a system to deliver technical assistance focused on implementation issues using local personnel
- **Provide ongoing consultation**: Provide ongoing consultation with one or more experts in the strategies used to support implementing the innovation
- **Purposely reexamine the implementation**: Monitor progress and adjust clinical practices and implementation strategies to continuously improve the quality of care
- **Recruit, designate, and train for leadership**: Recruit, designate, and train leaders for the change effort

- **Remind clinicians**: Develop reminder systems designed to help clinicians to recall information and/or prompt them to use the clinical innovation
- **Revise professional roles**: Shift and revise roles among professionals who provide care, and redesign job characteristics
- **Shadow other experts**: Provide ways for key individuals to directly observe experienced people engage with or use the targeted practice change/innovation
- **Stage implementation scale up**: Phase implementation efforts by starting with small pilots or demonstration projects and gradually move to a system wide rollout
- **Start a dissemination organization**: Identify or start a separate organization that is responsible for disseminating the clinical innovation. It could be a for-profit or non-profit organization
- **Tailor strategies**: Tailor the implementation strategies to address barriers and leverage facilitators that were identified through earlier data collection
- **Use advisory boards and workgroups**: Create and engage a formal group of multiple kinds of stakeholders to provide input and advice on implementation efforts and to elicit recommendations for improvements
- **Use an implementation advisor**: Seek guidance from experts in implementation
- **Use capitated payments**: Pay providers or care systems a set amount per patient/consumer for delivering clinical care
- **Use data experts**: Involve, hire, and/or consult experts to inform management on the use of data generated by implementation efforts
- **Use data warehousing techniques**: Integrate clinical records across facilities and organizations to facilitate implementation across systems
- **Use mass media**: Use media to reach large numbers of people to spread the word about the clinical innovation
- **Use other payment schemes**: Introduce payment approaches (in a catch-all category)
- **Use train-the-trainer strategies**: Train designated clinicians or organizations to train others in the clinical innovation
- **Visit other sites**: Visit sites where a similar implementation effort has been considered successful
- **Work with educational institutions**: Encourage educational institutions to train clinicians in the innovation

Evaluations

Model for the evaluation of implementation programs and professional pharmacy services[14]

Along with service and patient outcomes it is vital to evaluate implementation. Evaluations are required for all aspects of implementation including indicators of movement through the implementation stages (formative and summative implementation process evaluation), measures of influencing factors and change in factors over time (implementation impact), assessment of strategies and/or implementation program and overall measures to generate a level of implementation (implementation outcomes).

Implementation research, involves investigating an implementation program or implementation strategy/intervention and its effects on implementation indicators and level of implementation success, while service research involves investigating the effects of a service or clinical intervention on patient's health, quality of life and other service outcomes. Therefore measures of implementation serve as indicators of implementation processes, impact and outcomes (implementation success) as well as intermediate outcomes in relation to service process, impact and outcomes.

Implementation process evaluation consists of indicators of progress, such as stage attainment (the implementation stage in which pharmacies [*PSNZ-NZMA Framework = 'organisations'*] are situated), and the movement and rate of movement through these stages. Assessing the progress through the stages involves determining:

- is a pharmacy aware of the service, indicating they are in **exploration stage** (exploration indicator: awareness) [*PSNZ-NZMA Framework = pharmacist & doctor*];
- have they decided to adopt the service, indicating they are in **preparation stage** (preparation indicator: adoption);
- are delivering the service to a limited extent, indicating they are **testing** (testing indicator: limited provision);
- are delivering the service to full capacity, indicating that they are in **operation** (operation indicator: full provision);
- or are continuing to provide the service, maintaining the capacity and support for its provision and benefits over an extended period of time after any external support has ceased, indicating they are in **sustainability** (sustainability indicators: continued delivery, capacity and benefits)?

Factors include features of the service and characteristics and determinants of behavior, of pharmacy staff [*PSNZ-NZMA Framework = organisation staff*], the pharmacy(s) [*PSNZ-NZMA Framework =organisations*], local setting, and system.

Strategies are targeted efforts (method, technique or activity) designed to enhance moving of an innovation into use and integrating into routine practice.

Evaluations include all indicators in the model. Tools to assess implementation influences may be used in a formative capacity to aid successful implementation. The formative use of evaluations may be assessed as part of implementation impact.

Implementation outcomes are depicted as the level of provision and the level as provider. The level of service provision is 'how much and how well' the service is being delivered.

This is determined by two primary measures:

- **Reach**, which is the number of services performed (or patients participating) as a proportion of the potential population for the service and the representativeness of this group;
- **Fidelity**, which refers to the degree to which the service is performed as it was originally designed. Fidelity includes adherence to the components of the service, the dose (for example are all follow-up sessions completed), the quality, patient responsiveness, program differentiation or how much it differs from other existing services, and how it was adapted.

Implementation Program Evaluation and Measured Variables

Implementation Process

- Measures: Progress: stage, movement, rate

Implementation Impact

- Measures: Changes in implementation influences/determinants across all contextual domains (includes changes in factors, strategies and evaluations)

Implementation Outcome

- Measures (Level as provider):
  - Integration (includes routinization which is the degree to which the new service has become part of the pharmacy's principles and everyday practice, and institutionalization measures the pharmacy's ability to support and enable ongoing service delivery and improvement)
  - context and support (includes measures of context (such as culture, climate, and capacity) to measure the pharmacy's ability to maintain the service and the value the staff place in its provision. Support and perception may be evaluated at an individual, pharmacy, local, and system level (staff, pharmacists, owner, patient, community, other health care professionals, politicians etc.).
- Measures (Level of provision): reach, fidelity
- This overall outcome can be looked at from various ecological perspectives. For example, one could measure the outcome for an individual staff member (micro level), the pharmacy as a whole or for a group of pharmacies (meso level). Alternatively measures can be aggregated to look at a service's implementation outcomes nationally (macro or system level).

Service Evaluation and Measure Variables

Service Process

- Measures (Level of provision): reach (number of patients receiving the service and their representatives of the target population), fidelity (delivery of the service as it was designed)
- Process indicators at an individual or pharmacy level may include the rate of movement and number of activities of an implementation program completed during a stage, while at a systems level the rate and number of pharmacies may be evaluated.

Service Impact

- Measures (Level as provider): Integration, context and support
- Measures: Changes in patient's behavioural influences/determinants across all contextual domains (includes changes in patient's behaviour, environmental factors and changes in the determinants of behaviour)

Service Outcome

- Measures: Benefits: humanistic (eg. quality of life, satisfaction, efficiency etc), clinical, economical (for the health care system and organizations),other business (eg. differentiating from the market, improved patient/consumer loyalty and professional satisfaction)

Final stage attainment – sustainability

Sustainability is the final phase of the implementation process. As such, the level of implementation, as calculated through measurement of implementation outcomes, is related to reaching and maintaining sustainability of service provision. The measurement of sustainability is based on three ideas;

1. The definition of sustainability is conceptualized as consisting of three constructs: routinization, (repetitive, recognizable pattern of the new service) institutionalization (supporting conditions), and maintenance of benefits.
   These three constructs are depicted in the implementation part of the evaluation model. Routinization consists of the integration or delivery of the new service, institutionalization as the individual, organizational and system context, including support and capacity for continued delivery and maintenance of benefits as service and

patient outcomes. Benefits incorporate economic, clinical and humanistic outcomes and measures such as quality of life, satisfaction, efficiency etc. In addition to economic outcomes for the health care system and organizations, pharmacies are also interested in other potential business benefits such as differentiating their pharmacy from the market, improved customer loyalty and professional satisfaction.

2. Implementation of professional services in pharmacy involves the process of implementing a service, as well as changing the business model and professional practice to an environment to one that is supported and conducive to service delivery. Therefore looking at only the level of service provision does not account for the change in nature or in the future maintenance of the service environment. There has been increased appreciation for the importance of context and the need for qualitative and quantitative measures to help understand and predict implementation outcomes.

3. Local setting and system factors are imperative when considering the attainment of complete sustainability and measuring implementation from a systems perspective. Complete sustainability cannot be achieved without stakeholder buy-in, political support and funding.

The Point of Care Foundation: Patient and Family-Centred Care (PFCC)

(Ref: www.pointofcarefoundation.org.uk)

Measuring improvement

Measurement is an essential part of the PFCC approach that needs to be integrated into each stage of the programme.

Measuring needs to take place before, during and after the project. Beforehand, it provides a baseline against which any improvements can be measured. During the project, it enables you to chart progress and adjust approaches if necessary. After the project, it shows what has been achieved and, if it is successful, can be used as a basis for rolling out the approach more widely.

As well as generic goals to improve patients' experience, your PFCC project needs to have clear goals from the start and associated measures. Common aims set by teams include:

- consistency of clinical care

- efficiency, including discharge processes

- improving communication among staff, and with patients and families

- improving relationships with families (for example, improving access for families wanting to talk to clinical staff or opening up visiting)

- building staff confidence (often related to communication)

- improving staff experience

- making environmental improvements, either to the physical environment, or by changing activities or ward routines.

To gauge whether your goals are specific enough, check if they are SMART: Specific, Measurable, Achievable, Realistic and Timely. For example, to make the aim 'to improve patient and family experience when attending with acute abdominal pain' SMART, you need to identify a goal and an intervention related to each driver. So the first measure would be overall experience (for example, 90 per cent of patients saying that care met their expectations, by [target date]).

Then think about each of the drivers. If you are focusing on pain management, the goal and measure might be 'to assess levels of pain and offer analgesia within 15 minutes for 90 per cent of patients by [target date]'. The purpose of measurement is to use it to ask critical questions and guide intelligent action.

In order to track progress towards your goal, include a good balance of the following three types of measures.

- Outcome measures – How is the system performing? What is the result? (Was the patient's experience better?).

- Process measures – Are the parts or steps in the system performing as planned? (Was the care better?).

- Balancing measures – What happened to the wider system as we improved the outcome and process measures? (Were there unintended consequences or impacts on outcomes elsewhere?).

Key points

- Measure little and often: measurement for improvement does not require large datasets. It is better to start with one measure, and add more, than to be ambitious about the number of measures to be collected and feel defeated by the scale of it.

- If you do not gather strong baseline data, you will never know exactly how much you have achieved.

- For the PFCC project, your measures should focus on patient experience and staff experience, as this is the focus of the overall programme. Ultimately, these factors will show whether you have met your aim.

- Data for improvement is different from data for research. It is messier and less accurate, but highly relevant to the daily work of clinicians. Sampling is often appropriate – for example, asking 10 patients per month, as

opposed to all patients. In measuring for improvement, it is rapid, small-scale that will help you assess the impact of your changes.

- Monitor your progress through a dashboard. This must include the main types of measure (process, outcomes and balancing measures). It should also make clear what the goal is (how much to achieve and by when), how progress will be calculated, and where the data will come from. All these are essential questions to answer when developing your measures.

- Make sure your measures relate directly to the factors that you are changing. For example, if your goal is 'to improve discharge processes', and you plan to do this by improving documentation for the staff, then measuring patient satisfaction is too broad a measure. Instead, you need to measure the extent to which staff use the documentation, and the staff's opinions of the documentation. Again, sampling can be used here – for example, looking at 10 medical records per week or month, or asking five staff per week or month.

- Driver diagrams play a useful role in this activity as these help pin down what is important to improving the patient experience, before identifying the interventions and measures that relate to these drivers.

- Make sure you are clear about what you plan to accomplish, how you will know that this change will improve patients' experience or outcomes, and precisely what activities you will put in place to effect this change.

- Use the expertise in quality improvement within your organisation to support you. Techniques such as 'run charts', which can track progress over time can be very useful in providing a persuasive picture of your progress. Above all, remember that the purpose of measurement for improvement is to support you to achieve your aims. The data must therefore be of value to you – not for reporting elsewhere.

Level of Collaboration

Interprofessional Communication[2]

- establish team work communication principles
- actively listen to other team members including patients/clients/families
- communicate to ensure common understanding of care decisions
- develop trusting relationships with patients/ clients/families and other team members
- effectively use information and communication technology to improve interprofessional patient/client/community-centred care, assisting team members in:
    - setting shared goals
    - collaboratively setting shared plans of care;
    - supporting shared decision-making;
    - sharing responsibilities for care across team members; and
    - demonstrating respect for all team members including patients/clients/ families.

Collaborative Leadership[2]

- work with others to enable effective patient/ client outcomes
- advancement of interdependent working relationships among all participants
- facilitation of effective team processes
- facilitation of effective decision making
- establishment of a climate for collaborative practice among all participants
- co-creation of a climate for shared leadership and collaborative practice
- application of collaborative decision-making principles
- integration of the principles of continuous quality improvement to work processes and outcomes.

Influencers of Collaborative Practice[11] [12]

Proximity and location:

- can facilitate stronger working relationships, rural and sole practice/pharmacy have greater collaborative relationships compared to nonfamiliarity and distance in city locations.
- GPs working in closer proximity to their pharmacist counterparts were also found to have higher levels of collaboration than isolated practitioners.
- being geographically closer provides more opportunity to develop rapport and positive relationships as a result of increased interaction
- GPs believe closer proximity to the pharmacist would improve communication and therefore collaboration and favored having pharmacists integrated in the GPs practice
- Pharmacist participation in medication management review (eg. MTM(US, Can), HMR(Aus), MTA(NZ)) significantly influences frequency of collaboration
-

"Knowing" each other: locums (don't know patient, impaired continuity), large numbers of staff, turnover, & lack of familiarity can impair collaboration

Trust:

- trust builds over time, distrust exists in commercial aspect of pharmacy, greater trust in independent vs multiple chain pharmacies, locums don't know the patient, lack of awareness about pharmacist knowledge & skill, importance of trust differs between the two professions,
- GP perceptions of collaborative relationships involve the need to trust the pharmacist, with the pharmacist earning the GPs' trust through being well established in the area or demonstrating effective or efficient service provision, whereas pharmacist perceptions of collaborative relationships involve the GP being aware of the pharmacist and/or the service provided.

Communication:

- reciprocal communication builds trust (often one-way – pharmacist to GP when there's a problem or query), sustainability of communication important – need a long-term approach or strategy,

Roles and Responsibilities:

- Role recognition shapes interactions and successful teams recognize the professional contributions of its members
- high levels of collaboration come from non-territorial approach to roles and responsibilities, and recognition of expertise of pharmacists as enhancement to skill set of doctors rather than a substitution, varying acceptance of higher level of responsibility with some pharmacists (prefer to defer to doctor than manage themselves),
- contact together in formative years of career leads to higher levels of collaboration
- effective practice exposure time to each other

Professional Respect:

- lower level of collaboration occurs when concerns exist about pharmacists' level of training and little confidence in their abilities, commercial aspect of community pharmacy is viewed negatively and with suspicion by GPs (and issue of commercial considerations can arise from pharmacists also), variation in respect exists "some are better than others",
- Differences between regular and locum community pharmacists and chain and independent pharmacies were repeatedly raised by GPs in relation to trust, "knowing" the pharmacist and professional respect.

Implementation

Research and evaluate existing information that may influence the development and/or implementation of the innovation/service, e.g. clinical evidence, published studies, standards of practice, guidelines and statements, including practices / mechanisms that support integrated person-centred care.

The end of the **exploration** phase will be the decision to adopt or reject the innovation or service. Adoption may be subject to a 'trial' evaluation process.

Stages Of Implementation[1]

Exploration (appraisal)

The innovation-decision process whereby the end-user(s) appraise the innovation concluding with a decision to either to accept/adopt or reject. Involves progression through awareness (or an issue, need and/or new innovation), knowledge, persuasion, opinion and decision regarding the innovation.

Preparation (planning)

The course of preparation (innovation, individuals, organization, local environment and external system) prior to innovation use.

Operation (implementation)

Innovation is in use and is in the process of being integrated into routine practice through active and planned approaches.

Sustainability (maintenance)

Process of maintaining the innovation through continued innovation use integrated as routine practice, ongoing capacity and supportive environment sufficient to support innovation use and persistence of benefits.

Contextual Domains[1]

Groupings of related influences regarding the circumstances that surround the innovation to be implemented.

Individuals: Characteristics and agency of the people involved with the innovation and/or implementation process.

Organisation: Conditions and characteristics of the setting(s) in which the innovation is to operate.

Local environment: Circumstances immediately surrounding the organisation(s) including the community, patients and network.

External system: Broad economic, political and professional milieu.

Facilitators of change[13]

Individuals

- Pharmacist competence
- Education and training for pharmacy assistants
- Education and training for pharmacists
- Communication skills
- Motivation
- Leadership skills
- Professional satisfaction
- Pharmacists' knowledge of cognitive pharmaceutical services (CPS)
- Pharmacists' attitudes towards CPS
- Pharmacists' confidence in ability to provide CPS
- Autonomy
- Attitude of pharmacy staff

- Patient demand/expectations
- Relationship with doctors
- Equipment and technology, e.g. computers
- Access to patient information/records
- Documentation system
- Profile within the local community
- Attention for special patient groups
- Use of protocols
- Interaction with other pharmacists
- Support of management
- Access to reference literature
- Pharmacist–patient relationship
- Marketing
- Support from professional organisations and/or government
- Low script volume

Organisational

- Physical environment e.g. adequate space/privacy and workflow

- Culture of the pharmacy
- Remuneration/incentives
- Sufficient and qualified staff/manpower
- Use of pharmacy technicians
- Delegation of tasks
- Innovative practice orientation

- Rural location
- Legislation requiring or supporting provision of services
- Attitude/perception of doctors
- Attitude perception of patients
- Examples from leading practitioners
- External advisors or mentors
- Evidence of benefits of services

Stages and activities of the implementation process of professional pharmacy services in community pharmacy[1]

Development or Discovery

Exploration

- Organisational fit assessment
- Value assessment (relative advantage)
- Service assessment (service characteristics)
- Organisational capacity assessment (supporting conditions & staff capacity)
- Community fit assessment (considering the community's demographics eg. health needs and resources)
- Decision

Preparation

- Assign leader (staff member was assigned to be in charge of the service, informally or formally, explicitly or implicitly – tasks to include conducting training, recruiting patients, providing the service and overall driving the implementation effort)
- Research requirements (investigate the legalities and necessities of the service)
- Organise supporting conditions (making the required changes to ensure the conditions were satisfactory)
- Plan service procedure
- Rearrange workflow (consider the workflow of the dispensary or the whole pharmacy)
- Staff arrangements (consideration to changing staff roles and responsibilities, analysing staff numbers (to facilitate provision and meet regulatory requirements) and staff selection if new staff were required)
- Team communication (buy-in and foster climate)
- Training
- Community awareness & recruitment

Testing

Trialling the service, operating for a defined period or with limited numbers

- Initial adaptations (refinement of procedures)
- Familiarisation with procedures and software/resources to increase staff confidence, comfort and conviction with their role in the service
- Test patient demand (trialling the fit of service to the community in terms of patient perception and demand)

Operation

- Modification/refinement of plans & procedures (eg. the protocol, logistics, recruitment process and/or data management system)
- Maintain patient demand (recruiting and enrolling patients, and maintaining patient demand eg. revising the dispensary procedure to include identifying patients, developing a uniform approach for asking patients, delegating to a staff member, using reminders and organising mail-outs)
- Staffing
- Teamwork, team input and internal communication (Increasing staff skills and confidence, in providing the service and in the recruitment/"selling" of the service, as well as redefining roles and responsibilities of the team)
- Integration tactics (initiate techniques to assist breaking habits and to improve the integration of the service into routine practice eg. reminders, providing incentives or disincentives and conducting performance reviews)
- Ongoing training
- Goal/target setting (eg. for numbers of patients or 'services' provided)
- Monitoring/evaluation (eg. of targets, fidelity, reach, patient/consumer feedback, economic factors, procedures, time to conduct)
- Adaptation (based on monitoring/evaluation eg. moving location or time of the service)
- Improvement (made to increase efficiency and proficiency without changing the service)

Sustainability

- Monitoring
- Adaptation
- Improvement

Top level leadership needed to include support, drive and push from the owner and/or manager. This type of leadership was necessary in addition to the role and responsibilities of an internal leader or champion.

Implementing cognitive services in community pharmacy: a review of models and frameworks for change[8]

Implementation models

Janke and Tobin recognised the need for models that focus on the practice change process. Their model, which was tested and refined at a demonstration site pharmacy, consists of ten steps, which they contend will prepare the pharmacy for change:

1. expansion of communication, critical thinking and clinical knowledge and skills
2. streamlining and organising activities to reduce time wastage in the dispensary
3. defining the role of the dispensary technician, including delegating tasks that need not necessarily be performed by a pharmacist
4. improvement of existing services by creating an inventory and encouraging consistency
5. communication with patients through focus groups, meetings and exit surveys
6. initiation of the services, by identifying need, promoting the service, working as a team to plan and identify resources and training required
7. developing relationships with other health professionals, especially local doctors
8. creation of guidelines for practice, including goals and performance expectations
9. bringing services together to form packages e.g. a 'wellness club'
10. feedback from patients and staff.