ACI NSW Agency for Clinical Innovation

LEADING BETTER VALUE CARE

REPORT

Osteoarthritis Chronic Care Program

Monitoring and evaluation plan

Health Economics and Evaluation Team

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Glossary and acronyms

Term	Definition
ACI	Agency for Clinical Innovation
BaU	Business as usual
BHI	Bureau of Health Information
CTS	Concurrent triangulation strategy
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification
IHI	Institute of Healthcare Improvement
LBVC	Leading Better Value Care
LHD	Local Health District/s
M&E	Monitoring and Evaluation
Ministry	Ministry of Health
NSW	New South Wales
OA	Osteoarthritis
OACCP	Osteoarthritis chronic care program
PREM	Patient reported experience measure
PROM	Patient reported outcome measure
PROMIS-29	Patient Reported Outcomes Measurement Information System
Roadmaps	A program management tool to oversee achievement of program milestones
SLA	Service Level Agreement

Glossary of evaluation terms

Baseline a pre-intervention assessment that is used to compare changes after implementation.

Dose response in this context is the examination of the link between dose and response as part of determining if a program caused the outcome and to what extent.

Economic evaluation is the process of systematic identification, measurement and valuation of inputs and outcomes of two alternative activities, and the subsequent comparative analysis of these. Economic evaluation methods provide a systematic way to identify, measure, value, and compare the costs and consequences of various programs, policies, or interventions.

Efficiency is a measure of how economic inputs (resources such as funds, expertise, time) are converted into results.

Evaluability is an assessment of the extent that an intervention can be evaluated in a reliable and credible fashion.

Evaluand is the subject of an evaluation, typically a program or system rather than a person.

Focus group is a group of people, selected for their relevance to an evaluation. Focus groups are facilitated by a trained facilitator in a series of discussions designed to share insights, ideas, and observations on a topic of concern.

Evaluation domains

Appropriateness is the extent that program activities are appropriate for the outcomes in which it is to achieve.

Effectiveness measures program effects in the target population/patient cohort by assessing the progress in the outcomes that the program is to achieve.

Impact is the long-term, cumulative effect of programs/interventions over time on what they ultimately aim to change. It assesses program effectiveness in achieving its ultimate goals.

Sustainability is the extent that the benefits of a program are maintained after formal support has ended.

Access and reach measures how accessible the program is to the target population (access) and how many of the target population have accessed the program (reach).

Formative and summative evaluation

Formative evaluation (monitoring) in formative (early) evaluation, programs or projects are typically assessed during their development or early implementation to provide information about how to revise and modify for improvement. In terms of the Leading Better Value Care program, there are two realms of formative evaluation. The first is the formative evaluation of the statewide program to indicate if programs are progressing towards goals and to define what improvements can be made to the overall program. The second realm is the assessment of the program at a site level to determine what is needed for local improvements.

Summative evaluation (impact) the purpose of summative evaluation is to make value judgements on the worth, merit and significance of a program. This is typically assessed at the end of an operating cycle or once a program has been settled. Findings are used to help decide whether a program should be adopted, continued, or modified.

Implementation fidelity is the degree that an intervention has been delivered as intended and is critical to the successful translation of evidence-based interventions into practice.

Implicit design is a design with no formal control group and where measurement is made before and after exposure to the program.

Indicator is a specific, observable, and measurable characteristic or change that shows the progress a program is making toward achieving a specific outcome.

Inferential statistical analysis is statistical analysis using models to confirm relationships

among variables of interest or to generalise findings to an overall population.

Interrupted time series analysis is a continuous sequence of observations on a population, taken repeatedly (normally at equal intervals) over time to measure changes and map trends.

Interview guide is a list of issues or questions that guide the discussion in an interview.

Linear mixed models are an extension to the linear model. It includes random effects in addition to the usual fixed effects.

Longitudinal data or **pre and post analysis** is collected over a period of time, sometimes involving a stream of data for particular persons or entities to show trends.

Macro-meso-micro evaluation approach refers to a three level approach to evaluation. In terms of Leading Better Value Care, this is:

- macro – statewide
- meso – LHD
- micro – local sites.

Measuring tools or instruments are devises used to collect data (such as questionnaires, interview guidelines, audits and observation record forms).

Monitoring and evaluation (M&E) is a process that helps improve performance and achieve results. Its goal is to improve current and future management of outputs, outcomes and impact.

Multiple lines of evidence is the use of several independent evaluation strategies to address the same evaluation issue, relying on different data sources, analytical methods, or both.

Primary data is collected by an evaluation team specifically for the evaluation study.

Program in terms of program evaluation, a program is a set of activities managed together over a sustained period of time that aims to achieve outcomes for a client or client group.

Program evaluation is a rigorous, systematic and objective process to assess a program's effectiveness, efficiency, appropriateness and sustainability.

Program theory and program logic

> **Program theory** explains how and why the program is intended to work and the causal links between activities and consequences.
>
> **Program logic** is a pictorial depiction of the program theory.

Qualitative data are observations that are categorical rather than numerical, and often involve knowledge, attitudes, perceptions, and intentions.

Quantitative data are observations that are numerical.

Secondary data is collected and recorded by another person or organisation, usually for different purposes than the current evaluation.

Stakeholders are people or organisations that are invested in a program or that are interested in the results or what will be done with the results of an evaluation.

Statistical analysis is the manipulation of numerical or categorical data to predict phenomena, to draw conclusions about relationships among variables or to generalise results.

Stratified sampling is a probability sampling technique that divides a population into relatively homogeneous layers called strata, and selects appropriate samples independently in each of those layers.

Surveys are a data collection method that involves a planned effort to collect needed data from a sample (or a complete census) of the relevant population. The relevant population consists of people or entities affected by the program.

Triangulation, in the context of Leading Better Value Care, facilitates validation of data through cross verification from more than two sources.

Utility is the extent that an evaluation produces and disseminates reports that informs relevant audiences and have beneficial impact on their work.

The following table outlines the monitoring and evaluation cycle to Leading Better Value Care programs.

Table 1 Monitoring and evaluation cycle, Leading Better Value Care programs

Evaluative perspectives	**Expected economic benefits** from the intervention – predicted	**Evidence foundations** of the intervention – program theory/logic model	**Implementation evaluation** – intervention coverage, fidelity of implementation and contributing factors	**Outcomes evaluation** – patient and provider experience and patient outcomes	**Economic evaluation** – benefits and return on investment
Planning	Quantitative	Qualitative/ quantitative			
Formative evaluation – early and ongoing alongside quarterly reporting			Qualitative/ quantitative	Quantitative	Quantitative
Summative evaluation – at 12 months and 2 years			Qualitative/ quantitative	Quantitative	Quantitative

Executive summary

Arthritis is a chronic disease of the joints that affects almost 20 percent of the population in Australia today. It is expected to increase to 25 percent by 2050 as a result of the aging population. Osteoarthritis (OA) is the most common form of arthritis and emerging evidence reveals that its presence doubles mortality rates compared to individuals without OA. Almost one third of people with OA will suffer disability and compromised quality of life[1].

The growing burden of OA means that current care modalities are unsustainable. Alternative models are needed to improve health outcomes and ensure healthcare efficiency. A literature review undertaken by the Agency of Clinical Innovation (ACI) Musculoskeletal Network indicates that a conservative management approach significantly improves outcomes. This comprises of strategies that can relieve pain and minimise disability through self-management, exercise, injury avoidance, weight loss, pharmacology treatment and timely access to surgery. These interventions form the key activities in the Musculoskeletal Network Osteoarthritis chronic care program (OACCP) model of care.

The OACCP is a multidisciplinary chronic care program for people with hip and knee OA, most of whom are awaiting elective joint replacement surgery. Eligible participants include people with OA who experience significant hip or knee pain most days of the previous month.

In late 2016, the NSW Ministry of Health (MoH) launched the Leading Better Value Care (LBVC) program. This program is aimed at changing the focus of the NSW Healthcare system from volume to value. This will be realised by using the Institute of Healthcare Improvement (IHI) Triple Aim approach of aligning healthcare with improved patient and provider experience, improved population health outcomes and system efficiency and effectiveness.

The OACCP has been piloted across 11 sites in NSW. As part of LBVC osteoarthritis management program, the OACCP model of care will be implemented across all local health districts in NSW in 2017-18.

This document provides the monitoring and evaluation (M&E) plan for OACCP, as part of LBVC. It outlines a mixed methods approach to answer key evaluation questions with a focus on patient and carer experience, efficiency and effectiveness of care.

The evaluation will assess the extent to which the OACCP has led to the system changes required to achieve the intended outcomes. Findings will be used to guide local and statewide service improvements and contribute to investment decisions aimed at improving outcomes for the people of NSW.

ACI will lead the data collection, analyses and feedback process for the formative and summative evaluation components in collaboration with state-wide data custodians, local health districts implementation teams, other pillars and the Ministry.

[1] Australian Institute of Health and Welfare. How does osteoarthritis affect quality of life? [Internet]. Canberra: AIHW; 2017 [cited 2017 Jun]. Available from: http://www.aihw.gov.au/osteoarthritis/quality-of-life/.

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Tables and figures

Introduction

Osteoarthritis in Australia

Arthritis affects more than 15% of the Australian population and the incidence is projected to increase to almost 25% by 2050[2]. Whilst arthritis can affect people at any age, it is more prevalent in older people, with evidence of osteoarthritis (OA) in more than 25% of Australians over the age of 65[3].

As a chronic, non-fatal condition, there is a common misconception that OA is an inevitable part of growing older. OA is the clinical and pathological outcome of a range of disorders that result in structural and functional failure of synovial joints. This progressive joint failure can cause pain, stiffness and loss of joint function. In 2007, Australian health system expenditure on OA was $2.3 billion[4]. Health expenditure on arthritis in general was more than was spent on coronary heart disease, diabetes, depression, stroke or asthma. As the Australian population ages, and the prevalence of obesity and associated joint injury increases, OA will place an increasing burden on individuals, societies and healthcare systems.

Document outline

This plan outlines the monitoring and evaluation (M&E) approach to the Leading Better Value Care (LBVC) initiative for osteoarthritis management. It is to be read in conjunction with the Agency for Clinical Innovation (ACI) Musculoskeletal Network *Osteoarthritis chronic care program (OACCP) model of care,*[5] and has been informed by key documents relating to the OACCP in NSW. It draws heavily on the *Osteoarthritis chronic care program evaluation* completed by Deloitte Access Economics for the ACI in 2014, as well as the ACI's 2014 *Evaluation plan for the Osteoarthritis chronic care program* and the fiscal analysis of the OACCP program completed in 2015. The plan comprises:

- an overview of the NSW LBVC initiative
- an overview of the OACCP model of care
- explanation of measurement alignment across the levels of monitoring and evaluation
- the purpose, parameters and limitations of the evaluation
- a program logic showing the activities and change required to achieve the program outcomes
- key evaluation questions derived from the program logic
- the methods, data sources and analysis that will be conducted to answer the key questions
- the governance, codes of behaviour and ethical framework that underpin the evaluation
- identification of relevant audiences and communication of findings.

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[2] Australian Institute of Health and Welfare 2007. A picture of osteoarthritis in Australia. Arthritis series no. 5. Cat. no. PHE 93. Canberra: AIHW.
[3] Ibid
[4] Ibid
[5] Musculoskeletal Network. Osteoarthritis chronic care program model of care. Chatswood: Agency of Clinical Innovation; 2012. 44p.

Background

Leading Better Value Care

In 2016, the NSW Ministry of Health (MoH) made a commitment to improving the health of people in NSW by shifting focus to value rather than volume. This resulted in the development of LBVC, a statewide program incorporating specific initiatives aimed at improving the NSW health system performance against The Institute of Healthcare Improvement (IHI) Triple Aim of improving patient and provider experience, population health outcomes, and system efficiency and effectiveness[6].

Leading Better Value Care involves the implementation of eight selected clinical programs in the 2017-18 financial year with a goal of delivering improved clinical outcomes, patient experience and cost benefits. One of these programs is osteoarthritis management through the further expansion of the OACCP model of care across all local health districts (LHDs) in NSW.

Figure 1 Triple Aim of LBVC

Leading Better Value Care initiatives will be implemented by each LHD and incorporated into LHD roadmaps and service level agreements (SLAs) for the purpose of monitoring and informing local quality improvements. A comprehensive impact evaluation will be undertaken after programs have been implemented within each LHD. The purpose of evaluation will be to assess the overall impact of each initiative and guide decision-making around the value (worth, merit and significance) of the LBVC program.

The OACCP model of care

Goals and objectives

The OACCP is a comprehensive, multidisciplinary treatment program for osteoarthritis of the hip or knee. The model provides for care within a chronic disease management model, rather than single practitioner, episodic care. Essential to this model are practices that incorporate best practice physical and psychosocial management, and strategies to encourage collaboration and communication between health providers across disciplines and settings. The improved involvement and communication between health care practitioners participating in this multidisciplinary model has been shown to improve individual disease management and outcomes. The chronic care approach requires collaboration between all stakeholders and their respective professional societies. These include individuals with OA and their carers, family and

[6] Further information about the IHI triple aim can be found at **http://www.ihi.org/Engage/Initiatives/TripleAim/Pages/default.aspx**

friends, consumer advocacy groups such as Arthritis NSW, Local Health Districts (LHDs) Clinical Councils, allied health professionals, nurses, general practitioners (GPs) in primary care, specialist medical practitioners, and the professional bodies that these health practitioners belong.

The main goals of management of OA of the hip and knee are:

- symptom control of pain and stiffness
- limitation of disease progression
- optimisation and maintenance of function
- optimisation and maintenance of quality of life
- effective use of health care.

Monitoring and evaluation

Purpose of the evaluation

The ACI is committed to research and evaluation. This will provide the evidence base required to contribute to development of effective models of care for implementation across NSW and to inform future policies and program development. The purpose of the OACCP evaluation plan is to:

- assess the implementation and delivery of the OACCP across LHDs to determine success factors and barriers for optimising the program
- assess the impact of the OACCP through system improvements and healthcare efficiencies
- measure the implications and impacts of activities
- define the data matrix to measure the key evaluation questions.

These purposes will be realised through the Ministry's measurement alignment framework that aims to create shared priorities across the NSW health system. The main components of this approach include that:

- The MoH will continue as system administrator, purchaser and manager and will articulate the priorities for NSW Health through SLAs with LHDs, SHNs and Pillars, including the ACI and the Clinical Excellence Commission (CEC). Performance will be monitored in line with the NSW Health performance framework.
- LHD/SHNs will determine implementation plans reflective of their local circumstances. The Pillars will support LHDs in a flexible and customisable manner, as required, to meet individual LHD needs.
- The LBVC program initiatives will evaluate impact as outlined in M&E plans. The primary objective is to assess the impact of these initiatives across the Triple Aim.

This M&E plan outlines the approach for all three components described above.

Parameters of the evaluation

Evaluation of the OACCP will examine the extent that outcomes have been met based on the experience and outcomes of patients, staff and systems. Monitoring of program implementation and progress towards achieving these goals will be undertaken through roadmaps and SLAs.

The impact evaluation of OACCP will occur at a statewide level. Data collection and analysis of the impact evaluation will be the responsibility of the respective Pillars.

In defining the best way to measure changes, data requirements have been identified in this plan but may not be available at this stage. Further work will be required to establish these data collection systems. This will include (but is not limited to) establishing patient reported outcome measures within electronic medical records and systematic collection of patient and clinical indicators.

Method

Design

Monitoring and evaluation of the OACCP will use a mixed methods approach including assessment of administrative utilisation data and primary data collections such as patient reported outcomes, patient experience, clinical outcomes, staff experience and reflective practice. A linear mixed model approach will be used to enable a correlation structure.

To address different starting points of OACCP within LHDs, a dose response analysis will occur to determine any association between the extent that programs are implemented and patient outcomes. This will require the results of LHD roadmaps and SLAs to compare with outcomes. LHDs can use results to develop ongoing improvement strategies and continually refine their programs.

A concurrent triangulation strategy (CTS) will be used as the analysis lens for data. This involves using the results of the different data collections (quantitative and qualitative) in parallel to cross validate results and draw deeper insights than one data collection alone can provide.

Further information about methods can be found in the Data and Analysis Matrix in table 1.

Measurement alignment

The LBVC program relies on streamlining data through a comprehensive system of measurement alignment across data collection and reporting systems. This M&E plan has been developed consistent with this approach.

There are three measurement levels aligned to guide LBVC programs through implementation milestones to the achievement of end of program outcomes (Figure 2).

These three levels include:

- program/project roadmaps
- service level agreements

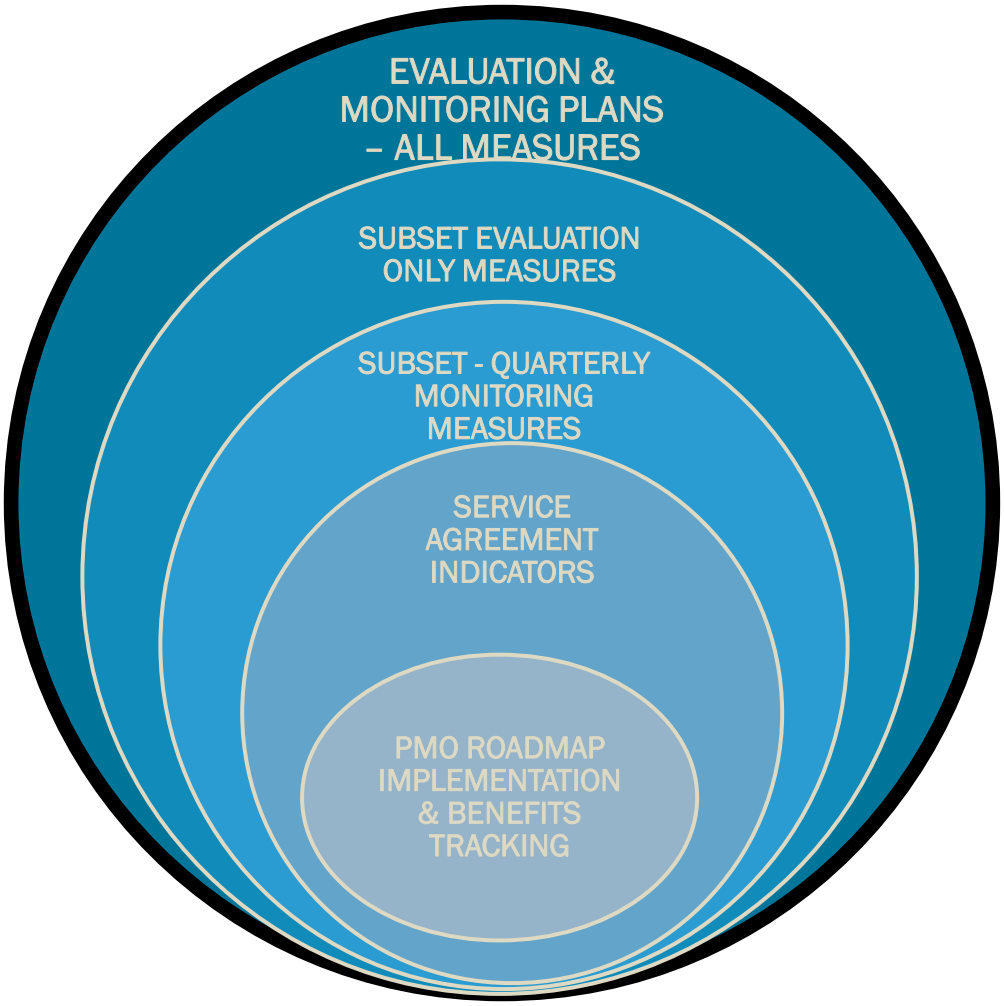
- impact evaluation

The measurement alignment within the M&E framework will enable:

- Oversight of program delivery against anticipated milestones to identify and manage unexpected deviations (monitoring via roadmaps and SLAs).
- A clear structure and method for the statewide end of program impact evaluation to guide investment, disinvestment and future improvements.
- A consistent source of data collection that is integrated to avoid variations and duplication.

In the first year of implementation, an additional level of monitoring will be in place to monitor LHD progress towards OACCP implementation. This will be measured quarterly, collected and analysed by ACI. After 12 months, ACI will use the results from the quarterly reporting data to assess outcomes achieved and apply these to a formative economic/fiscal analysis.

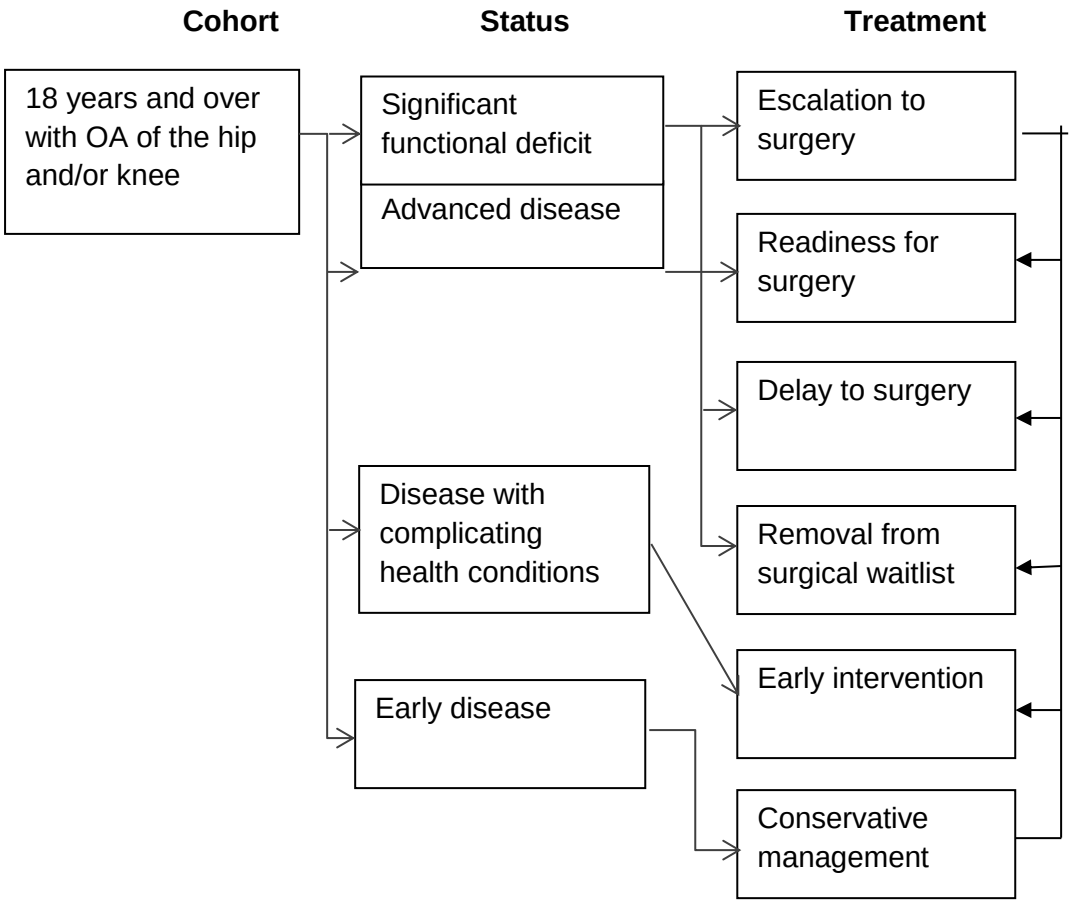
Figure 2 Measurement alignment approach for LBVC programs



Patient cohort

The patient cohort for the OACCP are people aged 18 years and over in NSW with a diagnosis of OA and modifiable risk factors such as obesity or poor muscle strength and control, who are likely to benefit from self-management strategies. The following table depicts the patient cohort and the OACCP response to each of these groupings following conservative management.

Figure 3 OACCP overview of patient cohort



This patient cohort is specifically defined through International Classification of Disease (ICD) - 10 codes to identify patients with OA of the knee or hip as shown in table 2.

Table 2 ICD-10 codes OACCP

ICD-10-AM code	ICD-10-AM descriptions
Hip Osteoarthritis (Coxarthrosis M16.-)	
M16.0	Primary Coxarthrosis Bilateral
M16.1	Other primary coxarthrosis

ICD-10-AM code	ICD-10-AM descriptions
M16.2	Coxarthrosis resulting from dysplasia, bilateral
M16.3	Other dysplastic coxarthrosis
M16.4	Post-traumatic coxarthrosis, bilateral
M16.5	Other post-traumatic coxarthrosis
M16.6	Other secondary coxarthrosis, bilateral
M16.7	Other secondary coxarthrosis
M16.9	Coxarthrosis, unspecified
Knee Osteoarthritis (Gonarthrosis M17.-)	
M17.0	Primary gonarthrosis, bilateral
M17.1	Other primary gonarthrosis
M17.2	Post-traumatic gonarthrosis, bilateral
M17.3	Other post-traumatic gonarthrosis
M17.4	Other secondary gonarthrosis, bilateral
M17.5	Other secondary gonarthrosis
M17.9	Gonarthrosis, unspecified

Once identified, Diagnostic Related Groups (DRGs) are applied to finalise the cohort into those with knee and/or hip OA that have undergone hip and/or knee replacements or revisions as shown contained in table 3.

Table 3 DRGs OACCP

AR DRG codes	Description	
I03A	Hip Replacement W Catastrophic CC	
I03B	Hip Replacement W/O Catastrophic CC	
I04A	Knee Replacement W Catastrophic or Severe CC	
I04B	Knee Replacement W/O Catastrophic or Severe CC	

AR DRG codes	Description	
I31A	Hip Revision W Catastrophic CC	
I31B	Hip Revision W/O Catastrophic CC	
I32A	Knee Revision W Catastrophic CC	
I32B	Knee Revision W Severe CC	
I32C	Knee Revision W/O Catastrophic or Severe CC	

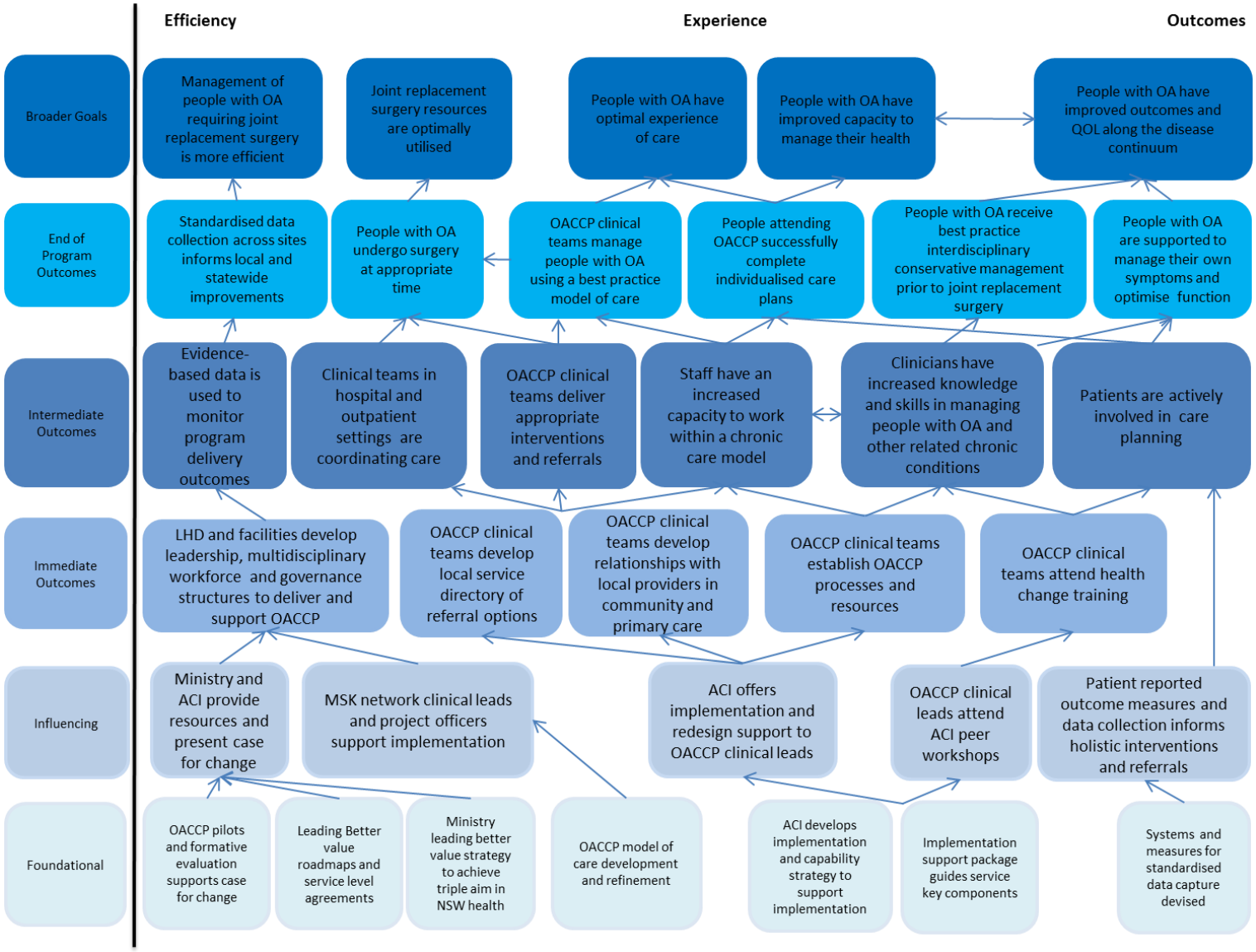
Baseline

Baseline data will be collected in mid-2017 to facilitate a dose response analysis (or where significant difference in OACCP is indicated across the state, a stepped wedge model). For LHDs that have not yet implemented OACCP, pre-implementation analysis will be an important component of guiding improvements expected in each LHD.

Program logic

The program logic at figure 4 has been developed to guide monitoring and evaluation of the OACCP from foundational and influencing activities through to intended outcomes. The logic should be viewed from bottom to top.

Figure 4 Program logic for OACCP



Assumptions underlying the program logic

The program logic has several key assumptions underlying the OACCP program. These are referred to as the program theory (or evidence base). These assumptions are:

- the evidence that supported the development of the OACCP is sound and remains current
- OACCP is acceptable to providers and patients/end users
- LHDs are equipped to support implementation of the program.

If OACCP has been implemented but outcomes are not achieved, the underlying assumptions will be tested as part of program theory assessment.

Key evaluation questions

Evaluation questions are used to guide the focus of an evaluation. The key questions are determined based on the program logic and in particular the immediate, intermediate and end of program outcomes (Table 4).

The questions are grouped into domains consistent with evaluation approaches and the measurement alignment domains.

Table 4 Key evaluation questions

Evaluation approach	Measurement alignment domain	Key evaluation question
Appropriateness	Implementation fidelity (Roadmaps)	To what extent was the OACCP implemented as planned?
Effectiveness	Improving experience of care (Impact)	What were the barriers and success factors that contributed to OACCP achieving its end of program outcomes?
		What outcomes have been achieved for the participants, service providers, and the healthcare system?
		To what extent did OACCP impact staff knowledge, capacity and experience?
Impact	Improving healthcare of the public (Impact)	To what extent did OACCP impact patient outcomes and experience?
Sustainability	Providing efficient and appropriate care	How did OACCP impact on service utilisation and costs?

Evaluation approach	Measurement alignment domain	Key evaluation question
Access and reach	Providing efficient and appropriate care	For whom did the OACCP work and in what context?
		Did OACCP reach its intended recipients?

Data and analysis matrix

Table 5 provides the data and analysis framework for monitoring and evaluation of OACCP. Baseline data will form the comparator for patient and staff experience and program changes to be measured against. Data relating to particular interventions such as the clinical outcome indicators will be measured when participants are recruited into the OACCP, and trended as treatment progresses.

ACI will lead the data collection, analyses and feedback process for the formative and summative evaluation components in collaboration with state-wide data custodians, local health districts implementation teams, other pillars and the Ministry.

Additional indicators focussing on implementation may be included in specific LHD Roadmaps.

Table 5 OACCP data and analysis matrix

Key evaluation question	Reporting alignment and frequency	Measure	Method	Data source	Analysis
To what extent was the OACCP implemented as planned?	Monitoring – SLA, annual	Total # of non-admitted service units registered in HERO under the LBVC initiative to support services provided to targeted patient cohorts	MoH data collection – HERO	HSIPR report	Descriptive analysis
	Monitoring – quarterly measures	# and % of eligible patients recruited to OACCP # and % of people assessed who have had a management plan developed as % of total referred for assessment	OACCP data collection 12 month analysis of progress Economic/fiscal analysis of	Data collection to be developed	Descriptive pre and post comparison Analysis of benefits realised after 12 months.

Key evaluation question	Reporting alignment and frequency	Measure	Method	Data source	Analysis
		# and % patients having 3 month follow up after initial assessment # and % people completing their recommended management plan within 3 months of assessment # referred to surgery (NWAUs) # removed from surgical waitlists # escalated to surgical waitlist (NWAUs, separations, beddays) Inpatient utilisation Non-admitted utilisation (NWAUs, service events)	results	Admitted Patient Data Collection	Benefits realised will be applied to economic/fiscal analysis through separations, beddays, NWAUs avoided Economic/fiscal benefits applied to BaU to determine indicative benefits
What were the barriers and success factors that contributed to OACCP achieving its end of program outcomes?	Evaluation	Facilitators and barriers to achieving end of program outcomes from system and staff perspectives	Semi structured interviews from a selection of LHDs using, where possible, a deviant case sample approach based on outcome achievement	Primary data collection	Deductive analysis based on coding verbatim transcripts into pre-selected domains from Success factors for strategic change initiatives framework

Key evaluation question	Reporting alignment and frequency	Measure	Method	Data source	Analysis
What outcomes have been achieved for the participants, service providers, and the healthcare system?	Evaluation	Post assessment of baseline data Disease specific measures: Pain level❄ Hip or knee functional status Physical activity Patient reported outcomes numeric or visual analogue scale HOOS or KOOS TUG or 6MWT	Repeated cross-sectional measurement Promis-29 OACCP data collection	Admitted Patient Data Collection PROMS and OACCP data collections to be developed	Comparison at baseline and yearly thereon after
To what extent did OACCP impact staff knowledge, capacity and experience?	Evaluation	→ Knowledge and attitude change → Practice changes resulting from knowledge and attitude change → Uptake of training in Behaviour Change (HCA two-day workshop)	Pre and post training questionnaire repeated again 12 months after training	Primary data collection	Comparison of results of surveys and outcomes achieved
To what extent did OACCP impact patient experience?	Evaluation	Patient and carer experience of OACCP	BHI patient survey linked to patient cohort as baseline and sampling for post assessments (oversampling where necessary)	BHI patient survey	Impact of changes in care processes on patient and carer experience. Pre and post comparisons

Key evaluation question	Reporting alignment and frequency	Measure	Method	Data source	Analysis
How did OACCP impact on service utilisation and costs?	Evaluation	Patient utilisation – separations, beddays, NWAUs – inpatient and clinic service events❄	Economic comparison of BaU base case with post implementation results (fiscal and utilisation) Summative economic evaluation (comparative economic analysis of pre and post implementation utilisation and fiscal results) NSW Return on Investment for project	Admitted Patient Data Collection HERO	Summative assessment of net impact through comparison of quantifiable costs and benefits of the base case with the quantifiable costs and benefits of implementation of the model of care The summative evaluation including economic analysis identifying return on investment, net present value and utilisation analysis results will inform decisions regarding ongoing investment
For whom did the OACCP work and in what context?	Evaluation	Patient characteristics	Outcomes by sub-group analysis	Admitted Patient Data Collection HERO OACCP	Comparison of patient characteristics against outcomes - sub group analysis where

Key evaluation question	Reporting alignment and frequency	Measure	Method	Data source	Analysis
				collection (to be developed	appropriate
Did OACCP reach its intended recipients?	Evaluation	# OACCP patients compared to total eligible cohort Mapping of clinics to assess accessibility	Descriptive OACCP collection	OACCP data collection to be developed	Descriptive analysis

Risks

There are inherent risks to any evaluation. The major risks identified for the OACCP monitoring and evaluation plan include that:

- The plan provides a comprehensive guide to M&E that measures value through clinical/system efficacy, patient experience and patient reported measures. Not all of these measures are collected in current data collection systems and therefore may not be available to complete the evaluation as planned.
- The M&E plan is aligned to the MoH Measurement alignment framework that is based on a macro-meso-micro approach of cooperation across the health system. It assigns monitoring to roadmaps and SLAs and evaluation to the Pillars. This requires clear communication and collaboration to be effective. There is a risk that this may not eventuate if relevant relationships to facilitate this process are not established early and shared understandings of responsibility are not developed.

These risks are to be documented by the oversight LBVC governance structure, mitigation strategies developed, and monitored closely.

Governance

Consistent with the *NSW Program Evaluation Guidelines* and the *ACI Framework: Understanding Program Evaluation*, the evaluation of the LBVC initiative for OA management will be conducted by ACI Health Economics and Evaluation Team and include an Evaluation Steering Committee. The Steering Committee will comprise content area experts (clinicians) and evaluation expertise with representation from LHDs, the Musculoskeletal Network and independent experts at a minimum.

The Steering Committee will be responsible for ensuring that the evaluation is conducted in accordance with this M&E plan and to ensure findings are communicated to relevant stakeholders and audiences. A checklist against the *NSW Program Evaluation Guidelines* is attached at Appendix I and is to be used to guide the evaluation activities.

Terms of Reference for the evaluation will be developed at the time of establishing the Steering Committee.

Communication and reporting plan

The dissemination of evaluation findings will be critical to inform future planning and investment decisions related to the improving the outcomes and experience for people with OA. Communication of evaluation findings will be provided in an appropriate form to each audience and stakeholder group identified. Forums for feedback and discussion of results will be important for reflection and learning. The OACCP evaluation governance committee will define a communication plan.

Audience and stakeholders

Key audiences and stakeholders for the OACCP monitoring and evaluation include:

- The NSW Ministry Senior Executive Forum membership; NSW Health Executive and Chief Executives, including the LBVC leadership team: interest in overall impact and future investment or disinvestment decisions.
- The ACI Executive and Network Managers: to understand program effectiveness, impact and directions for this and future programs. To understand, explain factors affecting clinical variation.
- The ACI Musculoskeletal Network: to assess program effectiveness and provide feedback loop for ongoing improvement in the care of people with OA.
- LHD clinicians, service managers and executive: to understand factors affecting local performance and comparison with state and/or peer group equivalents, and to implement local quality improvement initiatives.
- People with OA and their carers: as partners in the care provided.

Codes of behaviour and ethics

This M&E plan comprises the delivery of human services and potentially confidential information. The evaluation will be conducted in an ethical manner and all individual records will be destroyed at the end of the evaluation.

The evaluation will be conducted in compliance with:

- *ACI Responsible governance, management and conduct of research: An ACI framework*[7]
- Australasian Evaluation Society (AES) Guidelines for the ethical conduct of evaluations[8]
- National Health and Medical Research Council (NHMRC) *National Statement on Ethical Conduct of Human Research*[9]*.*

References

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[8] Australasian Evaluation Society. Guidelines for the ethical conduct of evaluations. NSW: AES, 2013. Available from: https://www.aes.asn.au/images/stories/files/membership/AES_Guidelines_web_v2.pdf
[9] The National Health and Medical Research Council, the Australian Research Council and the Australian Vice-Chancellors' Committee. National statement on ethical conduct in human research. Canberra: Commonwealth of Australia: 2007 [updated May 2015; cited 2017 Mar 20]. Available from: https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72_national_statement_may_2015_150514_a.pdf

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7. The National Health and Medical Research Council, the Australian Research Council and the Australian Vice-Chancellors' Committee. National statement on ethical conduct in human research. Canberra: Commonwealth of Australia: 2007 [updated May 2015; cited 2017 Mar 20]. Available from: https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72_national_statement_may_2015_150514_a.pdf

Appendices

Evaluation of programs in ACI checklist

Compliance with the NSW Government Program Evaluation Guidelines (January 2016)

This checklist is designed to assist people involved in evaluations in ACI ensure that evaluations are consistent with the NSW Government Program Evaluation Guidelines. A full copy of the Guidelines and the corresponding Toolkit can be accessed here:
https://www.treasury.nsw.gov.au/projects-initiatives/centre-program-evaluation

Definitions

Program evaluation builds evidence to contribute to decision making that can assist programs to operate at their optimal and to deliver good outcomes to end users.
In terms of evaluation in NSW, program refers to *"A set of activities managed together over a sustained period of time that aim to achieve an outcome for a client or client group.*" Program evaluation refers to *"A rigorous, systematic and objective process to assess a program's effectiveness, efficiency, appropriateness and sustainability."*

Principles (quick check)

The Guidelines take a principles based approach using nine principles that underpin best practice in program evaluation. These are noted below for quick assessment. The principles and associated activities form the remainder of this checklist under a series of focus areas.

Principle	Check (✓)
Evaluation has been built into the program design	
Evaluation is based on sound methods	
Resources and adequate time to evaluate is included in the program	
The right mix of expertise and independence has been used to develop and undertake the evaluation	
Proper governance and oversight has been established	
The evaluation design and conduct in its undertaking meets ethical standards	
Relevant stakeholders have informed and guided the evaluation	
Evaluation data has been used meaningfully	
The evaluation is transparent and open to scrutiny	

Planning evaluation

Assessment of key processes underpinning good practice	Check (✓)	Corresponding page # in Guidelines
Has the subject of the evaluation been clearly defined?		11
Is there a clearly defined scope?		11
Is the purpose of the evaluation clear (ie what decisions will the evaluation be used to inform – continuing, expanding or discontinuing)?		11

Assessment of key processes underpinning good practice	Check (✓)	Corresponding page # in Guidelines
Are key roles and responsibilities for the evaluation allocated (who will manage, who will commission, who will conduct, who will implement findings)?		11
Are key evaluation questions defined?		11
Is there an authorising environment for the evaluation (ie: authorisation to access data, interview end users/staff)?		15

Governance

Use governance processes to ensure oversight of evaluation design, implementation and reporting.

Assessment of key processes underpinning good practice	Check (✓)	Corresponding page # in Guidelines
Is there a governance structure in place to oversight the evaluation?		11
Does the governance structure include staff with appropriate seniority and understanding of evaluation?		11
Does the governance structure include staff/stakeholders with expertise in the content area?		11
Does the governance structure include staff/stakeholders with expertise in evaluation methods?		11
Does the governance structure include processes to disseminate information?		11

Audience and stakeholders

Assessment of key processes underpinning good practice	Check (✓)	Corresponding page # in Guidelines
Do stakeholders include program participants, senior decision makers, government and non-government staff involved in managing and delivering the program?		15
Has audience (those that will receive and use the evaluation findings) been identified (ie executive funders, Cabinet, Network)?		11
Has a stakeholder communication strategy been developed as part of the evaluation plan?		12
Are stakeholders involved in all aspects of the evaluation – planning, design, conducting and understanding of the results?		12

Undertaking the evaluation

Assessment of key processes underpinning good practice	Check (✓)	Corresponding page # in Guidelines
Have good project management principles, practice and tools been established to manage the evaluation?		15
Have sound methods been established to answer each of the key evaluation questions and any sub questions?		11
Have data sources and analysis approaches been defined for each question/method?		11
Are data sources (both primary and secondary) valid and robust?		11
Has data been used meaningfully to report clear statements of findings for consideration?		11
Is the evaluation plan, conduct and findings (methods, assumptions and analyses) transparent and open to scrutiny?		12
Have the ethical implications of the evaluation activities been considered and addressed adequately where personal data and impacts on vulnerable groups is potential?		12
Are privacy safeguards in place for end users, staff and vulnerable populations?		12
Is ethics approval required and if so, sought prior to commencing data collection?		12

Using key findings

Assessment of key processes underpinning good practice	Check (✓)	Corresponding page # in Guidelines
Is there a plan for communicating findings to decision makers, service providers and other stakeholders?		16
Is there a plan for how the key findings will be used?		16

The Health Economics and Evaluation Team can be contacted for further advice.