# Tool: Defining and documenting your genomic models of care

Genomics and Your Hospital

A toolkit to support high-quality genomic care

This document is part of the Genomics and Your Hospital toolkit, a resource developed to support a 'whole of hospital' approach to genomic care. The complete toolkit is available at GenomicsToolkit.org.au.

The genomics toolkit was co-designed with many of Victoria's leading health services. During this process, it was observed that even in hospitals substantially advanced in their genomics journey there was a lack of visibility about – and unwarranted inconsistencies in – the models of care.

# Introduction

Unclear or unplanned models of care can reduce the safety, effectiveness and cost-effectiveness of the genomic medicine. As a result, it was identified there is likely to be benefit in hospitals having a structured process to review and determine their models of genomic care. This resource has been designed to support that process.

## What is a model of care?

A *model of care* outlines how health services are structured and delivered to individuals or specific cohorts as they navigate different stages of clinical care. It describes:

- the steps in care and care processes,
- the allocation and organisation of providers, resources and services, and
- the roles and responsibilities of various stakeholders along the care pathway.[1,2]

## Developing your model of care

Developing a model of care involves agreeing on and documenting:

1. **A process map**, outlining all steps involved in the care that is to be undertaken
2. **An assessment of inputs and expected outputs:**
   - at each step
   - for the process as a whole

To get started, it's recommended that the following steps are undertaken to develop your model of care:

1. **Identify stakeholders**
2. **Design your process map**
3. **Review and discuss considerations:**
   A. at each process step
   B. for the process as a whole
4. **Collate the information above to bring together your model of care**

# Get started

The sections below guide you through the steps. Further information about process mapping is also available at the end of this document.

The model of care is unlikely to be identical for each genomic care pathway. However, having a standardised approach to mapping each pathway locally and documenting the resources required and its expected outputs will likely reduce unwarranted variation and improve the quality, safety and value of the pathway.

## 1. Identify stakeholders

Who will be involved in the care management?

This may include those:

- Directly involved in care (patients, families)
- Providing direct clinical care
- Providing clinical leadership
- Providing funding/resourcing
- Providing organisational sponsorship

Determine process to gather feedback.

This may include:

- Interviews
- Workshops
- Focus groups
- Observation of patient journeys in different clinical settings

## 2. Agree on and document your genomic care process map

The questions below are based on common steps in care involving genomics. These can be used as a benchmark for considering the steps in your model of care. For more information on process mapping and how it can be used to document a model of care, refer to the *Further information* section at the end of the document.

A. **Review these steps and use them as baseline considerations for potential process steps in your model of care:**

- Are these steps relevant to your model of care?
- What is different? What is the same?
- Does anything need to be added/omitted/altered?

B. **Document the process steps in your genomic model of care**

| Possible steps in a genomic care pathway | Local response |
|---|---|
| **Identification of relevant patients**<br>Describe how relevant patients who may benefit from genomic testing/ counselling/medicine will be identified. Will the testing/counselling/ treatment occur locally or be referred to another site? | |
| **Testing pathway and options**<br>What steps are involved in collecting the test sample and sending to the lab?<br>■ Will all steps occur locally or be referred to another site?<br>■ How will the test be ordered (i.e., paper, electronic medical record, other methods)?<br>■ How will the test ordering be visible to other clinicians involved in care?<br>■ Who will determine appropriate test option(s)?<br>■ How will assessment of test appropriateness and possible alternatives be undertaken and fed back to the ordering clinician? | |
| **Ensuring effective consent discussions**<br>■ Describe your planned informed consent process:<br>- What needs to happen prior to discussions?<br>- Who will lead discussions?<br>- What documentation is required? Is this templated?<br>- What systems and processes will be required? | |

| Possible steps in a genomic care pathway | Local response |
|---|---|
| **Test completion**<br>■ Where will testing be performed? Will this occur in your laboratory or externally?<br>■ Is the laboratory NATA-accredited?<br>■ How is quality, safety and data governance assured?<br>■ How will results be reported?<br>■ How will test completion be notified and reports be provided to ordering clinicians?<br>■ In which hospital systems/records will the completed results be stored? How will these be accessed by relevant clinicians? Are appropriate patient confidentiality controls in place? | |
| **Clinical interpretation of test results**<br>■ How will testing be interpreted for (a) patient and (b) familial implications?<br>■ Is there a genomic champion or subject matter expert available for discussion?<br>■ Is there a regular multidisciplinary team meeting? Which cases will be reviewed at multi-disciplinary team meeting and how will this be determined?<br>■ What is the process for determining appropriate actions, if any, for uncertain results? | |
| **Results disclosure**<br>■ How will test results be accessed?<br>■ What steps are involved in disclosing results?<br>■ What will the process be for ensuring all results are disclosed and applied in a timely way? | |
| **Clinical management**<br>■ What will be the process for determining any changes in care based on genetic/genomic status of the patient?<br>■ Does this change the treatment options available to the patient? | |
| **Family support and communication of any risk to relatives**<br>■ What will be available to patients/families requiring support after receipt of test results?<br>■ What will be the process for identifying and communicating any genetic risk for relatives arising from the result?<br>■ What will be the decision-making process for any familial testing?<br>■ How and where will familial testing be undertaken?<br>■ Does your hospital have the capability to test adults and children (particularly if you are an adult/paediatric hospital)? If not, how will this be managed? | |
| **Other steps**<br>■ Are there steps in your process not included here?<br>■ What are the key considerations of these steps? | |

## 3a. Ask these questions for each step of your process map

Engage with your genomics leadership group and/or your stakeholders to discuss the following questions for each step in your process map. These questions are intended as a guide – there may be other questions that arise during the process which are relevant to your specific context.

For each step of your process map, document and agree on the following:

| Questions | Local response |
|---|---|
| What staff are involved in this step? What are their roles? | |
| Where will this step occur? | |
| What resourcing is required for this step?<br>▪ What space is required?<br>▪ What funding is required?<br>▪ What equipment/infrastructure is required?<br>▪ What consumables are required?<br>▪ How will this be managed/accessed? | |
| What is essential for this step to succeed? How will these success requirements be embedded? | |
| What patient and other information is required for this step to be performed? How will this be collected prior to any decision points. | |
| What might the challenges be at this step? How will they be managed? | |
| How do patients experience this step? What support/resources might they need? How will this be provided? | |
| Does anything from this step require documentation in the medical record? Who will undertake this? | |
| Does anything at this step require a reminder system? How will this be ensured? | |
| What are the potential risks that might occur at this step?<br>▪ How will those identified risks affect patient care?<br>▪ What can be done to control and/or mitigate them? | |
| What guardrails are in place to ensure early feedback, education and support for clinicians about optimal test ordering and clinical utilisation of results? | |

## 3b. Step back and consider your process map as a whole

Use these questions as prompt to address issues and opportunities that may impact the whole process.

| Questions | Local response |
|---|---|
| Are any components in the model standard of care emerging practice or research?<br>▪ Is the appropriate governance in place (see the **Screening tool for new genomic practice**) | |
| Who has oversight for ensuring the success of the end-to-end clinical process?<br>▪ Do they know this?<br>▪ What resources might they require?<br>▪ What training might they require? | |
| What is the expected total time between start (from patient's first entry into the health sector or first appointment with a medical specialist) and end (patients receive their genomic test results/doctors use the results in their care management)?<br>▪ How will timelines be monitored?<br>▪ Can the testing process be monitored?<br>▪ How will relevant clinicians and laboratory staff be able to see where a particular patient is in their journey?<br>▪ What escalation pathway is there for delays? | |
| Are there any non-value steps? Can these be removed/mitigated? | |
| What is the cost of the model? Are there any revenue opportunities? What is the funding source? | |
| What guardrails are in place to support delivery of safe, timely, effective care? | |
| Which gaps/problems in the existing care pathway are addressed by this new model of care?<br>▪ What are the priorities for action?<br>▪ What changes will the new model of care make to the existing model of care?<br>▪ What will we stop doing if we start this?<br>▪ What are the strengths in the existing model of care? How will they be maintained and promoted? | |

| Questions | Local response |
|---|---|
| How will resources needed for your model of care be funded and accessed? | |
| How will optimal patient experience be ensured?<br>▪ What resources are required to support an optimal patient experience? How will these be developed, maintained and disseminated?<br>▪ Who is the primary contact for patients with questions/ concerns? How will this be disseminated to patients? | |
| Are any organisational, systems or process changes required to support the implementation of a new model of care? How will this be undertaken? By whom? | |
| How will you monitor care to ensure it is safe and effective?<br>▪ What data will be captured? By whom?<br>▪ Where will the data be reviewed and monitored? | |

## Step 4: Collate your model of care

Once you have mapped the steps in your model and considered the relevant inputs, requirements, challenges and opportunities, this can be brought together to summarise your:

- model of care,
- staffing,
- resource and funding requirements for the model, and
- expected outcomes of the model.

This information can be used to understand what is required and also inform your metrics for assessing quality, safety and efficiency.

# Further information about developing your model of care

## Key development considerations for your model of care

The model of care should:

- Be based on the best available evidence
- Be based upon assessment of patient and health provider needs
- Be inclusive of consultation with key stakeholders
- Be patient-centred and support safe, quality care
- Link to local, state and federal strategic plans and initiatives
- Be considerate of the safety and well-being of healthcare providers
- Involve a multi-disciplinary approach where applicable
- Include interventions that are culturally sensitive and appropriate
- Have localised flexibility
- Considers equity of access
- Support efficient utilisation of resources
- Where possible, facilitate innovation and consider new ways of organising and delivering care
- Have a robust and standardised set of outcome measures and evaluation processes
- Set the vision for services in the future
- Be developed in collaboration with clinicians, managers, healthcare partners, community, patients and carers
- Include assessment of costing, funding and revenue opportunities
- Ensure that specialty and priority populations of patients have been considered

### What is process mapping and how can it be used to design a model of care?

Process mapping provides a visual representation of the processes of care within a given health system. It can:

- Provide an understanding of the reality, the local systems and practices, the barriers, facilitators, experiences, and interactions between different stakeholders (consumer-provider or provider-provider)
- Break down the complexity characterising health processes
- Identify and characterise the value-adding and non-value adding steps in a care process
- Identify the problems and areas for improvement
- Identify target behaviours for change and inform the design and implementation of a new model of care

# Recommended further reading


1. Antonacci, G., Lennox, L., Barlow, J., Evans, L., & Reed, J. (2021). Process mapping in healthcare: a systematic review. *BMC health services research, 21*, 1-15.
2. Best, S., Long, J. C., Braithwaite, J., & Taylor, N. (2023). Standardizing variation: Scaling up clinical genomics in Australia. *Genetics in Medicine, 25*(2), 100109.
3. Trebble, T. M., Hansi, N., Hydes, T., Smith, M. A., & Baker, M. (2010). Process mapping the patient journey: an introduction. *Bmj*, 341


# Endnotes


1. Davidson et al. (2006). Beyond the rhetoric: what do we mean by a 'model of care'?. Australian Journal of Advanced Nursing. 23(3):47-55
2. NSW Agency for Clinical Innovation, Understanding the process to implement a Model of Care (2013). Describes process and key considerations for implementing and evaluating new models of care. https://aci.health.nsw.gov.au/__data/assets/pdf_file/0009/181935/HS13-034_Framework-DevelopMoC_D7.pdf

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