Queensland Genomics

Bringing precision medicine to breast cancer care in Queensland.

ABOUT THE QUEENSLAND IMPLEMENTATION OF PRECISION ONCOLOGY IN BREAST CANCER (Q-IMPROVE) PROJECT

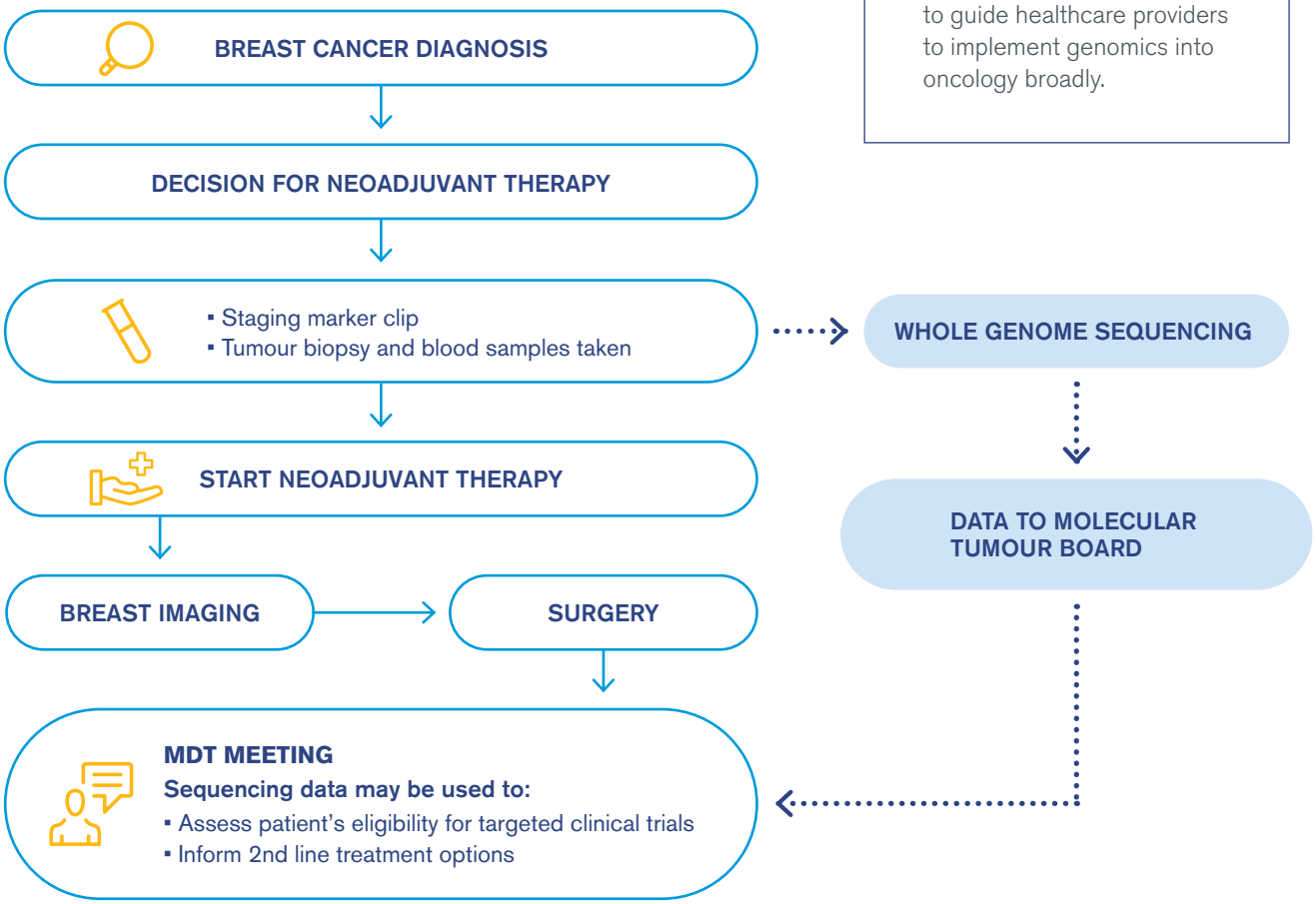
Q-IMPROvE is a pilot project using whole genome sequencing to identify the unique genetic profile of a person's breast cancer tumour. The project is now underway and recruiting 30 high risk neoadjuvant breast cancer patients from multiple hospital sites in Queensland, including the Princess Alexandra, the Royal Brisbane & Women's and the Mater hospitals.

Both the patient's blood DNA and their tumour DNA will be whole genome sequenced prior to treatment commencing. This whole genome sequencing data will be analysed for genetic variants that can predict the patient's response to specific therapies, or adverse response to chemotherapy. The data will also be analysed to look at the patient's eligibility for clinical trials.

Changing the way we tackle cancer in Queensland

Results from this project will help pave the way for genomics to become standard care for cancer patients in Queensland, integrating patients' genomic sequencing data into routine clinical decision-making. Outcomes from this project will also inform a genomics framework for cancer care - to guide healthcare providers to implement genomics into oncology broadly.

Q-IMPROVE WORK FLOW



WHAT IS THE ROLE OF GENOMICS IN CANCER?

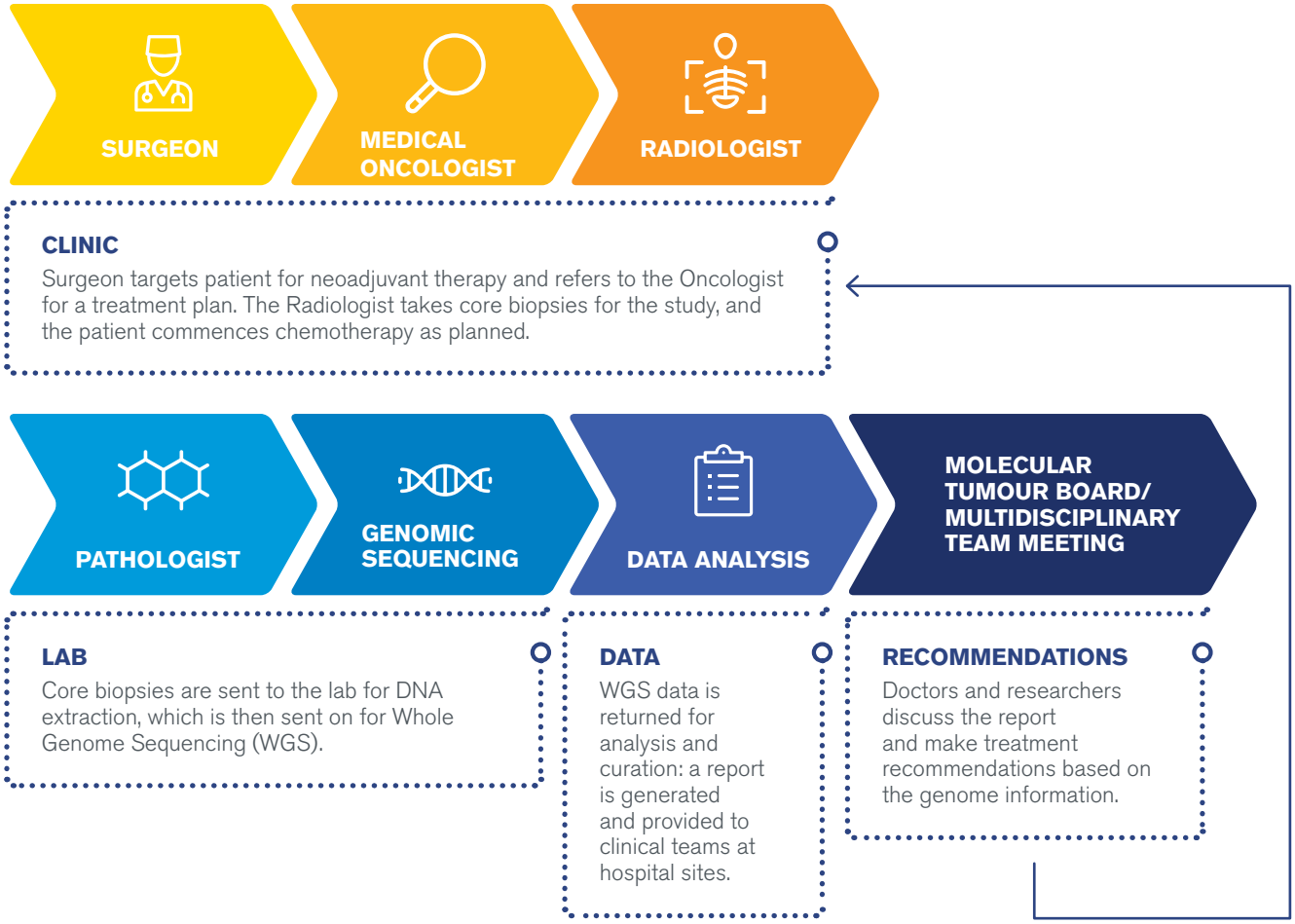
Using genomics in oncology allows us to identify the gene mutations (or changes) of a patient's tumour that are critical weaknesses for that particular tumour. Uncovering these mutations, or cancer drivers, could potentially uncover new treatment options that are more targeted and could be highly effective.

Genomics is helping us move away from providing standard treatments, like chemotherapy and radiation for all patients, to building a personalised treatment plan for each individual cancer patient.

Using a blood test or biopsy, genomic sequencing can provide a distinctive 'molecular portrait' of the patient's tumour upfront, without having to generate results from multiple smaller tests.

Clinicians can then use the genomic sequencing data to help predict how patients will respond to specific cancer treatments, potentially tailoring each patient's treatment plan to target the genetic abnormalities of their cancer.

INTEGRATING PATIENTS' GENOMIC DATA INTO ROUTINE CLINICAL DECISION-MAKING – MOVING AWAY FROM THE 'ONE SIZE FITS ALL' APPROACH.



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Accelerating change in healthcare

Queensland Government

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For more information on this project please contact:

Therese McCurry
Q-IMPROvE Project Officer
therese.mccurry@health.qld.gov.au
0408932848

Amy McCart Reed
Postdoctoral Research Fellow
amy.reed@uq.edu.au
07 3366 6030