“Rebooting” cancer genetic counselling appointments – an 8-week review

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Introduction

- During the period of COVID-19 restrictions in Canberra, the number of patients seen within the ACT Genetic Service dropped, further compounding already long waiting times (Bates et al., 2021).
- The ACT Genetic Service acquired funding under Operation Reboot, a $3.5-million initiative developed by the ACT Government to reboot outpatients and provide capacity to address the large backlog of long wait referrals (Canberra Health Services, 2020).
- The funding was used to employ a part-time Associate Genetic Counsellor for 8-weeks with the aim of consenting 47 patients for cancer genetic testing via telephone.
- A review of the patients seen within 8 weeks of Operation Reboot was undertaken to inform future practice within the ACT Genetic Service and to provide other health professionals insight into our scope of practice within cancer genetics.

Explainer box

- **Predictive testing** can be offered if a first-degree family member (or second-degree in certain situations) has had a pathogenic genetic variant identified. This family member would have a 50% risk of having the same pathogenic variant (less if a second-degree family member) and would therefore be at risk of developing the associated cancer. Predictive testing is covered by Medicare.
- **Diagnostic testing** is gene panel testing which can be considered in individuals who have already been affected by cancer. An example of a gene panel is the BRCA Plus Panel for breast cancer predisposition, which looks for genetic changes in the genes BRCA1, BRCA2, TP53, PALB2, CHEK2, ATM, RAD51C and RAD51D. Diagnostic testing can be covered by Medicare if eligibility criteria is met (chance of finding a pathogenic variant is >10%).
- The approach to cancer patient flow at the ACT Genetic Service is visualised in Figure 1.

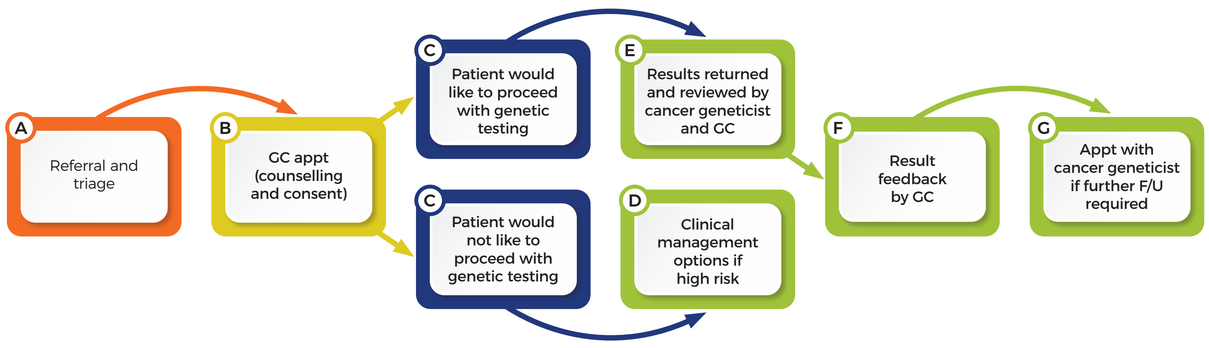

Figure 1. Approach to cancer patient flow at ACT Genetic Service. **A)** Guidelines for referral can be found at eviq.org.au. Triage categories consist of CAT 1 (diagnostic testing), CAT 2 (predictive testing) and CAT 3 (risk assessment). **B)** Initial genetic counsellor (GC) appointment consists of the collection of personal and family history of cancer and counselling surrounding personal risk and genetic testing. **C)** Patient makes informed decision regarding testing. **D)** If patient decides not to proceed with testing, other clinical management options can be pursued if at high risk, for example, discussion with cancer geneticist or referral back to GP for development of a screening plan. **E)** Results are reviewed by cancer geneticist and GC, and further risk assessment advice is developed depending on result. **F)** Result is fed-back by GC and counselling occurs surrounding result. **G)** Further follow up may be required by the cancer geneticist for clinical management.

Methods

- Patients seen during Operation Reboot (December 2020 – January 2021) were included.
- Data extracted included specialty of referring doctor, category of cancer referred for, type of testing offered, results and whether geneticist follow up was required.
- Descriptive statistics were used to analyse the data.

References
1. Human Genetics Society of Australasia (HGSA) poster due to be presented August 2021: K. Bates., L. Warwick., A. Engel., B. Dopita., S. Badman., G. Phillips., J. Rigby. (2021). ACT Genetic Service approach to “rebooting” cancer genetic testing wait times after COVID-19 [Unpublished data].
2. Canberra Health Services (2020). Operation Reboot Outpatient Guidance.

Results

- 50 patients were seen during the study period.
- The three most common referring specialities were General Practitioners (n=25, 50%), Medical Oncologists (n=12, 24%) and Endocrinologists (n=6, 12%). Other referring specialists included Surgeons (n=4, 8%), Radiation Oncologists (n=1, 2%), Gastroenterologists (n=1, 2%) and Paediatricians (n=1, 2%) (Figure 2).
- The majority of cancer genetic testing were for breast and ovarian cancers (n=29, 58%), followed by colorectal cancers (n=8, 16%), endocrine cancers (n=8, 16%), prostate cancers (n=3, 6%), endometrial cancers (n=1, 2%) and renal cancers (n=1, 2%) (Figure 3).
- Half (n=25) of the referrals were for consideration of diagnostic genetic testing and the remaining 50% were for the discussion of the option of predictive testing (n=25).
- 80% (n=40) of patients proceeded with genetic testing, 18% (n=9) did not return genetic testing consent forms and 2% (n=1) decided not to proceed with testing.
- Out of the 40 patients who had consented to genetic testing, 32 results had been returned at the time of the audit (80%).
- Of the patients who had predictive testing, 29% (n=5) had a positive result, and 71% had a negative result (n=12).
- Of the patients who had diagnostic testing, 93% (n=14) of patients had no pathogenic variant identified and 7% of patients (n=1) had a pathogenic variant identified (BRCA2 gene).
- Of the patients who had genetic testing results returned (n=32), 28% (n=9) required follow up with our offsite cancer geneticist post result feedback, either for positive results (n=6, 66%) or for management of high risk despite no pathogenic variants found (n=3, 33%) (Figure 4).

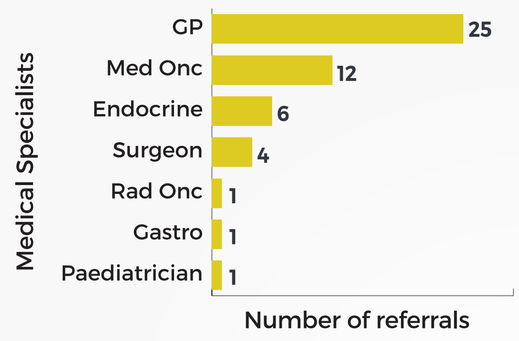

Figure 2. Referring medical specialists to ACT Genetic Service during Operation Reboot (n=50).

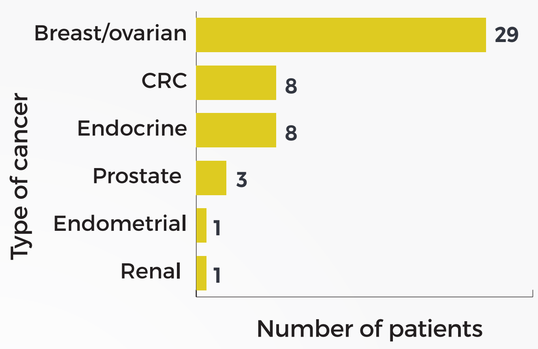

Figure 3. Type of cancer that patients were referred to ACT Genetic Service for consideration and discussion of cancer genetic testing during Operation Reboot (n=50). Note CRC refers to colorectal cancer.

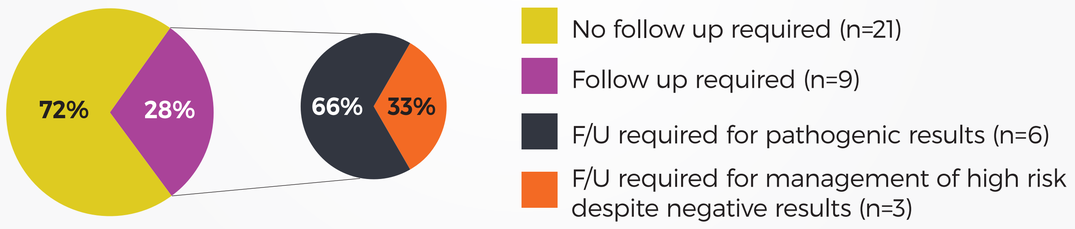

Figure 4. Patients with returned results who required follow up with off-site Cancer Geneticist. Of the 32 patients who had genetic testing results returned, 28% (n=9) required follow up either for positive results (n=6, 66%) or for the management of high risk despite no pathogenic variant being identified (n=3, 33%).

Conclusion

- Genetic counsellors within the ACT Genetic Service provide personalised cancer risk information for patients which in turn inform valuable preventative management recommendations.
- Undertaking the genetic counselling appointments over telephone may have contributed to the higher proportion of consent forms not being returned in a timely manner compared to face-to-face appointments (18%).
- The minority (28%) of patients seen by Genetic Counsellors within ACT Genetics require follow up appointments with our off-site Cancer Geneticist.

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