ACT HEALTH VACATION STUDY PROGRAM

PROJECT SUMMARY

Project Title	**Utilisation of iron carboxymaltose in ACT General Practice**
Supervisor	**Philip Crispin**
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Lead discipline (please select one)	
☐ **Nursing and Midwifery**	☐ **Health Economics**
☐ **Allied Health**	☐ **Biostatistics**
X Medicine	☐ **Value-based Healthcare**
☐ **Pre-clinical**	☐ **Epidemiology**
☐ **Health Policy**	☐ **Other**

Outline of the project 250 words max

Iron deficiency is the most common cause of anaemia. Treatment has been readily available in the form of oral iron therapy, which is tolerated by a majority of patients, however side effects do occur and have been dose-limiting for some people.

Intravenous have been poorly utilised in the past due to adverse events, especially anaphylactoid infusion reactions associated with older high molecular weight dextran products, and the slow rates of infusion. More recent iron formulations have improved safety profiles and shorter infusion times, offering rapid and safe replenishment of iron stores. Since the availability of iron carboxymaltose, some general practitioners (GPs) administer them in the community while others refer to the hospital for iron infusions as required, depending on practitioner skill sets.

Iron infusions are recommended following failure or intolerance of oral iron, unless rapid correction is required, such as in the immediate pre-operative setting. Reviews of referrals to Canberra Hospital have found high rates of referrals which are not in accordance with prescribing guidelines. However, despite concerns about overuse of intravenous iron, the appropriateness of use of iron infusions in the Australian community is unknown.

This project will audit the use of intravenous iron in ACT general practices. Case notes will be reviewed for the indications for infusion, pathology results, other conditions or investigations or to establish the causes for iron deficiency and prior iron therapies. Management will be compared against best practice guidelines.

Proposed research methods

This will be a retrospective audit. Following approval from the low risk human research

ethics committee, GP groups will be asked to participate. This will be arranged prior to the student commencement. A maximum target of 300 patients will be sought, with the numbers in each practice depending on the number of practices expressing interest. No doctor will have more than 20 cases included. The aim will be to include a divsity of practices. All cases will have been prescribed iron carboxymaltose in the last 12 months. These are readily identified from the practice management software packages in use in the majority of practices.

The research student would be orientated to the practice management software and a list of patients prescribed iron carboxymaltose obtained in each practice. Patient records would be audited and data extracted including patient age and gender, cause of iron deficiency (if known), investigations to establish the cause for iron deficiency (& referrals made), prior iron therapy, red cell indices and iron studies, therapies for bleeding, complications from iron infusion, follow up arrangements and response to iron therapy. The prescribing practitioner will be identified by a code. It is expected that each patient would take at most 10-20 minutes to audit. It would be anticipated that up to 4 weeks would be allocated to practice orientations and data collections, allowing time for data analysis.

Each case will be reviewed to determine appropriateness of the iron infusion by two experts, reviewed against the Health Pathways guidelines, which are created and managed by general practitioners. Reviewers will be blinded to the location and identity of the prescriber, and the patient identity will not be collected.

Recommendations for education and practice improvement will be made following a review of the results. These recommendations will be made by a working group currently reviewing iron management in Canberra Hospital. Overall results will be made available to participating practices practitioners and presented at medical meetings. GPs who request a report on their individual practice will have a report developed examining their own practice, comparing it to best practice guidelines and peers. These reports will be designed by members of the working group.

Preferred study discipline being undertaken by the student

Medicine. This may be suitable also to pharmacy students.

Benefits to the student and to the department

This project will teach the student audit, feedback and peer review skills. They will learn the value of self-reflection and review in practice improvement in improving clinical outcomes. They will have exposure to the GP environment and the interaction with hospital referral processes and develop a thorough understanding of iron deficiency diagnosis and management. Through this they will gain an awareness of the importance of quality improvement activities in all aspects of medicine, peer review and the benefits and

challenges of these activities in community and hospital settings. The student will gain experience in simple data analytics and interpretation. It is anticipated the student will have an opportunity to present their data at regional or national meetings, as the data is unique and of interest.
Canberra Hospital receives many referrals for iron infusions each month, through Haematology, Antenatal and Hospital in the Home areas. A Working Group has recently formed to formulate standardised management processes, with referrer education and training identified as a key opportunity to improve. Identification of current community practice will assist in targeting key messages. It is hoped that this will reduce unnecessary referrals, potentially encourage further appropriate GP management and through this engagement ensure that referrers are able access appropriate care options effectively for the care of their patients.
In addition, as there are currently no data on the appropriateness of intravenous iron in Australia, these data will assist clinicians and policymakers to review practice, education, policy and guidance nationally.

Alignment with Government Research Priorities 100w max

Iron deficiency is most common in women, due to menstrual losses and in children, due to a mismatch between nutrition and growth needs. This fits with the priority area of women and children's health. Furthermore, anaemia and iron deficiency are common and have a significant impact on outcomes in other areas including cardiac failure and cancer care. Optimising primary care of iron deficiency is an ideal approach to improving health across the population.

Department within ACT Health Directorate / Canberra Health Services where the student will be based

Haematology
General Practice Liaison has expressed support for the project.

Please submit form to preclinical.research@act.gov.au