

## **TITLE:** Innovation in classification development – The Australian Non-Admitted Patient Classification Project

### **Introduction**

Non-admitted services play an integral role in the health care continuum, providing accessible and timely health care to patients, while also contributing to overall efficiency and sustainability of the health care system through early detection and better disease management, which leads to improved health outcomes.

In Australia non-admitted services are currently classified using the Tier 2 Non-Admitted Services Classification (Tier 2).

Tier 2 categories a hospital's non-admitted services into classes based on the nature of the service provided and the type of clinician providing the service. Due to Tier 2's provider centric structure and lack of patient characteristics and complexity measures, there is need to develop a new classification.

In March 2023, Australia commenced the development of a new patient-centred non-admitted care classification. The ANAPP aims to develop a new classification through utilising existing clinical data obtained from hospital electronic medical record (eMR) systems.

### **Methods**

The ANAPP aims to leverage health information available in eMR systems, other information systems and applicable cost data to develop a comprehensive cost and activity data set to underpin the development of a patient-centred classification. This includes the exploration and use of natural language processing (NLP) techniques on large unstructured datasets to deliver useful insights and analysis.

The ANAPP is comprised of four stages:

- Stage One: Investigation and consultation - consultation with jurisdictional health departments to determine the feasibility of utilising data collected from eMR systems, considering data security, privacy and ethical requirements and the ability to link activity data with corresponding cost data.
- Stage Two: Proof-of-concept - development of a data model and methodological process to conduct a technical proof-of-concept to extract data from jurisdictional eMR systems, including transforming unstructured data into a useful format.
- Stage Three: Data collection and final data sets - collection of data from jurisdictional eMR systems and cost data from established sites, and development of a final activity and cost data set.
- Stage Four: Analysis and classification development - rigorous statistical analysis and the development of a classification system for non-admitted care.

## **Results**

Stage One: Investigation and consultation of the ANAPP is complete. The findings from Stage One determined:

- it is feasible to utilise the rich data held in eMR and other information systems to develop a new classification.
- appropriate measures must be undertaken to ensure privacy is maintained, and ethical issues are addressed, and data is secure jointly with participating jurisdictions.
- further investigation and trialling of NLP methods must be done to support the collection of data from jurisdictions.

Stage Two: Proof-of-concept of the ANAPP is currently underway.

## **Conclusion**

The ANAPP is utilising innovative strategies to develop a new, patient-centred non-admitted care classification. By leveraging health information available in jurisdictional eMR systems the ANAPP aims to minimise the administrative burden on clinicians and hospitals, and the impact on clinical service delivery that is associated with traditional classification development.