**UQ Summer Research Project Description**

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| **Project title:** | **Exploring efficiencies in patient flow in busy emergency departments; validating iEMR admission and discharge data** |
| **Project duration:** | The summer project will last 6 weeks –  *3 days for orientation to the project and department*  *15 days direct observation data collection (5 early, 5 late, 5 night)*  *5 days iEMR data extraction*  *7 days data synthesis and drafting* |
| **Description:** | Because of the very dynamic nature of the ED environment, cubicle occupancy and efficient turn-over is important, complex and quite difficult to measure. Delivery of patient care depends on the volume (and type) of patients presenting to EDs (input), the capacity of EDs to appropriately assess and manage patients (throughput), and then the rate (capacity) of EDs to discharge patients – either out of the hospital or into inpatient spaces. Either of these ‘output’ measures frees up critical ED cubicles and so facilitates more rapid patient input.  Delays at the ambulance-ED interface which keeps ambulances at the hospital longer than is necessary for the immediate handover of care, and which manifests as ambulance ramping, is commonly measured electronically as lost minutes (or hours). Delays at the ED-inpatient interface caused by lack of access to inpatient beds are also measured as lost minutes (or hours) and are commonly assessed via electronic patient record systems such as iEMR. These are ED lost minutes (or hours). They represent times when ED resources (cubicle, equipment and staff) are unable to provide emergency assessment and care to patients, as the physical environment is already occupied by a patient who is ready to move to the next stage of their care; the inpatient space.  Efforts continue to apply digital technologies to these important efficiency metrics. The focus on patient flow is multi-faceted. It occurs in response to patient and carer expectation (who wants to wait hours for care provision), care effectiveness (there is increasing evidence that crowding and delays in assessment and management can impact negatively on patient outcomes), staff satisfaction (crowding increases direct pressures to care for potentially deteriorating patients and also increases the risks of patient leaving without being seen as well as incidences of occupational violence), and organizational imperatives (the government has mandated a 4-hour rule – whereby the majority of patients must be seen, managed and discharged within 4 hours of triage or the ED suffers financial penalties).  One well described component of ED crowding is patient boarding and access block. Newer iEMR systems should enable monitoring patient boarding times; and have increasingly been used to establish utilisation of critical resources and periods of inefficient use of these resources to inform wider health service data analyses and planning processes. There is, however, little objective evidence to substantiate the validity of timing collected using iEMR data.  This project will use a pragmatic quantitative audit process to directly measure ED cubicle occupancy and patient turn-over. The successful candidate will spend most of their project time in the acute area of the ED, directly monitoring and recording flow measures such as cubicle occupancy. They will also access the iEMR to obtain the equivalent data, including discharge orders and bed vacancy, as it is logged electronically. The successful candidate will undertake data entry into an excel spreadsheet. They will be supported to provide some simple descriptive statistics around their data and to develop an academically appropriate report. The intent of this data comparison is to identify the validity of commonly used operational ED time points extracted from the ieMR. |
| **Expected outcomes and deliverables:** | This project would suit a student who has the desire to understand and perhaps work in a tertiary ED environment. The student will gain skills in direct data collection, as well as increasing familiarity with ED patient care and flow processes, as well as increased familiarity with iEMR and ED documentation.  *Students will be provided with regular feedback on their progress and are expected to produce a short report and to give a short oral presentation to ED staff at the end of their project.*  *For the motivated candidate there maybe the opportunity to contribute to a conference presentation (abstract) and possibly a short manuscript subsequent to the project. There is also the opportunity to begin to build a professional network in the clinical ED space, to build an understanding of multidisciplinary ED care processes and of multidisciplinary clinical research projects.* |
| **Suitable for:** | Applicants should have a desire to experience the environment of a busy ED. They must be confident, be sensitive to clinical care delivery issues and requirements for patient confidentiality, and have the ability to work around busy clinical staff. They must have some flexible time availability (some early and late shifts – and possibly night shift work).  The project would ideally suit a student nurse or social worker who is hoping to explore EDs as their future clinical work setting. |
| **Primary Supervisors:** | Amy Johnston and Josh McRae |
| **Further info:** | Prior to submitting an application interested students should, in the first instance, contact Dr Amy Johnston (amy.johnston@uq.edu.au) |