Care Coordination through Emergency Department, Residential Aged Care and Primary Health Collaboration (CEDRiC) Toolkit

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> *'To create great health we must create great systems of care for health. Improvement begins in our will, but to achieve improvement we need a method for systematic change, a model for improvement'*
>
> **Berwick, DM (1996) A primer on leading the improvement of systems. *BMJ,* 312 (7031):620**

Abbreviations

ACAT	Aged Care Assessment Team
ACD	Advance Care Directive
ACP	Advance Care Plan
AGS	Area Geriatric Service
AHPRA	Australian Health Professional Regulation Agency
AMU	Acute Medical Unit
CAMU	Cognitive Assessment and Management Unit
CEDRiC	Care coordination through Emergency Department, Residential Aged Care and Primary health Collaboration
CGA	Comprehensive Geriatric Assessment
CNC	Clinical Nurse Consultant
ED	Emergency Department
EDIS	Emergency Department Information System
EDMAR	Emergency Discharge Medication Administration Record
EMR	Electronic Medical Record
EPOA	Enduring Power of Attorney
FACEM	Fellow of the Australian College of Emergency Medicine
FTE	Full Time Equivalent
GEDI	Geriatric Emergency Department Intervention
GP	General Practitioner
HITH	Hospital in the home
IDC	Indwelling catheter
IV	Intravenous
JMO	Junior Medical Officer
LOS	Length of Stay
MHAT	Mental Health Assessment Team
MAPU	Medical Assessment and Planning Unit
NEAT	National Emergency Access Target
NOK	Next of Kin
NUM	Nurse Unit Manager
OT	Occupational Therapist
PHC	Primary Health Care
RACF	Residential Aged Care Facility
RN	Registered Nurse
SMO	Senior Medical Officer
SSU	Short Stay Unit
UK	United Kingdom
US	United States of America

Contents

Executive summary of findings from CEDRiC research evaluation

In 2015, over 20% of Sunshine Coast residents were aged 65 years and over compared to 15% in Australia (1). Emergency department (ED) presentations and hospital admissions for older persons is associated with an increased risk of complications compared to younger cohorts (2-7).

The Care coordination through Emergency Department, Residential aged care and primary health Collaboration (CEDRiC) is a healthcare model aimed at reducing potentially avoidable hospital admissions through improving care for older adults in Residential Aged Care Facilities (RACF) and community settings. CEDRiC provides specialist emergency department (ED) management and implementation of support services for clients aged 70 years and over through two interlinked services. These are the Geriatric Emergency Department Intervention (GEDI) team and specialist aged care services provided through the role of a Nurse Practitioner Candidate (NPC) delivering the Health Intervention Project for Seniors (HIPS) for older adults within an RACF. CEDRiC facilitates collaborative and coordinated care between RACFs, GPs, EDs and allied health professionals as well as community organisations, bridging the health funding divide.

Evidence supporting successful clinical interventions, such as the provision of additional clinical resources within RACFs, promotion of Advance Care Directives and End-of Life pathways for palliative care (8), rapid elderly assessment in Comprehensive Geriatric Assessment (CGA) in ED (9) and enhanced education in gerontology care were considered and built into the CEDRiC model (10-14). The CEDRiC model commenced development in early 2013 and has been evaluated through a structure, process and outcome model (15) and health economics analysis. Data were collected for the CEDRiC interventions during overlapping 12-month periods from July 2015 to August 2016. These data were compared with historical data from the pre-intervention periods: Pre-GEDI 2012, interim GEDI, January 2013 through until August 2015 and Pre-HIPS, April 2013-March 2014. Outcome measures included disposition, ED length of stay, hospital length of stay, and re-presentation to ED within 28 days. Qualitative data to understand the structures and processes of the CEDRiC interventions were collected from interviews with residents/patients, families or carers, ED staff, RACF staff and visiting GPs.

GEDI outcomes

Older people who presented to the ED during all three data collection periods were statistically similar, being on average 81 years of age, and 50–52% were female. The results of the data analysis indicated that older people who presented to the ED during the full GEDI intervention period benefited, with statistically significant reduction in ED length of stay and increased likelihood of discharge compared to pre-GEDI. No significant difference in risk of mortality or risk of same cause re-presentation to the ED within 28 days was found. Reductions in length of stay and increased rate of discharge resulted in average cost savings per ED presentation of $35 [95% CI: $21, $49] and savings of $1,469 [95% CI: $1,105, $1,834] per hospital admission. Aggregated data from interviews with seven GEDI patients, families and carers, and 23 staff determined that the service has become an integral part of ED patient care, it facilitates efficient time management, with better patient and staff satisfaction. The GEDI service is highly successful in improving the care of older people in the ED.

HIPS outcomes

Residents of the RACFs during the study periods were also statistically similar across pre-HIPS and HIPS intervention groups, being on average 85–87 years of age and 66–69% were female. During the intervention period, HIPS nurses completed 1790 consultations and self-identified residents for

review (44.4% NPC referral to HIPS) more often than referral by other staff. The majority of HIPS consultations were for review of ongoing management of previously identified acute conditions or acute exacerbations of chronic conditions.

Most transfers of residents from the RACF to the ED (61.8%) occurred when the NPC was not on duty and only 21.5% had been seen by the NPC in the 48 hours prior to transfer. Similar proportions of residents were admitted, transferred or discharged from the ED when comparing pre-HIPS and HIPS Intervention groups. Compared with pre-HIPS, HIPS intervention residents transferred to the local hospital had a significantly shorter length of stay in the ED (316mins Pre-HIPS, 280mins HIPS, P<0.05) with more meeting the National Emergency Access Target (NEAT) of less than 4 hours in the ED (χ^2(df) = 6.3 (1); P<=0.01). Residents who were reviewed directly by the HIPS team had a much lower risk of ED transfer compared to residents who were consulted by HIPS indirectly via RACF staff (NPC did not directly see the resident) resulting in an average cost saving to the ED of $68 [95% CI: $25, $110] per resident transferred. During the HIPS intervention period, residents transferred to the ED from the intervention RACF cost less than residents from other RACFs: the average cost differences per ED presentation was $62 [95 CI: $12, $111]. The proportion of residents with any advance care planning in place increased significantly from 25.3% pre-HIPS to 74.7% during the HIPS intervention period (P<0.0005).

Structure and process evaluation determined that RACF staff and visiting GPs found the HIPS NPC provided thorough assessment and was highly regarded. RACF staff also reported that the NPC worked in conjunction with care staff to assist in problem solving to enhance care and provide education to staff as necessary.

Conclusions

The CEDRiC project achieved improved outcomes for residents of the participating RACFs and for older people attending the participating ED. Reductions in unplanned GP visits to participating RACFs and length of stay in the ED and hospital if transferred resulted in cost savings. These were demonstrated for the hospital and health service and local GPs including opportunity cost savings of releasing services for other uses. The CEDRiC model interventions were both feasible and highly valued by older people and staff within both the health service and aged care facilities.

Disclaimer

It is important to note that activities being undertaken through this project are not the only factors in influencing and impacting on the delivery of care to older people within the ED or RACF. The outcomes described will also be influenced to some degree by other initiatives being undertaken at a state–wide and local hospital and health service level to improve care for older people. The outcomes may also be affected by other operational and policy initiatives being undertaken.

Dissemination of CEDRiC Project

A list of the publications and presentations completed by the CEDRiC project team in 2015-2017 are presented here. Further information can be obtained from the CEDRiC website: cedric.org.au

Peer reviewed publications

1. Marsden E, Taylor A, Wallis M, Craswell A, Broadbent M, Barnett A, Nguyen K-H, Crilly J, Johnston C & Glenwright A. (2017). A structure, process and outcome evaluation of the Geriatric Emergency Department Intervention model of care: a study protocol. BMC Geriatrics, 17: 76.

2. Craswell A, Coates K, Taylor A, Marsden E, Crilly J, Glenwright A, Wallis M. Streamlining care of older people in residential aged care: Nurse practitioner candidate and emergency department care coordination. Journal Nurse Practitioner. 2017 July–August 13(7); 340–341.

3. Craswell A, Marsden E, Taylor A, Wallis M. Emergency Department presentation of frail older people and interventions for management: Geriatric Emergency Department Intervention. Safety in Health. 2016: 2(14):6.

Non-peer reviewed publications

1. Wallis M, Coates K, Johnston C, Bannink and Craswell A. (2017) The CEDRiC toolkit development project: Changing the care of older adults with an acute illness. Nurse Click, Australian College of Nursing Online Journal, Aug 2017: 21–22.

2. Craswell, A., Taylor, A., Coates, K. & Broadbent, M. (2016). Care collaboration through emergency department residential aged care and primary health collaboration. Australian Nursing and Midwifery Journal, 23(7): 45.

Presentations as Invited Speaker

1. Marsden E, Taylor A, Wallis M (2017) GEDI information implementation workshop. RBWH, Brisbane, Australia 23 Feb.

2. Wallis M, Marsden E. (2016) Keynote Address: Care Coordination through Emergency Department, Residential Aged Care and Primary Health Collaboration: The CEDRiC Trial. At: Preventing Unnecessary Hospital Emergency Department Transfers for Older People Conference, 5–6 May, Melbourne.

3. Marsden E, Taylor A. (2016) Overcoming the Discombobulation. Emergency Department Management Conference, Sydney, Australia, 20–21 July.

4. Marsden E, Taylor A. (2016). The GEDI model. Presentation at State–wide Older Persons Acute Care Network Survey Forum, Brisbane, Australia, 7 June.

5. Johnston C. (2016). Care Coordination through Emergency Department Residential Aged Care and Primary Health Collaboration. AHHA Data and Innovation Collaboration Networks Meeting, Caloundra, Australia, 25 May.

Conference presentations

2017

1. Marsden EJ, Wallis M, Craswell A, Taylor A, Broadbent M (2017) Collaboration through health research to improve outcomes for acutely ill older adults presenting to emergency. ACEM Annual Scientific meeting, Sydney, Australia, 19-23 Nov.

2. Marsden EJ, Wallis M, Craswell A, Taylor A, Bannink N, Broadbent M, Johnston C, Glenwright A, Crilly J, Coates K. (2017) Changing care of the elderly in the RACFs and EDs: The CEDRiC project toolkit implementation. 41st IHF World Hospital Congress, Taipei, Taiwan, 7–9 Nov.

3. Wallis M, Marsden EJ, Broadbent M, Craswell A, Coates K, Taylor A, Glenwright A, Johnston C, Barnett A, Nguyen K, Crilly J. (2017). The CEDRiC Project: Care Coordination Through Emergency Department, Residential Aged Care Facility and Primary Health Collaboration 41st International Healthcare Foundation World Congress. International Convention Centre, Taipei, Taiwan, 7–9 Nov NB: WINNER OF THE BEST POSTER PRIZE.

4. Wallis M, Marsden E, Taylor A, Coates K, Craswell A, Broadbent M, Barnett A, Nguyen K, Johnston C, Glenwright A & Crilly J (2017) Symposium presentation, Improving acute and emergency care of older people: The results of the CEDRiC project, 10th Health Services Research Australia and New Zealand (HSRAANZ), Gold Coast, Australia, 1–3 Nov.

5. Taylor A, Marsden EJ, Wallis M, Craswell A, Broadbent M. (2017) Improving the quality of care of elderly patients in the ED: Geriatric Emergency Department Intervention. 15th annual International Conference for Emergency Nurses, Sydney, Australia, 11–13 October.

6. Broadbent M, Marsden EJ, Taylor A, Coates K, Craswell A, Johnston C, Wallis M. (2017) Reducing the cost associated with care of elder patients in the ED: Impact of enhanced primary care in an aged care facility. 15th annual International Conference for Emergency Nurses, Sydney, Australia, 11–13 October.

7. Coates K, Wallis M, Craswell A, Johnston C, Broadbent M. (2017) Boldly Exploring New Frontiers in Aged Care – A Nurse Practitioner candidate to Nurse Practitioner model of care. Leading Age Services Associate National Congress, Gold Coast, Australia, 15–18 Oct.

8. Wallis M, Craswell A, Coates K, Johnston C, Nguyen K. (2017) Repeated measures Quality of Life assessment in an age care facility over one year. Leading Age Services Associate National Congress, Gold Coast Australia, 15–18 Oct.

9. Craswell A, Coates K, (2017) Streamlining care of older people in residential aged care: Nurse practitioner candidate and emergency department care coordination. Australian College of Nurse Practitioners conference, Brisbane, Australia, 4–7 Sept.

10. Coates K, Wallis M, Craswell A, Glenwright, A (2017) A Nurse Practitioner Candidate: A model for change in aged care. Australian College of Nurse Practitioners conference, Brisbane, Australia, 4–7 Sept.

11. Coates K, Johnston C, Craswell A, Taylor A, Marsden EJ, Broadbent M, Wallis M. (2017) Changing care of the elderly in RACFs and EDs: The CEDRiC project toolkit implementation. National Nursing Forum, Sydney, Australia, 21–23 Aug.

12. Coates K, Glenwright A, Craswell A, Johnston C, Taylor A, Marsden EJ, Broadbent M, Wallis M. (2017) Health Intervention Project for Seniors (HIPS): Outcomes of a model of care aimed to support acute care for Older People in primary healthcare (PHC) setting. Primary Health Care Research and Information Service Conference, BCC, Brisbane, Australia, 7–9 Aug.

13. Glenwright A, Coates K, Wallis M, Craswell A, Taylor A, Marsden EJ, Crilly J, Broadbent M, Johnston C. (2017). Care coordination between Emergency Departments, Residential aged care facilities and primary care Collaboration (CEDRiC). Primary Health Care Research and Information Service Conference, Brisbane, Australia, 7–9 Aug.

14. Glenwright A, Coates K, Craswell A, Wallis M. (2017) Nurses at the forefront of system redesign: Advanced practice nurses improving quality of life for elders in residential aged care. International Council of Nurses Congress, Barcelona, Spain: 27 May – 1 June.

15. Craswell A, Taylor A, Marsden E (2017) Passionate about Practice: Conference of the Chief Nurse and Midwifery Officer. RBWH, Brisbane, Australia 9 May. NB: WINNER OF THE BEST POSTER PRIZE.

2016

16. Glenwright, A. (2016). A cost analysis of a Geriatric Emergency Department Intervention (GEDI). Presentation at the International Federation of Ageing Conference, Brisbane, Australia, 21 June.

17. Coates, K. (2016). A collaborative model for enhanced elder care. Presentation at Nurses: The Heart of Primary Care APNA National Conference, Melbourne, Australia, 5–6 May.

18. Craswell, A., Wallis, M., Broadbent, M., Marsden, E., Coates, K., Taylor, A., Glenwright, A., Crilly, J. & Johnston, C. (2016). The CEDRiC project: Care coordination through emergency department, residential aged care and primary health collaboration. Presentation at Forum on Quality and Safety in Healthcare, Goteborg, Sweden, 13–15 April.

2015

19. Craswell, A., Wallis, M., Marsden, E., Coates, K., Taylor, A., Broadbent, M., Crilly, J. & Johnston, C. (2015). Supporting appropriate transfer of older people: The CEDRiC model of care. Presentation at Australian Associate of Gerontology QLD Branch, Brisbane, Australia. 23 November.

20. Wallis, M., Broadbent, M., Marsden, E., Taylor, A., Coates, K., Craswell, A., Crilly, J. & Johnston, C. (2015). The CEDRiC Trial. Presentation at HITH @21 – Maturity, Responsibility, Quality Conference, Sydney, Australia, 11–13 November.

21. Wallis, M., Broadbent, M., Marsden, E., Taylor, A., Coates, K., Craswell, A., Crilly, J, & Johnston, C. (2015). The CEDRiC Trial. Presentation at USC School of Nursing, Midwifery and Paramedicine Research School, Sippy Downs, Australia, 12 November.

22. Wallis, M., Broadbent, M., Marsden, E., Taylor, A., Coates, K., Craswell, A., Crilly, J. & Johnston, C. (2015). Who or what is CEDRiC? Presentation at USC Faculty of Science, Health, Engineering and Education Research Day, Sippy Downs, Australia, 24 November.

23. Craswell, A., Johnston, C. & Taylor, A. (2015) The GEDI Service. Nambour General Hospital Patient Safety Day, Nambour, Australia, 13 August.

24. Marsden, E.J. & Taylor, A. (2015) GEDI & the Grey Tsunami. Presentation at Emergency Department Management Conference: Showcasing Innovation and Exploring Improvement Strategies, Sydney, Australia, 16–17 July.

2014

25. Coates, K. & Wallis, M. (2014). Innovative Partnerships for Improved Elder Care. Presentation at LASA International Conference, Adelaide, Australia, 20-23 October.

Other presentations, publications and media engagement

1. Marsden E, Taylor A. (2016). The GEDI model. Presentation at Statewide Older Persons Acute Care Network Survey Forum, Brisbane, Australia, 7 June.

2. Barr, J. (2014, 18 Aug) SCML Senior's Week – Innovative program reduces hospital admissions for seniors (Media Release) (WIN TV) Nambour, Australia.

3. USC. (2015, Jul). Better care for older residents. Engaged USC, p18–19.

4. Keeping seniors at home and out of emergency (2015, October 8). Nambour Weekly, p. 5.

5. Martin, K. (2015, Nov-Dec). Future Forecasting: Sundale positions itself for change. Australian Ageing Agenda, p36–39.

6. Nolan, A. (2016, 10 March). Emergency time halved: Special program ensures elderly receive medical care they need quickly. Nambour Weekly, p.3.

7. AHHB (2016, 19 September) GEDI nurses – front line geriatric care. Australian Hospital and Healthcare Bulletin, Australia. http://www.hospitalhealth.com.au/news/aged-care/new-hope-gedi-nurses-bringing-geriatric-care-front-line/

Navigating the toolkit

The CEDRiC toolkit is an integral reference tool for implementing the CEDRiC model. This toolkit has been written in parts to provide:

PART ONE: An overview of the CEDRiC model

PART TWO: Health Intervention Project for Seniors - HIPS

- Step 1 — Pre-implementation planning
- Step 2 — What HIPS does and how it is done
- Step 3 — Service management
- Step 4 — HIPS service evaluation for sustainable funding and service delivery

PART THREE: Geriatric Emergency Department Intervention - GEDI

- Step 1 — Pre-implementation planning
- Step 2 — GEDI ED team assessment and treatment
- Step 3 — GEDI service management
- Step 4 — GEDI service evaluation for sustainable funding and service delivery

Key Toolkit Elements
• The advice within this toolkit is **evidence based;** underpinned by research evaluation. • It is **applicable** to management and clinical staff. • The toolkit provides **evaluation tools** for implementation.

Scope of the toolkit

This toolkit provides information about an evidence-based model of care and includes pre-implementation planning strategies and evaluation tools. This has been designed to assist RACF and ED clinicians, administrators and policy makers in the implementation of this model, either in its entirety (CEDRiC) or individually as HIPS or GEDI. Further information on the research underpinning this model of care may be found in the publications listed on the CEDRiC website: www.cedric.org.au

Key to this toolkit

To augment the information and guidance within this toolkit, coloured boxes and boxes with symbols have been used to highlight key information, provide summaries of suggested work required and to give directions to further information provided. Sample documentation, educational information and evaluation tools have also been provided either within the appendices or through links within the document.

Key identifiers used within the toolkit.

Blue boxes

Resources for This toolkit
This is an example of boxes used throughout the toolkit. They are designed to provide you with key information or summaries relating to the section you are reading and may direct you to further information.

Symbol boxes

	This attention symbol provides information on key areas that are important to identify or monitor to facilitate a smooth implementation of this healthcare model.

	This stop sign identifies key information or items that need to be addressed or obtained before progressing further with the implementation.

	This work symbol identifies key work that need to be addressed before progressing further with the implementation.

	This meeting symbol identifies meetings required for this stage of the model of care implementation.

Key healthcare professional roles for implementing CEDRiC

Titles	Role
Registered Nurse (RN)	A nurse who has completed and met the Australian Health Professional Regulation Agency (AHPRA) requirements for nursing registration; provides day-to-day nursing care.
Clinical Nurse (CN)	An expert RN clinician and leader with experience in a specialist area, providing direct patient care; may assist the Nurse Unit Manager (NUM). This role is responsible for patients, Enrolled Nurses (ENs), and RNs working in their department.
Nurse in Clinical Leadership role — (for example, Queensland use the term Clinical Nurse Consultant (CNC))	An Advanced Practice RN providing consultancy to clinical areas in their field of expertise. Develops activities to meet specific clinical needs; may also have management and financial skills. Initiates research and quality improvement activities.
Nursing Manager (for example, Queensland uses the term (Nurse Unit Manager NUM) and Nursing Director (ND)	A first or second level manager relating to the clinical area where either HIPS or GEDI are being implemented.
Nurse Practitioner Candidate (NPC)	A RN engaged to undertake a course of study and clinical experience leading to endorsement as a NP. May be a nurse practitioner waiting for endorsement.
Nurse Practitioner (NP)	An experienced RN with master's level education in a specialty area endorsed by AHPRA to work in an independent and advanced level of clinical practice.
Emergency Department Consultant Physician (GEDI lead physician)	A physician with a Fellowship of the Australian College of Emergency Medicine (or equivalent). In this role, the lead physician is the medical clinical lead for the GEDI model of care.
Geriatrician	The geriatrician role within the ED focusses on the clinical, preventative, remedial and social aspects of illness in older people.
Ortho-geriatrician	An orthopaedic surgeon working as part of a collaborative, multidisciplinary team specialising in orthopaedic geriatrics.
General Practitioner (GP)	A medical physician, primary health practitioner, based in the community providing primary healthcare for acute and chronic illness, preventative care and health education.

PART ONE: An overview of the CEDRIC model

Background: What is CEDRiC?

Care coordination through Emergency Department, Residential aged care and primary health Collaboration (CEDRiC) is an innovative model of care aimed at reducing potentially avoidable transfer to the emergency department (ED) and streamlining care of the older person where transfer to ED is appropriate. This model was developed to address the issues in fragmentation between Commonwealth funded aged care and state funded acute care sectors. The CEDRiC model of care consists of two closely linked services: **Health Intervention Programme for Seniors (HIPS)** and the **Geriatric Emergency Department Intervention (GEDI**).

The Health Intervention Programme for Seniors (HIPS) is delivered by a Nurse Practitioner Candidate (NPC) or Nurse Practitioner (NP), supported by a Clinical Nurse (CN). The intervention aims to provide primary care for older people in residential care, in collaboration with their GP through early identification of acute deterioration, to avoid transfer to the ED. The HIPS nurses identify residents or are referred to residents by clinical staff or GPs, undertake advanced assessment and intervention, plan care with clinical staff and provide scheduled and opportunistic education to increase capacity of RACF staff. The HIPS CN provides support for the NPC/NP when the NPC/NP is visiting an offsite facility or when undertaking external clinical placement in the ED, multi-disciplinary team meetings or geriatric ward rounds at the local hospital and health service. Additional administrative support can assist with establishing the service and setting up record keeping for billing once the NPC is endorsed as a NP.

The Geriatric Emergency Department Intervention (GEDI) focuses on the frail older person presenting to the ED with an acute illness or complex healthcare requirements. Usually this incorporates people of 70 years of age and over. However, frail older persons who are under this age and Indigenous Australians over the age of 50 years, who may have similar levels of frailty, are also screened by the team and may be included in service delivery. The GEDI model is aimed at improving the quality of care for this cohort, reducing unnecessary hospital admissions and facilitating early and safe discharge from the ED. The GEDI team consists of an ED physician champion with a special interest in aged care and Clinical Nurses (CNs), led by a Clinical Nurse Consultant (CNC). The CNC implements policy and procedures underpinning the GEDI model, manages the nursing team, provides clinical expertise and leadership, provides education to all ED staff and builds a culture within the ED that values and prioritises person-centred care of frail older persons.

The GEDI service may absorb, replace or collaborate with a range of other services provided for frail older people in the ED. For example, the Community Health Interface Program (CHIP) that operates in many Queensland EDs and supports referral of clients to community-based nursing and allied health resources may be enfolded into the GEDI model. Service management within the ED facilitates GEDI to be responsive to the needs and timelines of the ED and facilitate appropriate referral and discharge planning. However, the GEDI model fundamentally incorporates a 'border spanning' role aimed at improving inter-disciplinary communication, entrenching patient-centred decision making, facilitating safe hospital discharge where possible and improving fast-tracking of referral and admission processes when required.

Principles underpinning the CEDRiC model

The CEDRIC model and its nurse-led approach are underpinned by the integration of health service delivery framework between primary and secondary health sectors (16). In addition, the interventions of CEDRiC use the following theoretical frameworks to a greater or lesser degree:

recognition primed decision making theory (17); the shared decision making framework (18), diffusion of innovations, in particular champions of change (19); and national and international guidelines.

The nurses in both interventions undertake largely interdependent and independent roles (20). GEDI and HIPS service teams carry out their assessment, clinical decision making and interventions using a recognition primed decision-making approach (17) with a focus on shared decision making (18). The functioning of both the GEDI and HIPS incorporates a champion of change: the physician in GEDI and the NPC/NP in HIPS. These principles and frameworks will be referred to throughout the document and a short explanation is provided here.

Integration of health service delivery

Improving outcomes for older persons requires an integrated system of health service delivery. The World Health Organization (16) proposes that integrated care provides people with the care they need, when they need it, in ways that are user-friendly, achieve the desired results and provide value for money. For frail older persons, particularly those from an RACF, presentation to the ED may result from a critical event marking a drop in functional decline or may be due to difficulty accessing primary care.

Types of integration

- Linkage: links are established between the most appropriate health services to ensure the best possible health outcomes for all clients
- Coordination: integrating services to fill gaps in service provision, therefore working across sectors
- Full integration: one set of management support systems supporting the whole service

Levels of integration

- System integration: the services are provided within one unified system
- Organisational integration: services are provided by linking different organisations within a system
- Clinical integration: services are provided through the integration of different clinical services within a system or organisation

Forms of integration

- Vertical integration: various levels of service under one management system for referring patients up and down appropriate levels. Each service addresses a specific healthcare issue and clear objectives
- Horizontal integration: consolidating organisations that provide a similar level of healthcare under one management umbrella, therefore sharing resources to increase efficiency

As older people move between aged care, primary care and secondary care in Australia, the provision of a fully integrated service is a challenge yet to be successfully addressed. Due to differences in funding, the sectors do not link and navigation of the sectors is difficult to accomplish. The CEDRiC model recognises the need to integrate services and provision of care. To provide a coordinated service, the CEDRiC model utilises expert communication integrating the HIPS and GEDI services to fill gaps in service provision. This attempts to provide cross sectorial, system integration in a horizontal capacity, increasing the efficiency of care management between services.

Nursing role effectiveness

With reference to the Nursing Role Effectiveness Model developed by Doran and colleagues (20, 21), the nurses delivering the HIPS and GEDI interventions predominantly perform independent and inter-dependent roles. This is important because without the ability to influence key medical decision making and to instigate diagnostic testing, intervention and direct referral to specialist medical and allied health professionals, diagnosis and disposition management can become stalled. For GEDI, due to their independence and ability to facilitate multidisciplinary discussion and decision making, the care of vulnerable, frail, older persons in the ED can be streamlined and fast-tracked. For HIPS, assessment of residents is focused on prevention of hospitalisation where possible, utilising medical support where required.

Shared decision making

Shared decision making is a method of actively engaging patients, their families or carers to reach mutual agreement with clinicians in decisions that directly affect their health (22). This differs from informed consent, which focuses on one medically superior option (18). In shared decision making, there are at least two medically reasonable options and the decision relies on patient values and preferences (23). This is a focus in the CEDRiC model where the nurses of HIPS and GEDI gather information from many sources, including the patient, family or carer, to influence medical disposition planning with either the GP or ED medical team. This approach means that health professionals engage with the client and their carers to explore not only “what is the matter with you” but also “what matters to you”.

Recognition-primed decision making

This form of decision making is a major aspect of the GEDI team and to a lesser degree, for the NPC/NP. A key point of difference between the depth of knowledge of GEDI advanced practice nurses compared to other nurses in the ED environment is in their use of recognition primed decision making (17). This is an approach to decision making in which the expertise of the GEDI advanced practice nurses, with their dual preparation in both emergency and gerontological care, provides them with a series of internal working models (based on experience and knowledge) that allow them to make complex decisions about the care of this vulnerable group. The NPC/NP similarly uses recognition primed decision making to identify acute deterioration in the aged care setting. However, this is a minor aspect of the role.

Champions and change agents

To implement new interventions such as those in the CEDRiC model, acceptance of change in practice is required. The Diffusion of Innovations theory postulates that champions advocate for change and need influence within an organisation to succeed (19). They require energy, creativity, skills in negotiation with all levels and are key to continuing to overcome barriers, influencing new management and executive staff to understand the innovation and sustainability requirements (24). For GEDI, the ED physician is primarily the champion for organisational change. This enables the GEDI innovation to be embedded into the ED and creates the environment for ongoing sustainability of change. The HIPS intervention is championed by the NPC/NP who drives the change, with support from RACF management, to embed the HIPS model in the RACF and build collaborative partnerships with the visiting GPs. Importantly, champions share the ambitions of the recipients of change, the needs of the older person in the RACF or the ED. The champion balances these with the diverse needs of groups and embodies strategic leadership (19, 25). This role is crucial to the success of both GEDI and HIPS interventions and for the realisation of CEDRiC as a system-wide model of care for older people.

National and International guidelines

This toolkit references a variety of national and international guidelines that focus on geriatric emergency care. More information about care of older persons in the ED can be found in the following documents (see Appendix A):

- American College of Emergency Physicians, American Geriatrics Society (26) Geriatric Emergency Department Guidelines.
- Australia & New Zealand Society for Geriatric Medicine (27) ANZ society for geriatric medicine position statement, Australian & New Zealand Society for Geriatric Medicine (2008), Position statement no.14. The management of older patients in the emergency department.
- Queensland Government (28) Clinical Services Capability Framework CSCFV3.2 Geriatric Services – Emergency Geriatric Care.
- Australian College for Emergency Medicine (ACEM) (29) Policy on the care of elderly patients in the emergency department.

The implementation of CEDRiC requires an approach such as the integrated — Promoting Action on Research Implementation in Health Services (i-PARIHS) framework (30).

Objectives of the CEDRIC model

The objectives of the CEDRiC model are to:

- Maximise patient-centred multidisciplinary decision making for frail older persons in primary care and ED settings;
- Identify the goals of care and presentation that are important to the patient and/or carers;
- Fast track patient assessment and multidisciplinary decision-making;
- Identify functional decline;
- Reduce morbidity;
- Increase appropriately supported safe discharge to place of residence from the ED;
- Reduce inappropriate presentations to the ED and admissions to hospital;
- Reduce hospital length of stay; and
- Reduce re-presentations to the ED.

The illustration of the interventions and their coordination to meet these objectives can be seen in Figure 1.

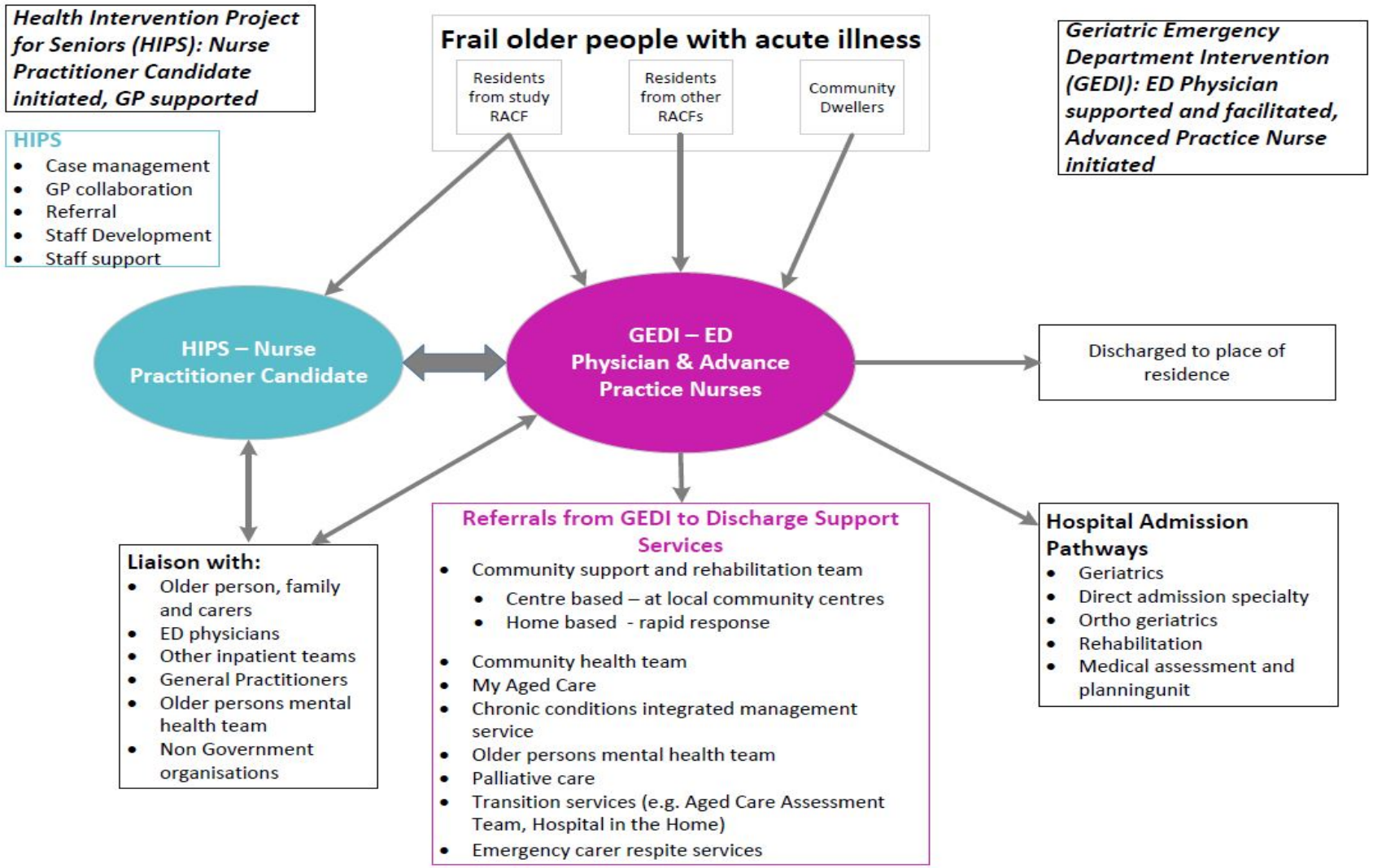


Figure 1: The CEDRiC model of care

Benefits of the CEDRiC model

The delivery of CEDRIC aimed at reducing potentially avoidable transfer to the ED and streamlining care of the older person in the ED has many benefits. Primarily, the closely linked but financially, operationally separate interventions maximises coordinated care delivery in the fragmented and siloed sectors of Commonwealth funded aged care and state funded acute care services. Additional benefits of implementing the CEDRiC model include:

	Improved care coordination with medical and allied health professionals • Coordinates additional assessment by specialist medical or allied health professionals • Liaises with clinical care teams to provide appropriate care • Direct referral to specialist medical or allied health professionals • Coordination of care to achieve goals of treatment
	Facilitation of care if transfer required • Influences range and scope of diagnostic testing • Coordinates chronic disease management and further treatment • GEDI Influences disposition course with ED medical team • HIPS influences disposition course with GP and family
	Reduced need for hospital admission for frail older adults • HIPS in place in RACF to provide enhanced primary care and early assessment • GEDI organises community support to facilitate requirements for discharge • HIPS and GEDI organise follow-up through required medical/support services • Provides medication script and medications if required to facilitate ongoing care and ensure current planned care may be followed
	Education and training • Facilitates acute geriatric training/experience/practical placement between the acute health services and RACFs • HIPS upskill RACF staff in acute care management and recognition of deterioration • GEDI upskills ED staff in care of older adults
	Increased awareness of special needs of the older adult • The presence of GEDI in ED increases awareness of the unique needs of older people throughout the hospital • A NPC/NP in the RACF increases awareness of deterioration and acute care requirements of residents • Increased focus on Advance Care Planning

PART TWO: Health Intervention Project for Seniors – HIPS

Background

Since the introduction of Nurse Practitioners in United States of America in 1965, the role has been well established throughout the world. Nurse Practitioners in Australia were first recognised as endorsed professionals in 2000 (31). The importance and cost effectiveness of the NP role within the RACF has been well documented (32, 33). Interventions from Nurse Practitioners in the RACF have been shown to reduce the use of restraints and decrease rates of medication use and decrease depression, aggression, agitation, falls (including bed related falls), pressure ulcers, urinary incontinence, and reduce the transfer of residents to emergency departments thus improving health outcomes and quality of life of residents (32, 34-37). Despite this, many RACFs do not employ a NP and transfer from RACF to Emergency Departments is increasing (38). Early identification of residents' deterioration within the RACF has been cited as one way of reducing hospital admission for this group of vulnerable patients (3, 39) and the ability to provide some primary and acute care within the RACF may also reduce hospital transfers (40-42).

International evidence suggests that nurse practitioners working in primary healthcare settings and RACFs are well received by the public and studies have confirmed these results in an Australian context (41, 43, 44). Although ageing in place in Australia became a reality with the introduction of the *Commonwealth Aged Care Act, 1997*, it has been a slow transition for some RACFs (45). Previous low care facilities now have residents ageing in place with care requirements increasing over time and therefore nurses with advanced levels of skills are necessary. Research in Primary Health Care suggests NPs can assist with GP shortages, offering timely, quality care to patients with acute problems which is cost effective (46, 47). Although the research was conducted in a general practitioners' cooperative and not a RACF, van der Biezen et al (46) concluded that in areas of general practitioner shortage, the nurse practitioner can take over a substantial proportion of the caseload, offering "roughly the same" level of care (p. 1813). Therefore, it is reasonable to assume that a NP in the aged care setting would also be associated with good quality healthcare. A NP in the RACF can educate and support less experienced staff and can potentially assist with workforce shortages by provision of assessment freeing up other clinical staff. Additionally, the extended career pathway to nurse practitioner may attract more nurses into the aged care sector and alter the perception and attitudes regarding this specialty area.

The Health Intervention Project for Seniors (HIPS), one aspect of the CEDRiC project, was proposed to improve primary care in one RACF. In the initial model, implemented as part of the CEDRIC project, a Nurse Practitioner Candidate (NPC) was employed. A NPC is a registered nurse with at least four years' experience, currently undertaking the Master of Nurse Practitioner Studies or equivalent (NP) program at a university. This program includes theoretical study and clinical practice mentored by NPs and medical doctors. A NPC was utilised to enable RACF staff and visiting GPs to experience the model prior to endorsement as an NP and be a collaborator to enhance GP-led care. Funding was obtained for the NPC position through the then Medicare Local (now PHN) and advanced clinical skills placement and mentoring was undertaken with the GEDI team at the local emergency department as well as with a range of other medical and nurse practitioner mentors.

Collaboration internally between RACF care staff, the HIPS NPC/NP and externally with the visiting GPs was essential for the success of HIPS. RACF care staff were advised how and when to contact the NPC/NP and provided with information regarding the scope of practice of the NPC/NP. It was made clear that implementation of the HIPS model did not mean that nursing or care staff would lose any present responsibility or scope of practice but would be supported to improve and extend their care.

Benefits of the HIPS model

The benefits of the HIPS model include:

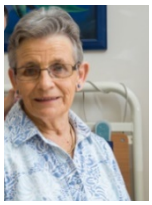
	Fast tracking: • The onsite NPC/NP can see the resident without delay
	Improved resident care: • Advanced assessment of physical and cognitive functioning and monitoring of deterioration • Formulates resident issues and goals of treatment — discusses with resident and family and contacts GP as required • Early initiation of independent NPC/NP actions (e.g. ordering of tests and medication
	Improved care coordination with medical and allied health professionals: • Can accompany GP on rounds or discuss the health of residents on the phone • Direct referral to specialist medical or allied health professionals • Coordination of care with ED staff to inform of goals of treatment
	Improved care coordination within the RACF between care assistants and nurses: • Upskilling/educating staff through provision of in service education • Working alongside nurses and carer
	Facilitation of care: • Influences/orders range and scope of diagnostic testing • Coordinates chronic disease management and further treatment • Resource for nurses and care assistants
	Reduced need for resident transfer to ED: • Educates care and clinical staff in management of condition
	If transferred to ED: • ED length of stay is reduced due to comprehensive information sent with resident and communication with GEDI • Goals of care/reasons for transfer are identified • Resident is discharged back to RACF in a more timely manner

Key areas the HIPS model of care addresses
• **Service gap** • **Funding shortage in aged care** • **Over-burdened acute health sector** • **Sustainability** • **Workforce development** • **Replicability**

The Resident Journey

In the RACF, health change or deterioration in the resident's condition may be identified by a nurse or carer who will notify the GP when necessary. The GP is not always available to visit the RACF when required. A NP or NPC in the RACF can assess and treat the resident more thoroughly than the nursing or care staff within the RACF due to their advanced training and education. They do not necessarily rely on the GP visiting the RACF for treatment to commence. This can prevent some residents requiring hospitalisation as depicted below in Figure 2.

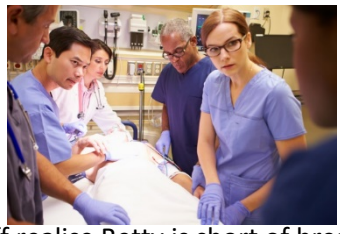
The resident journey without HIPS



Betty, 87 lives in a RACF. She has a wound on her leg which is not healing.

The carer calls the RN.

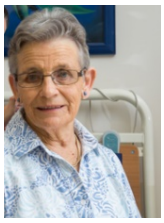
The RN trials different dressing types and notices Betty is short of breath. The RN calls the doctor. The GP is unable to come so an ambulance is called.



The ED staff realise Betty is short of breath and has peripheral oedema.

Betty is admitted for treatment of heart failure. Betty is at risk of an adverse outcome due to her hospitalisation

The resident journey with HIPS



Betty 87 lives in a RACF. She has a wound on her leg which is not healing

The carer calls the RN.

The RN trials different dressing types and notices Betty is short of breath. The RN calls the NPC/NP.

The NPC/NP conducts a full assessment which reveals that Betty is suffering exacerbation of heart failure. Additional wound assessment by the NPC/NP determines that wound healing has been impaired by peripheral oedema. Differential diagnosis is discussed with the GP, the ceiling of care is determined and an ongoing care pathway is developed. The resident is cared for in the RACF and hospitalisation is avoided.

Figure 2. The resident journey with and without HIPS

HIPS Step 1 – Pre-implementation planning

This section provides direction for an interested organisation regarding the pre-requisites, essential activities and issues to consider prior to implementing the HIPS service.

HIPS pre-implementation planning	
Identify the need and consider the current context	Review data on transfers of residents, hospital stay and outcomes. Ensure that this model of care will complement your RACF
Identify benefits and risks of implementation	Ascertain the impact of implementing HIPS
Engage RACF executive staff and identify key stakeholders	Identify who needs to be involved and how the interaction will occur
Identify/quarantine funding	Access/determine funding or potential funding sources to support the change
Identify a nurse practitioner candidate (NPC) or nurse practitioner (NP)	Determine appropriateness of a NPC or NP. Ensure that the person with the right motivation and clinical skills to fulfil this role is employed.
Identify HIPS model parameters	Define the system and processes that will need to be implemented
Establish governance	Consider the work practice changes required, who will do this and how it will be achieved.

Identify the need

Before implementing the HIPS model, it is important that the need is identified and change management principles are considered. Information such as numbers of resident transfers to the ED, disposition (discharged from the ED or admitted to hospital), length of stay in hospital and outcomes will assist in identifying the need for HIPS within your organisation. Contact any existing NPs operating in this area to find out more about implementing a similar model of care.

What you need to do

Before implementing HIPS model, identify:

- Number of transfers to hospital from the facility
- Reasons for transfer
- Time of transfer and staffing profile at time of transfer
- Average length of time spent in ED
- Number of residents discharged from ED
- Number of residents admitted to hospital

Identify benefits and risks of implementation

When implementing the HIPS model of care, it is important that both the benefits and risks are identified.

Benefits: *It is important that the potential benefits are identified. This information can be used to engage key stakeholders (such as care staff, management and GPs) and serves to provide motivation for engagement in the workplace changes. Potential benefits of the HIPS model include but are not limited to:*

Provision of onsite primary care;

- Advanced level of clinical assessment skills;
- Upskilling of clinical and care staff;
- Ability to communicate in medical language to GPs;
- Fast tracking, improved resident care;
- Improved care coordination with medical and allied health professionals;
- Improved care coordination within the RACF between care assistants and nurses;
- Reduced need for resident transfer to ED; and
- Better outcomes for residents transferred to ED.

The potential benefits of implementing the HIPS model can be communicated in the RACF itself through meetings and in-service or by utilising external groups (for example PHN and Division of General Practice) meetings and educational sessions. Developing a business case for a NPC/NP that outlines their potential earnings (once qualified and endorsed) will demonstrate how this model can be sustainable in the future and save money for the organisation.

Risks: Potential risks must also be identified during the pre-implementation phase. Establishing a new model of care is challenging, and working with multiple stakeholders from different health sectors brings complexity to the issues that can arise. Financial, organisational and clinical risks all need to be considered within this assessment and re-evaluated through every phase of the project.

Each organisation should have its own specific approach to risk management and the process should be identified and adhered to. It is suggested you utilise further information regarding evaluation from the CEDRiC research project, which is documented in the service evaluation section.

Professional liability insurance is required for NP practice. The organisation must consider if they will assume the responsibility or require the NPC/NP to source personal professional liability insurance cover.

	**What you need to consider** • What is the aim of this implementation? • Who are the like-minded, positive people to engage in the project development? • Identify what cannot be changed and develop alternate strategies. • How you will manage stakeholder expectations? • This is a new role, so minimising barriers to change — both internally and externally — need to be considered. • Education of the RACF staff, residents and their families prior to implementation of HIPS.

Engage RACF executive staff

To gain support for the HIPS model within an organisation you will need to engage with the RACF management. Presentation of supporting evidence such as health economic benefits, clinical outcomes and organisational reputation, will provide support and justify the systemic change. CEDRiC research outcomes may be a useful and influential tool in supporting your case. You may also consider collecting and presenting the data outlined in Step 4: HIPS service evaluation. The cost implications must be considered and it will be important at this stage to identify if there is funding available for this position.

	**Funding considerations for a Nurse Practitioner Candidate:** • If the nurse intending to apply for the nurse practitioner candidacy is already a clinical nurse at your facility, then no other funding may be required during candidac,y as their existing role could be extended. • Extra funding for a new NPC/NP role would be required if expansion to other clinical areas within the organisation is required. • Investigate scholarship opportunities through university, nursing associations and the community. • Identify any other opportunities to fund the program (such as PHN).

Table 1. Examples of key stakeholders required at pre, during and post-implementation

Stakeholder	Role
RACF CEO/COO/Administrator	Advocate for HIPS Project management/group governance structures
RACF Senior Accountant	Source funding for the position
RACF Quality and Safety representative.	Assist with accessing appropriate risk management policy and performing risk management assessment
Senior Nursing Management	Advocate for HIPS. Determine NPC or NP position. Assist in developing documentation for NPC/NP protocols
RACF clinical staff	Engage in learning opportunities with NPC/NP as they arise. Collaborative care of resident and referral as necessary
PHN	Provide support for clinical nurse wishing to commence as a NPC
GP liaison officer — PHN	Project management group/governance structures
GP	Work collaboratively with NPC/NP. Assist with review and development of collaborative agreements regarding roles and responsibilities of NPC/NP
Local ED staff	Clinical placement for learning of skills in the acute care of a deteriorating resident

Identify and engage stakeholders

Stakeholders are important to ensure your implementation of HIPS is effective and supported. Stakeholders may include management of the RACF, residents and their family members, and local health practitioners such as pharmacists, local hospital ED staff and GPs. Gaining support from GPs may be a key challenge, requiring specific attention. A useful strategy is to engage with your local PHN GP Liaison Officer prior to implementation and meeting with GPs. Clarity around the NPC/NP role and responsibilities must be presented to ensure GPs and that they remain the coordinating physician for the residents. Emphasising benefits, such as a reduced need for GPs to disrupt planned consultations to visit a resident and the potential for fewer after hours calls, will assist GPs to understand the value of the model, engage with the HIPS team, and participate in the change

process. Peer to peer engagement between NPC/NP and GP is highly effective and will be a key enabler for implementing the NPC/NP role.

Methods for engaging clinicians
• Involve clinical stakeholders when establishing a clinical advisory group, e.g. GPs, RACF nursing staff and pharmacy, in decision making and advice as and when appropriate • Identify and focus on the clinical benefits to the resident and communicate impact and outcomes of HIPS with the relevant key stakeholders • Give individual clinicians specific tasks during development • Provide incentives for attendance of key functions e.g. cater for events • Identify and communicate how GPs will benefit from HIPS implementation • Encourage GPs to engage with each other regarding the HIPS model of care

	**Meeting** Once the relevant data have been gathered and a business case has been developed, a meeting between the RACF executive and relevant stakeholders should be scheduled. Decisions can be made whether to commence HIPS with a nurse practitioner or nurse practitioner candidate

Collaboration with local PHN

The local PHN can be helpful in assisting collaboration for the implementation of HIPS. The GP liaison from PHN can assist with communication, dissemination of information and meetings with local GPs to assist in peer discussion and feedback of the model of care. During the CEDRIC research project, the GP liaison arranged a meeting with the Australian Medical Association.

Support for the NPC/NP is important in the early months as many will have limited support in commencing this role. The PHN can provide support and may also facilitate the NPC with finding a mentor, which is required during the training period.

The support and enthusiasm a PHN executive has for the model is invaluable. This enables dissemination of information with other senior health executives, associations, groups and GPs both locally and around the country.

Summary of how a PHN may assist in setting up HIPS
• Liaison between acute hospital ED and NPC/NP for HIPS model of care implementation • Assisting in identifying key senior clinical nurses who may suit the role of NPC • Liaison with a tertiary education facility should research on the implementation be required • Dissemination of information, documentation and communication to relevant parties • Providing information sessions for GPs and GP practices • PHN GP liaison officer assists in communication with GPs and provides peer support and information regarding any questions about the HIPS care model

Identify and quarantine funding source

There are many funding models that might be utilised to employ a NPC or NP. Project funding might be obtained if a NPC or NP is employed as part of a research project. As a NP can charge for service, the RACF may choose to employ a visiting NP model who manages their own funding, or pay the NP a wage and collect all Medicare refunds, or the RACF may supplement the earnings of a NP.

Nurse practitioner candidate or nurse practitioner?

HIPS can be implemented using either a NPC or NP and there are advantages and disadvantages to both, the difference being the scope of practice. (see Figure 2). CEDRiC utilised a NPC approach to build acceptance for the model of care in the RACF and in the community. During candidature, the NPC developed a collaborative working relationship with visiting GPs and established connections with the key staff in each practice. The NPC gained acute clinical experience by working in the local ED with the GEDI team. This arrangement was important in building close relationships between the hospital and RACF.

For a new NP, organising collaborative agreements with GPs, establishing billing procedures and prescribing authorisation with local pharmacies can be time consuming and some of the background work for this was commenced during the candidature of the NPC.

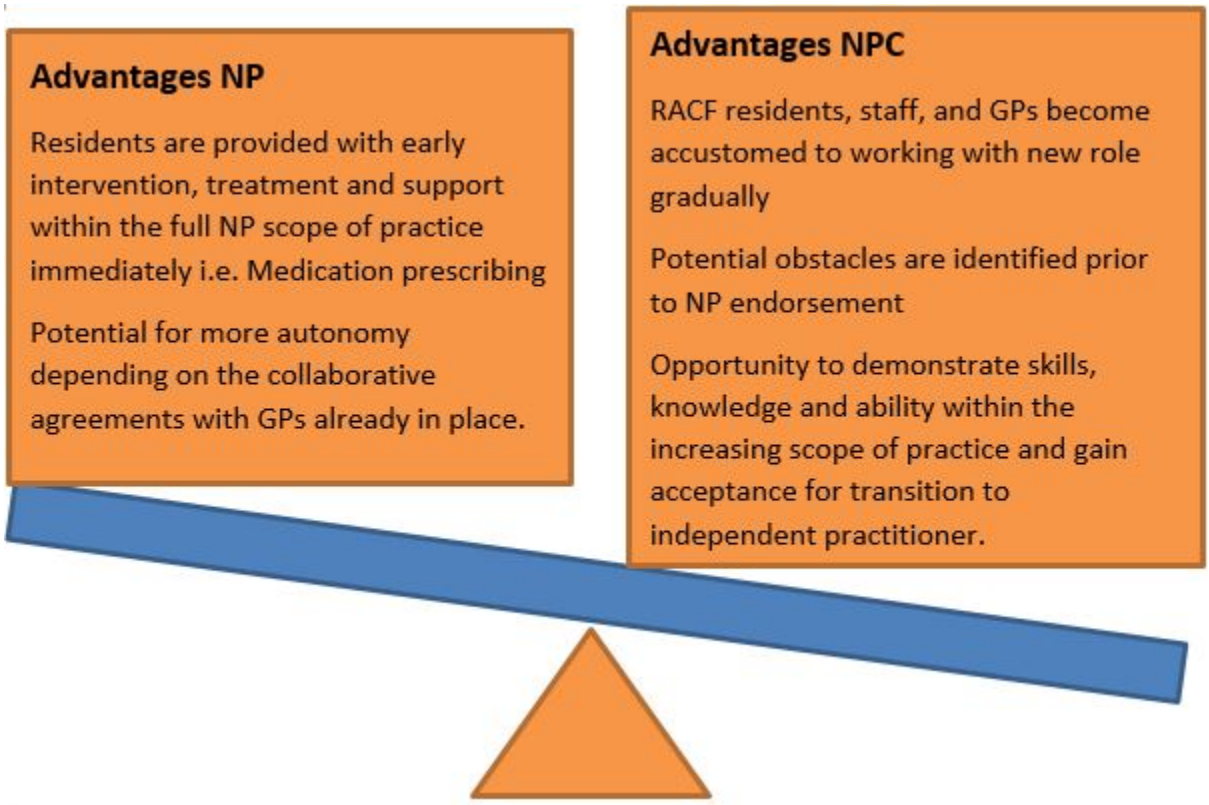


Figure 2. Comparing the NPC and NP role advantages

The Nursing Role Effectiveness model (21) can give insight into the different independent, inter-dependent and dependent roles of the NPC and NP so differences in scope of practice can be explored. The NP, working within their scope of practice and within the capacity of the Collaborative Agreement, performs more independent roles than the NPC, who is dependent on collaboration with the GP similarly to the RN. Interdependent roles include medication orders or pathology requests undertaken collaboratively with the GP based on their preferences. The decision to send a resident to hospital may be a dependent, interdependent or independent role for the NPC or NP.

Identify the nurse practitioner candidate/nurse practitioner

The NPC/NP must have advanced clinical skills and preferably management experience relevant to the position. The NPC/NP must be willing to work in an autonomous and collaborative manner with RACF staff and visiting health professionals.

	**NPC/NPs must be agents of change** For the HIPS collaborative model to work, NPC/NPs need to be willing to act as agents of change for all RACF staff

Determine HIPS model parameters

The scope within the RACF for the NPC/NP role requires early identification to determine the clinical areas that they will be working in, based on identified service gaps. For example, will the NPC/NP be working over more than one facility within an organisation or will they be shared between different organisations that are geographically close? What are the functions to be carried out by the NPC/NP? Ensure that key stakeholders are involved in these discussions and in establishing key requirements for the role. In determining the scope of the NPC/NP role, consider all partners i.e. visiting GPs, RACF clinical staff and carers, local pharmacists, collaborating ED staff.

Ensure acceptability of the HIPS model of care

When implementing the HIPS model of care, engaging RACF residents and families or consumer re-presentation is important within the pre-implementation planning and implementation phases. It is important that an explanation of the role and the potential benefits to residents is provided. It is important to stress that the NPC/NP role does not take over from that of their GP or existing nursing staff but enables timely clinical assessment and streamlined care. It is also important that the NPC/NP meets with the visiting GPs to answer any questions they may have regarding the role and to establish professional relationships with them. The NPC/NP role is complementary and collaborative and does not impinge on the GP role as the central care provider. Reiterating this with the GPs is important. For the RACF management, it is important to build the position into the model of care provided in the RACF. The NPC/NP role aims to be supplementary and supportive to the clinical care already being provided, not to replace that care or suggest care is deficient. Planning for potential challenges relating to the presence of this new role may pre-empt problem escalation.

	**Challenge:** Potential for GPs to see role of NP/NCP as competitive rather than collaborative **Cause**: Lack of understanding around the role of the NPC/NP and concern over overlapping services. False belief that GP is accountable for NPC/NP practice **Solution**: Information, communication, time to work with NPC/NP to see true nature of role and allay any fears. **Challenge:** Skills set of nurses as some RNs have had little experience in chronic disease management and early detection of deterioration. This has been increasingly required with ageing in place and the recognition that hospitals are not necessarily the best place for the elderly **Cause**: Aged care nursing has traditionally been focused on a wellness model or holistic care rather than disease management focus **Solution**: NPC/NP does not replicate the existing nurses' or carers' role and must play a role in the education/upskilling of RACF staff. **Challenge:** Potentially non-sustainable model **Cause:** Inequitable Medicare billing opportunities **Solution:** The formal business model needs to address efficacy and fiscal sustainability for organisations to consider undertaking the HIPS model of care. **Challenge:** Potential lack of support for the business model **Cause:** Executive level understanding of the non-fiscal benefits of implementing the HIPS model of care **Solution:** Identification of private billing models/alternative income streams.

Establish governance

Ensuring the right people with the right skills are involved with the implementation of HIPS is critical to its success. The transparency of the new role, clarity in decision making and the roles and responsibilities for the NPC/NP are important to identify at the outset.

HIPS governance committee

The main purpose of this committee is to:

- Provide input and oversight for critical milestones of the NPC/NP
- Develop risk mitigation strategies for the NPC/NP
- Provide oversight and approval for budget for the NPC/NP

The people to be included on the committee will vary depending on the organisation size. The committee may include: CEO/Administrator of the RACF, the care manager within the facility, a senior GP with patients at the facility, accountant responsible for funding the program, member of the safety and quality or clinical governance unit. This committee should meet regularly and formally with the NPC/NP, ensuring that appropriate issues are reviewed. Reporting on the achievement (or issues) of reaching milestones, emerging risks and mitigation strategies and financial status of the intervention is a necessary outcome of the committee.

HIPS Step 2 – What the HIPS team does and how it is done

In this section, we will outline the functions and activities of the NPC or NP and how this role can enhance the care provided by other members of the residents' healthcare team.

Collaborative approach

As discussed in the introduction, the HIPS model requires a collaborative approach. The duties of carers or nursing staff do not change with the inclusion of a NPC/NP to the RACF staff. Rather, they recognise a health event or deterioration in a resident and contact the NPC/NP. The NPC/NP works in collaboration with the RACF staff and GP as required to assess and treat the resident. The aim is to prevent unnecessary hospitalisation where possible and optimise the care of the resident.

	**PLEASE NOTE!** It is very important to stress that the NPC/NP <u>does not take over</u> the care of the resident but works collaboratively with the clinical team to assess the resident and contribute toward an ongoing plan of care.

Triggering a HIPS intervention

There are a variety of approaches to ensure residents in need may be assessed by the NPC/NP.

1. Resident request. The residents ring the NPC/NP themselves, or ask the staff to contact the NPC/NP on their behalf.
2. Staff request. RACF staff notice decline/deterioration in the condition of a resident, or ask for a second opinion in times of uncertainty.
3. GP request. The GP asks the NPC/NP to assess residents on their behalf. This may be due to many reasons such as: GP annual leave, GP inability to visit the RACF at that time, and to provide a follow up assessment and determine necessity of GP review.
4. Regular clinic hours – for example, residents with diabetes might attend a monthly diabetes clinic.
5. Regular rounding by the NPC/NP to assess residents who might be unwell.

A suggested daily work schedule is proposed in Appendix B. Further information may be found in Step 3 "Establishing the service and routine", further down.

HIPS Referral Pathway

The following diagram (Figure 4) depicts a referral pathway that might be utilised when a resident becomes unwell.

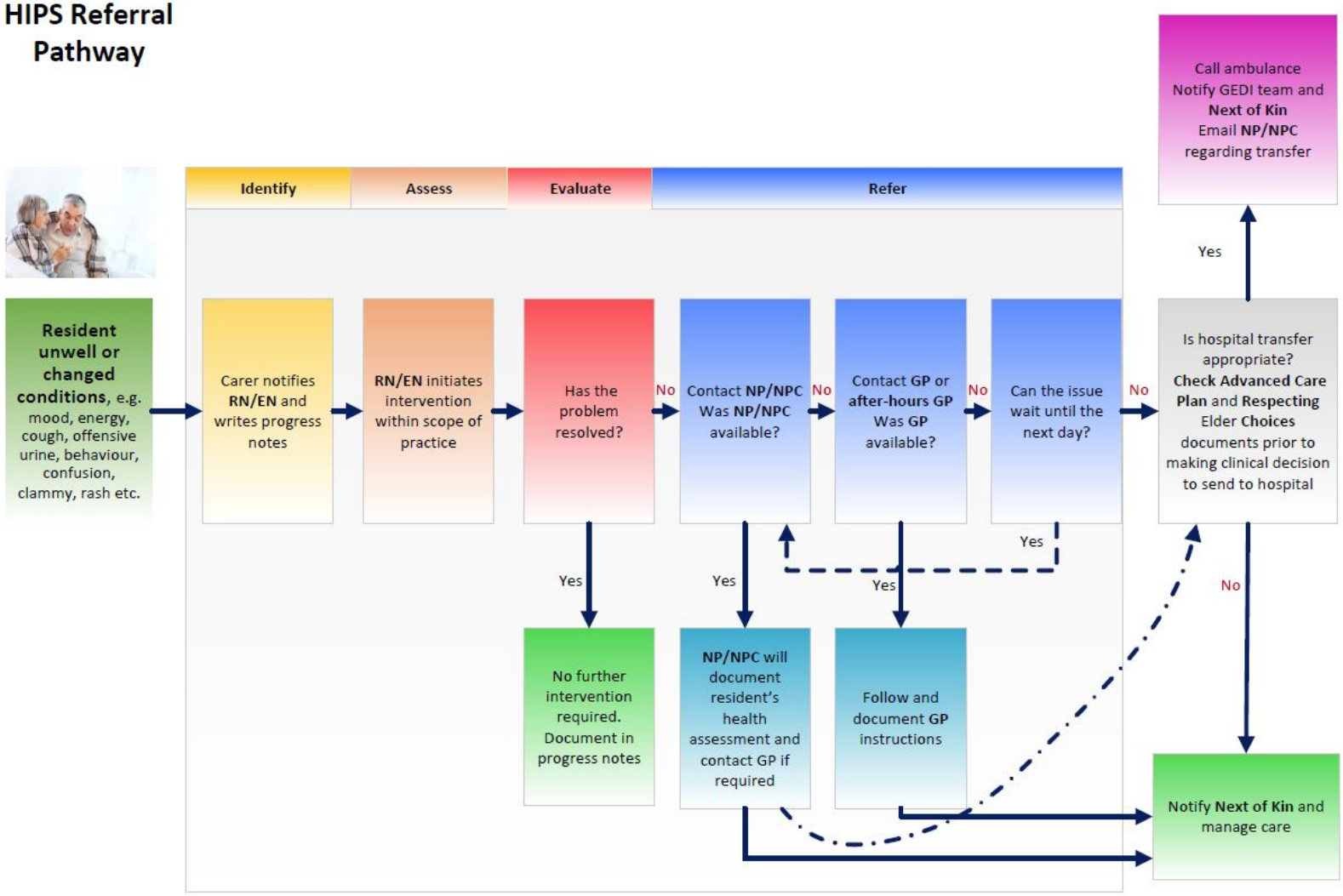


Figure 4. HIPS Referral Pathway

NPC or NP?
If your organisation has chosen to commence the model with an endorsed NP, move on to the next section.

Nurse Practitioner Candidate Role

The role of the NPC is to provide on site assessment and management of acutely unwell residents. Primary care may include optimising chronic disease management, addressing functional decline, palliative pathway support, pre-admission oversight and monitoring for residents awaiting surgery, and post-operative oversight for residents following routine surgery.

The NPC undertakes detailed clinical assessment of the resident, which is communicated to the GP to develop a collaborative plan. Assessment may include:

- Review of recent pathology/ward test urine/blood glucose levels/weight changes;
- Medication review;
- Medication administration and use of "as required" medications;
- Neurological/cognitive/behavioural observations; and
- Identification of triggers leading to the "tipping point" of health decline.

These assessment cues underpin the use of recognition primed decision making (17) by the NPC to determine the most likely explanation for an acute episode. Care planning is determined with the clinical and care staff as part of the NPC's inter-dependent role, to ensure provision of care can be provided. The plan of care is documented in the residents' health record and conveyed to the GP and care team with instructions if required.

When a resident is acutely unwell and requires transfer to hospital, and the advance care plan indicates 'for all active treatment', the NPC contacts the GEDI team and discusses the presenting problems. This includes what has changed and what is hoped to be achieved by transfer to hospital, i.e. what is the desired goal and outcome.

Refer to Appendix C for NPC/NP position description and specific key responsibilities and position description and Appendix B for an example of the NPC/NP daily work schedule.

The key attributes/elements important within the NPC role
• Identify elder most at risk • Pro-active and reactive care for residents most at risk of acute medical conditions. ➢ Red flags — acute deterioration identified and communicated to GPs ➢ Early identification of deterioration – facilitate timely intervention and initiation of treatment and ongoing monitoring • Build relationships with stakeholders • Collaborative practice between the key stakeholders to improve resident care • Acts as a change agent • Implement resources such as "*Stop and Watch*" from the INTERACT training suite (see Appendix D) • Upskill carers and nursing staff as required • Policy development

	**NPC role generates confidence** Through evidencing these key elements/attributes the NPC can generate confidence in others of their ability prior to evolution into the Nurse Practitioner role.

	**NPC or NP?** If your organisation has chosen to commence the model with an NPC, you can skip the next section.

Nurse Practitioner role

The role of the NP is like that of the NPC. The extended scope of practice of the NP after Endorsement by the Australian Health Practitioner Regulation Agency (AHPRA) and meeting the criteria for eligible Medicare billing enables prescribing of medications, ordering of specified diagnostic tests and billing for service.

Like the NPC, the NP will provide on site assessment and management of acutely unwell residents. Due to the further education and experience of a NP however, recognition and diagnosis of health issues, and the management of health issues, will be at an advanced level to that of the NPC. Primary care may also include optimising chronic disease management, functional decline, palliative pathway support, post-operative oversight for routine surgery, post admission oversight and monitoring.

The NP undertakes detailed clinical assessment of the resident, which is communicated to the GP as necessary. Assessment may include:

- Review of recent pathology/ward test urine/blood glucose levels/weight changes;
- Medication review;
- Medication administration and use of “as required” medications;
- Neurological / cognitive/ behavioural observations; and
- Identification of triggers leading to the “tipping point” of health decline.

Care planning is determined with the clinical and care staff to ensure provision of care can be provided. The plan of care is documented in the resident’s health record and communicated with the GP and care team with instructions if required.

When a resident is acutely unwell, and the advance care plan indicates ‘for all active treatment’, the NP contacts the GEDI team and discusses the presenting problems. This includes what has changed and what is hoped to be achieved by transfer to hospital, i.e. what is the desired goal and outcome.

Refer to NPC/NP position description and key responsibilities Appendix C and an example of a NPC/NP daily work schedule Appendix B.

The key attributes/elements important within the NP role

• Identify elders most at risk
• Pro-active and reactive care for residents most at risk of acute medical conditions:
  • Red flags – acute deterioration identified and acted upon, then communicated to GPs
  • Early identification of deterioration — facilitate timely intervention and initiation of treatment and ongoing monitoring
• Build relationships with stakeholders
• Collaborative practice between the key stakeholders to improve resident care
• Acts as a change agent
• Upskill carers and nursing staff as required
• Implement resources such as Stop and Watch from the INTERACT training suite (see Appendix D)
• Policy development

Additional HIPS staffing

Staffing required for HIPS will depend on budget constraints, geographical location and number of residents. During the CEDRiC research project, the staffing model incorporated a NPC, a Clinical Nurse (CN) and an Administration Officer (AO). The CN provided support for the NPC, to ensure a continued service when the NPC attended meetings and training and during leave. The AO was useful in data collection during the project and can be useful in booking NP appointments and billing Medicare for services provided. The CN and AO are optional roles, but for maximal effectiveness of the model, all three roles are recommended.

Clinical Nurse (CN)

The CN provides clinical support for the NPC/NP. During the CEDRiC research project the CN assisted with clinical assessment (within the CN scope of practice and competency) and troubleshooting when there were competing priorities for the NPC. The CN also assisted with education and presentations within the RACF for staff, residents and/or their families/carers. The CN supported the NPC with roll-out of proactive interventions, such as health assessments, personally controlled health records and promotion of increased uptake of advance care plans. The CN supported the NPC with administrative tasks, such as:

- Prioritisation of competing health needs within RACF;
- Data collection and analysis of data collected;
- Compilation of residents' clinical profiles; and
- Assisting with information for the administration officer to plan NPC reviews and follow-up of resident's care.

Refer to Appendix E for Clinical nurse job description and key responsibilities

Administration Officer (AO)

Whilst this role is not mandatory, it can a useful position in a HIPS service. The administration officer provides support for the NPC/NP during the implementation of the HIPS model. The AO can be responsible for input of the data collected for the assessment and evaluation of the model, and can maintain a booking list of which residents are scheduled for routine check-ups with the NPC/NP.

Refer to Appendix E for the Administration Officer role description and key responsibilities

HIPS assessment, decision making, advocacy, intervention

What follows is a detailed explanation of the core components of the NPC/NP role in the HIPS model and suggestions for practice. Appendix F contains links to further information specific to the geriatric nurse practitioner.

Assessment

Assessment of a resident — the NPC/NP undertakes extensive assessment of physical and cognitive functioning. This may be undertaken dependently, independently and interdependently of medical assessment. Initial assessment may have been undertaken by nurses and/or the care staff. This may indicate a reason for referral to the NPC/NP. Alternatively, on rounding the NPC/NP may identify a resident in need of assessment.

Assessment
Assessment may include the following domains: • Presenting problem; • Formulation of differential diagnoses — these are then investigated and diagnostic tests ordered, such as blood, urine and/or sputum pathology. (This is an independent and a dependent function depending on NPC/NP qualifications and collaborative agreements in place); • Current medication; • Activity level and recent change; • Current activities of daily living and any recent changes i.e. bathing, dressing, eating; • Mobility; • Continence and elimination status i.e. bowel regularity, consistency, voiding patterns, bladder scan; • Nutrition and hydration i.e. weight, fluid overload, dehydration; • Pain status including verbal and non-verbal cues of pain, triggers, relieving factors; • Physical assessment including vital signs, O2 saturations, chest sounds, abdominal assessment, skin, peripheries etc.; • Cognitive assessment including orientation, neurological observations, deviations from baseline; • Social assessment including interaction with friends and family; and • Risk assessment — falls history and risk, pressure injury risk etc.

The NPC/NP may not be familiar with the baseline functional status or goals of care of each resident and therefore seeks vital information from:

- The staff member who raised the concern;
- Other staff from carers to ENs and RNs;
- The written progress notes and medication orders;
- Pathology results;
- Advance Health Directive (AHD) or Statement of Choices;
- The GP, who is contacted when necessary to provide further history and background information; and
- The resident, their Enduring Power of Attorney (EPOA) if available and family members.

Decision making

The NPC/NP uses a recognition primed decision-making framework (17) to determine possible treatment options for the resident. Using a shared decision-making framework, the NPC/NP will discuss possible treatment options with the GP, nursing and care staff, and family members. A provisional diagnosis is discussed and treatment options are considered, including medication prescribing/de-prescribing by the GP or NP interdependently and/or dependently within the NPC/NP scope of practice.

Resident Advocacy

Advocating for the resident and ensuring all intervention is in accordance with the wishes of the resident is of utmost importance. To accomplish this the NPC/NP can:

- Be a trouble-shooter to clarify areas of incongruence where the written Advance Care Plan (ACP) or Advance Health Directive (AHD) and current wishes of the resident do not align;
- Initiate the difficult conversations or clarify with the resident or their Enduring Power of Attorney (EPOA) to ensure accurate documentation of residents' wishes and understanding of the implications of documented decisions;
- Identify health deterioration and prompt the GP to document when the resident has transitioned to the terminal phase of illness, which clarifies for staff that the instructions under that section of the AHD are now applicable;
- Initiate or prompt development of a formal AHD for residents who have capacity;
- When there is no AHD for a resident who lacks capacity, assist nursing staff with Advance Care Planning involving the resident, their EPOA or statutory health attorney, family, significant others, GP and other health professionals;
- If the EPOA is unable to be contacted in an emergency and the ACP/AHD instructions are not clear for the scenario, coordinate with the resident if able, GP or other medical/health teams, family and significant others to determine the appropriate and preferred course of action for the resident; and
- Explain End-of-life options to residents and families to ensure they can make informed decisions/choices.

Intervention

Interventions are independent, interdependent and dependent according to the Collaborative Agreements in place and scope of practice of the NPC/NP. Interventions are determined according to the resident's need, diagnosis of acute episode, AHD/ACP. Interventions may include but are not limited to:

- Presenting problem — specific interventions to address the presenting problem including initiation of treatment or transfer to emergency department as necessary (see box below);
- Determination of differential diagnoses - and commencement of appropriate treatment;
- Medication management — initiate new medications, including antibiotics, usually in collaboration with the GP if available as all GPs have their own preferences. This ensures treatment continuity for the resident;
- Activities suited to the current activity status, such as knitting or reading in bed as an option to TV;
- Encourage independence in activities of daily living and refer to physiotherapist or occupational therapist (OT) as necessary;
- Encourage mobilisation or bed rest as required;
- Continence and elimination management such as in/out catheter if required or suggesting frequent toileting assistance;

- Diet and nutrition recommendations such as soft diet or increased protein;
- Hydration management — develop a fluid management pathway that is centred on the needs of the resident. For example: increase or restrict fluids. Referral to dietician or speech pathologist as necessary;
- Pain management — document or prescribe full use of prn medications as sometimes care teams are unsure when to initiate — this is best ordered as a short course for periods of exacerbation. Develop a strategy to relieve pain including heat or ice packs, distraction techniques, warm drink etc;
- Physical — commence oxygen therapy if required;
- Cognition — management of delirium. Referral to Older Persons Mental Health as required;
- Social — encourage the resident to join in activities; and
- Falls — educate resident to ask for assistance or educate in use of walker as required.

Transfer to hospital
Factors to consider when deciding if transfer to Emergency Department is appropriate: • Wishes of the resident/Advance Health Directive/Advance Care Plan; • Ability of RACF to care for the resident within limitations of staffing skill mix; • Requirement for equipment not available at the RACF; • Requirement for medications not available at the RACF due to delays between ordering and receiving new medications; and • Goals of transfer — is the hospital likely to be able to improve the outcome for the resident? If your local ED has a GEDI team, ring and speak to them prior to transfer to establish the goals of care and provide opportunity for GEDI to gather other vital information.

Collaborative care with GP

All NPCs must work in collaboration with the GP. Once endorsed as a NP, Collaborative Care Agreements are necessary. NP—GP Collaborative Agreements are an essential requirement of some pharmacies to enable ordering of medications utilising the facility medication sheets. Without collaborative agreements in place, the NP must have all medication prescriptions signed by the GP.

Further information on Collaborative Care Agreements may be found in Appendix F. Some of the ways in which the NP works collaboratively with the GP include:

- NPC must have all medication prescriptions signed by the GP;
- Presenting an available GP with a comprehensive assessment enables them to prioritise and determine if urgent RACF on-site visit, transfer to hospital or RACF care is most appropriate; and
- Depending on the working relationship, NPC/NP scope of practice and NP/GP collaborative Agreement, the NPC/NP may provide leave coverage for the GP and review the resident when the GP is unable to attend the RACF.

Resident care when the GP is not available

When the GP is not available, the NPC/NP works within their scope of practice to provide appropriate care to the resident. The NPC/NP makes decisions independently if the GP is not available, to the limit of their scope of practice. To communicate any decisions/actions a letter with the plan of care is sent to the GP to review and change as they deem appropriate.

Referrals to other healthcare providers

The care of the resident is a team approach and it is important that all care is coordinated. The referral pathway process is decided upon utilising a consultative approach with the GP. For example: staff call the NPC/NP first, who refers on to the GP or escalates it if required.

Documentation

Accurate, clear and comprehensive documentation of clinical decisions is vital for care coordination and legal protection for residents and staff. Some elements that should be considered when establishing the system of care documentation are:

- Systems of communication between the NPC/NP and the RN must be established so that a formal process is in place;
- Medical practice software enables prompt Medicare billing and provides a record for Key Performance Indicators (KPI's). It is recommended that a product such as Best Practice is used;
- For NPC/NPs who are not billing Medicare independently and are employed within an organisation, documentation within the organisation's clinical systems may be sufficient for interventions and collation of clinical history;
- Organisations will have different documentation systems and requirements. Many RACFs have electronic clinical records. Electronic records are preferable and may enable off-site clinicians to review progress notes directly;
- The NPC needs to complete a clinical diary to inform their clinical portfolio and reflection on practice;
- Follow-up letter to the GP is part of the core documentation and is recommended even when the NPC/NP has spoken directly with the GP, particularly when there are changes recommended or implemented. This provides documented evidence of what was discussed and can be filed into the notes by the GP and the NPC/NP and may be referred to later;
- Provide written documentation after discussions with other health professionals such as GEDI, geriatricians, physiotherapists; and
- Document planned reviews.

	**NPC/NP — RN communication** It is important that care delivery teams recognise the RACF RN/EN as their team leader. After a plan is prepared, the NPC/NP works with the RN/EN to 'action' the plan to ensure their role as clinical team leader is maintained. The NPC/NP writes notes in the resident's record and outlines a plan of care for the acute episode, however the documentation of the formal comprehensive aged care plan is completed by the facility RN or EN with RN sign off.

HIPS Step 3 – Service management

Having implemented the HIPS model, the next challenge for the organisation is to ensure the sustainability and ongoing management of the service. The principles of service management include:

- Support NPC education and endorsement;
- Monitor NP professional development;
- Establish protocols in the RACF that ensure the best care for residents e.g. establish palliative care pathways;
- Ensure the NPC/NP engages in the development of clinical expertise of the RACF staff;
- Ensure funding models have the capacity to enable NP Medicare billing;
- Embedding HIPS and service delivery management within the RACF and ensuring the model evolves in line with the needs of the residents, stakeholders — in particular GPs, the RACF and surrounding community it serves;
- Ensure sustainability of the model by engaging in succession planning for the NP role; and
- Monitoring and evaluation of HIPS process and outcome indicators.

Establishing the service and a routine

As each facility will have differing priorities and service requirements, the NPC/NP will need to be flexible in the establishment and delivery of their service. However, a routine needs to be established so staff know when they can contact the NPC/NP and to make the NPC/NP visible in the organisation. Consider the following:

1. Rounding and routine:

- Start with reviewing the health record and clinical notes to see if there are any red flags or concerns with the residents;
- Do the rounds of each wing and speak to clinical staff and carers about residents that they are concerned about and see residents considered urgent as a priority;
- Attend handover when possible;
- Establish routine times to go to each area so that staff know when to discuss any non-urgent concerns;
- Meet the GP and do joint rounds; and
- Identifying residents who are not at activities or meals, may be an indication of deterioration or change in activity level.

2. Care of residents with chronic conditions

- Establishing clinics at regular intervals and specific times may be useful; and
- Routinely assess residents with chronic illness who are likely to require hospitalisation in the future.

3. Upskilling

- Upskilling of RACF staff to care for residents with higher acuity conditions needs also to be considered;
- Education of care staff can occur informally and ad hoc as the need arises but also contribute to formal education sessions; and
- The NPC/NP must continually work towards their own professional development needs.

4. Administration requirements

- Data storage and documentation requirements; and
- Billing requirements for NPs.

5. Pathway Development: Set aside time to create/adjust organisation specific protocols and care pathways to assist with streamlining care and improving resident healthcare out of hours such as the following:

- shortness of breath
- asthma and COPD
- indwelling catheter troubleshooting
- palliative care pain management
- insertion and care of catheters such as nasogastric, gastroscopy, suprapubic
- chest pain
- heart failure
- pneumonia

Equipment requirements also need consideration. Refer to Appendix G.

NPC education to endorsement/registration

In Australia, a Nurse Practitioner is a specific qualification on a register with the Australian Health Practitioner Regulation Agency (AHPRA). A Masters qualification is necessary to practice as a NP. Potential university course titles include Master of Nursing (Nurse Practitioner) (MN (NP)) and Master of Nurse Practitioner Studies (MNPractSt). Requirements for entry vary between universities but the minimum is four to five years of full-time equivalent experience as a registered nurse and at least one year at an advanced practice level. Courses are usually one and a half years full time and may be undertaken part time. It is advisable to contact local universities for specific course and entry requirements.

Clinical placement requirements embedded within the course of study may be undertaken outside the RACF. During the MN (NP) program, candidates should consider opportunities that link with the local hospital and health service, such as case conferencing. Attendance at specialist geriatric inpatient multi-disciplinary team meetings can assist in strengthening networks with the hospital and enhance knowledge of hospital inpatient care.

Transition from NPC to NP

The transition phase may last for approximately six months. During transition, there are processes that must be established to practice as a NP. During this time, it is advisable to identify the key personnel in each general practice so that Collaborative Agreements can be signed. The PHN GP liaison officer can assist with this. As each GP will have varying numbers of residents, this process can be quite lengthy.

While waiting for registration to be approved through AHPRA, the NPC can begin the process of applying for Medicare Provider Numbers and a Prescriber Number. The Medicare application process involves submitting forms and paperwork and may also involve further information being requested from the applicant. It is advisable to review the professional liability insurance so that it continues to meet the requirements of the role.

Collaborative Agreements

NPs are required to have an approved document detailing their scope of practice and this document may be used as a reference for the Collaborative Agreement with the GP. When the NP works with more than one GP, it is recommended that the Collaborative Agreement is the same or similar with each GP to avoid confusion. Different parameters may exist with different GPs for which separate agreements will be required. The Royal Australian College of General Practice (RACGP) published an extensive NP – GP Collaborative Agreement document and it is advisable to refer to the current version for the most up to date information. See Appendix F.

A review procedure should be established to determine how well the collaborations are working and to identify any changes that might be necessary. The timing of the review may be weekly, monthly or yearly etc. as deemed appropriate by the NP and GP.

Collaborative agreements

According to the RACGP collaborative agreements have been developed with three key aims:

1. to offer Australian patients access to the safest, highest quality primary care
2. to clearly identify roles and responsibilities, mutually agreeable processes for consultation, referral and transfer of a patient's care, and to provide clarity between both parties before the commencement of a Collaborative Care Agreement
3. to facilitate a continuum of care, and to minimise the potential litigation risk to medical practitioners, NPs and their staff.

Collaborative agreements do not make the GP accountable for the practice of the NP.

Medicare billing

The NP may bulk bill or charge each resident directly to enable the resident to claim from Medicare and pay an additional fee. The process for an NP to establish Medicare billing arrangements involves:

- completing Masters level education;
- registering with AHPRA;
- obtaining Medicare provider and prescriber numbers;
- completing e-learning modules online; and
- selecting the best method for the organisation to process the claims (e.g. paper based or software facilitated on-line claiming).

Department of Human Services has this information online and you may liaise with the facility accountant to assist with the process. See Appendix F for the link to further information.

Pathology Register

RACFs tend to be serviced by one pathology service (such as Queensland Medical Laboratory or Sullivan Nicolaides Pathology). A NP can request pathology through any provider and most accept request forms from other companies. In the interests of continuity of care for the resident, it is important to ensure the pathology service has the NPs provider number/s registered on file to:

- prevent delay in the test being carried out; and
- have the cost of the service covered by Medicare and not billed to the resident.

Radiology

It is advisable to speak with the radiology service prior to sending a patient for the first time to avoid any problems caused by their potential lack of understanding of the NP scope of practice.

Pharmaceutical Formulary

Some of the issues surrounding the prescribing of medication include:

- Prescription pads can take 6—8 weeks to be printed and delivered;
- A different provider number is required for each location the NP works from;
- Multiple script pads are necessary unless the NP carries the PBS prescription printer paper and can access medical practice software to enable printing of prescriptions remotely when required;
- Legislation may vary between states therefore it is necessary to refer to state legislation regarding issues such as the use of handwritten prescriptions and medication administration within aged care facilities; and
- Consider the requirements and processes for access to emergency medication stock particularly after hours.

Governance Framework

Establishing governance for the role is essential to sustainability. Speak to a trusted GP regarding possible governance and review of clinical concerns. Explore peer review opportunities with hospital staff and other NPs in the local area. Revisit when establishing collaborative agreements, once endorsed.

NP professional development

Following graduation, attendance (and presentations) at conferences can provide valuable networking and learning opportunities and membership of professional organisations is also recommended. For example, the Australian College of Nurse Practitioners (ACNP) https://www.acnp.org.au/ is the national peak body for nurse practitioners in Australia, providing services such as:

- Conferences;
- Scholarships and awards;
- Professional networking;
- Education; and
- Professional support.

	**PROFESSIONAL DEVELOPMENT** Currently in Australia, NP's are expected to provide evidence of 30 hours of attendance at professional development each year. Where possible, exposure to acute care is a good adjunct to the role and this may be undertaken at the local ED. The GP may also provide ongoing training.

Professional development courses to improve or extend the NPs scope of practice may also be desired. Certification of skills increases the capacity of the NPC/NP to provide care for residents in the facility that may prevent transfer to hospital. Such skills may include:

- Suturing;
- Plastering;

- IV cannulation; and
- Aural healthcare.

See Appendix H for examples of resources to provide support and online training.

Leave planning

Time away from the RACF for professional development activities, annual leave and attendance at meetings or conferences must be considered and planning for leave will be facility dependent. A Clinical Nurse or short-term agency NP may take over some of the NPC/NP responsibilities or the service may not provide backfill during times of absence. Management of fatigue must also be considered.

Care coordination with GEDI

The aims of HIPS is the early identification of RACF resident clinical deterioration and increasing risk of hospital admission. The HIPS team enacts preventative measures, investigations and early GP liaison to prevent (where possible) or mitigate the need for hospital admission. Whilst GPs do attend RACFs, there may be barriers to timely visits, including the level of remuneration they can obtain from Medicare and clinic/practice work-loads making unplanned visits unviable. The NPC/NP provides enhanced assessment and diagnostic skills, enabling intermediary services in collaboration with the GP to prevent deterioration in health and possible hospital admission. When a resident becomes acutely unwell the NPC/NP contacts the GP to collaborate regarding the best approach and treatment options. If the resident is unable to be managed within the RACF and hospital transfer is required, the NPC/NP coordinates with the GEDI team providing the goals of transfer. This results in improved communication and streamlining of resident transfers, assessment and admission.

HIPS Step 4 – Service evaluation for sustainable funding and service delivery

Health service evaluation

The aim of evaluation of the HIPS service is to compare outcomes before and after implementation of the service. The majority of Queensland/Australian RACFs are privately operated and rely on funding through the Commonwealth Government Aged Care Funding Instrument (ACFI) scheme. As a result, data management is different for facilities and often difficult to navigate.

Developing a relationship with the data manager and financial management team is recommended to access accurate information on resident absences relating to transfer to the ED and hospital. Utilisation of 'Best Practice' or similar software for Medicare billing offers the ability to collect data on NP consultations that may be useful for business case development for sustainable funding and ongoing support from facility management. An evaluation may include but is not limited to:

- Quantitative analysis of occasions of service for NP and GP, referrals, types of visits, advance care directives established, resident outcomes;
- Quantitative analysis of numbers of transfers to the ED, post transfer disposition, time away from the facility (length of stay in the ED or length of stay if admitted), re-presentations to the ED up to 28 days and mortality;
- Health economic analysis of the cost of the service compared with saving to the facility; and
- Qualitative structure and process analysis to identify issues and quality improvement opportunities for residents, families and staff with the new service.

Service evaluation may occur at any time-frame prefered by the organisation. It may be prudent to evaluate the service prior to each Collaborative Agreement Assessment. Data to consider collecting for service evaluation include:

- Occasion of service
- Time spent with client
- Billable codes
- Transfer to ED
- AHD update
- GP visits
- Alignment with GP
- Resolution

The PHN is a valuable resource to assist with data collection for service evaluation and may provide GP and ED specific data if necessary. Quantitative data analysis will determine the value of the NP service in reducing hospital visits and qualitative data will ascertain staff and resident satisfaction.

Key documentation for evaluating your implementation

Discussion with the facility data manager will determine the data items that can be accessed from currently collected data. Items that are not available in other databases can be collected through Best Practice or similar software. Suggested data items for monitoring of performance over regular 3, 6 and 12 month periods are presented in Table 1.

Table 1: Suggested data items for collection for HIPS evaluation

Description of data item for collection	Use in service evaluation
Numbers of residents seen/billed to Medicare	Descriptive data collection to describe NP service activity
Numbers of referrals to NP	
Age at time of consultation	
Gender	
Type of consultation — face to face; consulting with staff about resident	
Type of face to face consultation — new or review	
Who referred	Identify where referrals are arising from to ensure all staff are reminded of presence of the NP service PRIOR to calling the GP
Date and time of departure from facility to hospital	Return date and time minus departure date and time = length of stay in the ED/hospital admission
Date and time of return to facility from hospital	
Reason for transfer to the ED	Descriptive data collection to describe resident illness and acuity

Additional Data for collection if commencing HIPS with NPC

Most of the clinical activity of the NPC will involve close collaboration with the GP. In addition to the information above, extra data that might be useful to collect includes the NPC — GP correlation between:

- Provisional diagnoses
- Tests ordered
- NPC suggested prescription and GP ordered prescription
- Treatments
- Decision to refer to other healthcare providers.

Refer to Appendix I for further suggestions regarding service evaluation.

PART THREE: An overview of the Geriatric Emergency Department Intervention (GEDI)

Background

The Geriatric Emergency Department Intervention (GEDI) focuses on the frail older person presenting to an Emergency Department (ED) with an acute illness or complex healthcare requirements. Usually this incorporates people of 70 years of age and over. However, frail older persons who are under this age and Indigenous Australians over the age of 50 years, who may have similar levels of frailty, are also screened by the team and may be included in service delivery. The GEDI model is aimed at improving the quality of care for this cohort, reducing unnecessary hospital admissions and facilitating early safe discharge. The GEDI team consists of an ED physician champion with a special interest in aged care and Clinical Nurses (CNs) led by a Clinical Nurse Consultant (CNC). The CNC implements policy and procedures underpinning the GEDI model, manages the nursing team, provides clinical expertise and leadership, provides education to all ED staff and builds a culture within the ED that values and prioritises person-centred care of frail older persons.

The GEDI service may absorb, replace or collaborate with a range of other services provided for frail older people in the ED. For example, the Community Health Interface Program (CHIP) that operates in many Queensland EDs and supports referral of clients to community-based nursing and allied health resources may be enfolded into the GEDI model. Because GEDI is a service managed within the ED it can be responsive to the needs and timelines of ED and facilitate appropriate referral and discharge planning. However, the GEDI model fundamentally incorporates a 'border spanning' role aimed at improving inter-disciplinary communication, entrenching patient-centred decision making, facilitating safe hospital discharge where possible and improving fast-tracking of referral and admission processes when required. The example concept brief of a business case pathway in Appendix J will assist in the decision to implement GEDI.

Objectives of GEDI

The objectives of GEDI are to:

- Maximise patient-centred multidisciplinary decision making for frail older adults in the ED
- Identify the goals of presentation important to the patient and/or carers
- Fast track patient assessment and multidisciplinary decision-making
- Identify functional decline
- Reduce morbidity
- Increase appropriately supported safe discharge from the ED
- Reduce avoidable admissions to hospital
- Reduce hospital length of stay
- Reduce avoidable re-presentations to the ED

	**GEDI is an innovation** GEDI is an ***innovation*** provided in a consultant capacity, focussing on early assessment of frail older patients, aimed at clinical and disposition decision making.

The GEDI patient journey

Figures 5 and 6 below illustrate the journey of a typical frail older person with complex needs through the ED, with and without the support of the GEDI service. These figures are provided to emphasise the potential areas of impact that GEDI may have.

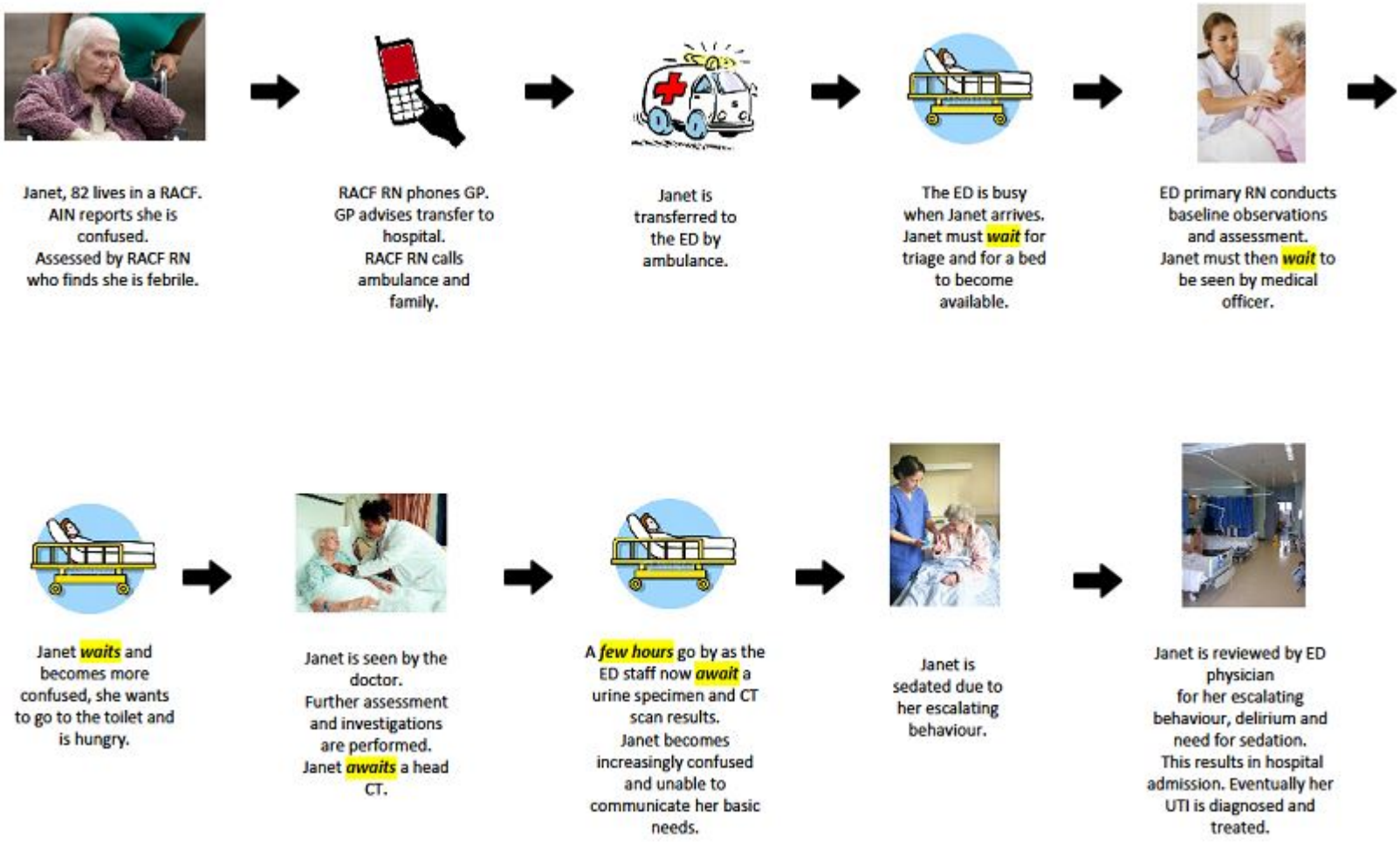


Figure 5: ED patient journey prior to GEDI

Betty, 82 lives in a RACF
AIN reports she is confused.
Assessed by RACF RN who finds she is febrile

RACF RN phones GP
GP advises transfer to hospital.
RACF RN calls ambulance and family
RACF RN calls ED GEDI team provides information and goals of transfer.

Betty is transferred to the ED by ambulance

The ED is busy when Betty arrives
GEDI nurses anticipate arrival and liaise with triage
Betty is met by GEDI nurse on arrival and *facilitates* appropriate bed allocation

ED primary RN conducts baseline observations and assessment.
GEDI nurse conducts targeted geriatric assessment and delirium screen.
GEDI nurse liaises with RACF, GP, Betty and family to *determine goals of care* to *determine disposition*.

GEDI nurse *organises/orders* appropriate and *timely* investigations and case management by medical officer
Coordinates acute and chronic disease management including end of life care planning

GEDI nurse and medical team *review* the case and investigations. *Early diagnosis* of delirium secondary to UTI with ED environment contributing.
Early disposition decision making
Betty and her family prefer to return to RACF with support

GEDI nurse phones RACF to ensure ongoing treatment plan can be managed
Organises for follow up by GP at RACF
Provides nursing discharge summary (DS) to accompany medical DS and ensures new medications prescribed and provided.

GEDI informs Betty's family of discharge
Betty goes back home to RACF
Hospital admission is avoided

Figure 6: ED patient journey with GEDI

Benefits of GEDI

The benefits of the GEDI model include:

	**Fast tracking** • Early identification through the ED information system/phone call from RACF/ambulance service • Prioritisation of patients referred to and seen by GEDI • Early geriatric screening by GEDI identifies people with complex care needs enabling timely, goal-centred care • Rapid assessment and targeted care whilst in ED
	**Improved patient care** • Rapid and targeted assessment of physical and cognitive functioning (e.g. delirium assessment) • Access to wide range of information from patient, medical records, RACF/GP/family/carers • Formulates patient issues and goals of treatment — discusses with family and carer • Early initiation of independent nursing interventions as required (e.g. insertion of IDC, wound management) • Facilitates and communicates combined progress planning
	**Improved care coordination with medical and allied health professionals** • Coordination of care within the ED to achieve goals of treatment • Coordinates additional assessment by specialist medical or allied health professionals • Liaises with bed manager, medical team and primary nurse • Direct referral to specialist medical or allied health professionals
	**Facilitation of care** • Influences range and scope of diagnostic testing • Coordinates chronic disease management and further treatment • Influences disposition course
	**Reduced need for patient hospital admission** • Liaises with and organises community support to facilitate requirements for discharge • Provides targeted assessment and care for geriatrics in ED — ability for patients to obtain further assessment or care during 24 hour stay in Short Stay Unit (SSU) can support discharge home without admission to ward • Organises follow-up through required medical/support services • Provides medication script and medications if required, to facilitate ongoing care and ensure current planned care may be followed

GEDI Step 1 – Pre-implementation planning

This step of the journey outlines the work required to prepare an organisation for the change required for a GEDI implementation.

Identify an ED physician with a passion and interest in aged care

Central to the success of the GEDI model is identifying an ED physician with a special interest in geriatrics. This enables the model to have senior medical support to facilitate the implementation of a GEDI service and assist in the acceptance of the model. It is this influence within the ED that can facilitate the change and acceptance required to embed the model in the ED.

Both the GEDI ED physician and CNC need to work closely and collaboratively with mutual professional respect being 'like-minded' in their vision for the model along with resilient to obstruction and challenges. Departmental support of non-clinical time to establish a GEDI service is paramount.

The ED physician adopts the role of the GEDI champion and therefore needs to have clinical expertise, the capacity to inspire and empower the specialist GEDI CNC and CNs and drive the change process with ED management (19, 24, 25). Some of the attributes required of this position include:

- Developing the GEDI team
  - Recognition of skill sets of others
  - Allowing others to grow — build excellence
  - Facilitating the roles of CNs and CNC — performance appraisal
  - Support team in difficult times — counselling
- Facilitating the insertion of the GEDI team into ED management practice
  - Removal of barriers
  - Try something new — if it doesn't work, innovate
- Advocate for nurse-led models of care in support of the medical team
- Being open minded and utilising constructive criticism
- Having influence in the organisation
- Rising above negativity and micro politics
- Persistence
- Resilience for championing the GEDI model during fluctuating management and executive engagement
- Making effective short-term gains
- A long-term focus on sustainability.

	**Identify the GEDI ED Physician role** If the GEDI ED Physician role is not identified, progress with the GEDI model of care will be at risk.

Identify a Clinical Nurse Consultant

Appointment of a GEDI Clinical Nurse Consultant (CNC) with an enthusiastic attitude towards the implementation of GEDI is important. A minimum of five years aged care clinical experience, as well as some experience in acute or critical care settings, are important factors in selecting the GEDI CNC. The ability to work independently and interdependently within this role and act as a facilitator for change within the ED is critical. The appointed CNC must have a high level of clinical skill in geriatrics,

whilst management experience relevant to their new position would be an advantage. Experience within the community in senior aged care nursing roles is a suggested requirement due to the inherent knowledge that this brings to the position within the ED. The CNC must be willing to work in a collaborative manner with skills in flexibility, ability to influence others and self-reflection. The CNC must have the right attitude towards the role. For example, they should be a team player and have an ability to coordinate and work collaboratively with the ED team, GEDI staff, specialists and allied health. This position requires departmental support of non-clinical time to establish and facilitate the GEDI implementation. A suggested job description for the CNC can be seen in Appendix K.

Expressions of interest for the GEDI CNC position

An expression of interest for the GEDI CNC position enables the applicant to work in the role in a temporary capacity. This has a dual advantage as:

1. Temporary funding can sometimes be gained more easily than permanent funding while the model is being embedded in the department.
2. The model can be started with the physician champion and CNC working collaboratively, utilising the shared experience to build skill in the new roles.

Identify and communicate the need for the GEDI service in the health service

Before implementing the GEDI model, it is important that the need is identified and change management principals considered. Genuine and lasting change is sustainable when the ED staff and management, at all levels, realise the necessity for change and advocate for it.

Suggested steps to achieve this:

1. Determine the need. Source and analyse data to determine outcomes for the cohort of older people presenting to ED. Such outcomes may include: admission and discharge rates, cost of presentation, National Emergency Access Target (NEAT) figures. Data may be obtained from the ED information system or the corporate inpatient database. This information is detailed in How to GEDI Step 4, 'A list of data items for a minimum data set'.
2. Communicate findings from analysis as evidence to support the implementation of GEDI. NB: this may be a time-consuming process depending on the skills of staff or resources available to analyse the data.
3. Utilise evidence from research, such as outcomes from the GEDI evaluative research project, to illustrate the benefits to the organisation of implementing the GEDI model of care.
4. Prepare a business case. For suggestions on how to do this, see Appendix J.

WORK TO DO

- Source ED data on presentations ≥ 70, average age and residential status (RACF or community)
- Average length of time spent in ED
- Number of admitted and discharged patients from ED
- Re-presentations within 72 hours of ED discharge or 28 days of hospital admission

	**MEETINGS** Organise to meet with ED and hospital administration to present findings confirming the need for GEDI model and a risk/benefit analysis.

GEDI pre-implementation planning	
Identify an ED physician with a passion and interest in aged care	A physician championing this initiative is paramount to the success of this project
Identify a Clinical Nurse Consultant (CNC) to take on the role managing the GEDI nursing team and implementation of the model	As GEDI is a nurse-led collaboration; ideally the CNC will have extensive experience in gerontology and emergency or aged care nursing and/or experience in community nursing
Identify and communicate the need and consider the current context	Explore the hospital clinical information system data to determine numbers of patients presenting to the ED 70 years of age and over, number of presentations from RACFs, ED length of stay, number of hospital admissions and hospital length of stay. Ensure that this model of care will complement the ED
Identify benefits and risks of implementation	Identify issues and measure the impact of implementing GEDI
Engage clinical and executive staff and identify key stakeholders	Clinicians and hospital management engage to discuss the possibility for funding or funding sources, and identify who and how interaction will occur
GEDI model parameters	Determine GEDI scope, staffing, and cost benefit ratios
Establish governance	Consider the work practice changes required

Identify benefits and risks of implementation

The need for GEDI in the ED has been identified by reviewing clinical and resident outcome data. Now, it is important that goals of implementation as well as both the barriers and risks are also identified. This needs to be achieved during the engagement phase.

Identify and communicate the benefits

It is important that the future benefits of the GEDI implementation (and the continued identification of emerging benefits once implemented) are identified to move towards set goals. This can also assist in effectively engaging and motivating key clinical stakeholders (for example: ED staff, hospital management, RACF senior nursing staff and local GPs). Communicating the benefits to key stakeholders provides relevance to the need for GEDI and provides reasons to continue to engage with the GEDI team. This can be achieved through meetings, in-service or through broader case examples, e.g. through PHN educational sessions.

Identify and communicate risks

Implementing a new model of care is challenging. Working with multiple stakeholders from different sectors of community health and the acute sectors brings complexity to the issues that can arise.

Perform and document a risk assessment during the pre-implementation phase. Consider: financial, organisational and clinical risk. The organisation should have an approach to risk that is organisation wide. Risk needs to be addressed in presenting a business case (Appendix J). A checklist of the key points to address prior to implementation can be found in Appendix L.

Engage with ED and hospital executive

The primary GEDI service began with an ED physician holding the geriatric portfolio and a CN with a clinical background in geriatrics building the intervention. In each organisation, the driver for implementation may be different. Regardless, the clinician interested in establishing this model will need to engage with both the ED and hospital management to effectively communicate the need for GEDI. Supporting evidence, such as information from the GEDI evaluative research project (48, 49) and a literature search for similar or alternative models of health service delivery being implemented around Australia and globally, may be useful.

	**Work to do: reading** Examples of evidence for models of care aiming to reduce ED transfer and improve care for RACF residents include: • supporting the provision of additional clinical resources within RACFs, promotion of Advance Care Directives and End-of-life Pathways for palliative care (8); • rapid access to review of older adult patients and comprehensive geriatric assessment, in the ED (9); and • enhanced education in gerontology care (10-14).

It will also be important at this stage to identify where potential funding might be accessed. See Appendix M for an example calculation to determine staffing requirements for a GEDI service and Appendix N for a list of suggested resources required.

Identify key stakeholders

Stakeholders are important to ensure the implementation of GEDI is effective. Stakeholders may include but are not limited to: ED nursing staff, senior ED medical staff, ambulance service, geriatricians, ED and hospital executive. Clinicians will be using this model but it is important that they are assisted in understanding the benefits of the system, support the need for this change and are willing to engage with the model once it is implemented.

Identifying stakeholders, the key opinion leaders in the ED, is critical to finding support for the intervention to assist in making the implementation successful. Sometimes it will be hard to identify who will be positive (or negative) towards the GEDI model. Inside the ED everyone will be involved particularly the Nurse Unit Manager (NUM), primary ED nurses, ED physicians and medical teams, administrative officers, triage, and, of course, the patients.

Think about stakeholders outside the ED such as business managers, geriatricians, surgical services, allied health professionals, the ambulance service, the relevant nursing directors and Nurse Unit Managers who have potential involvement in the care of older people. Identify how implementation of GEDI will affect all stakeholders and communicate this.

Table 2. Potential benefits for stakeholders

Stakeholder	Example benefit
CEO, Health Service Executive	• cost savings, improved patient outcomes
ED Nurse Unit Manager	• additional expertise in geriatrics in the ED • improved management of older people in the ED
ED Medical Director	• improved ED flow • lower hospital admission rates • fewer complications of admission • improved patient outcomes
Geriatricians	• direct admissions, avoiding sub-specialist care, improved patient outcomes, improved staff and patient satisfaction
Allied Health	• increased early and appropriate referrals

Methods for engaging stakeholders

- Engage in opportunistic face-to-face conversations
- Ensure GEDI team representation at decision-making meetings within the HHS
- Determine what each stakeholder can potentially gain from the implementation (see Table 2)
- Develop a specific GEDI forum and invite key stakeholders (see Table 3)
- Conduct regular meetings with stakeholders — present goals and small steps to success
- Provide regular reports in the mode most preferable to each stakeholder
- Provide documentation about the GEDI model and evidence for its efficacy
- Presentations about the GEDI model and its benefits
- Conduct GEDI team education sessions for ED staff
- Engage individual clinicians by allocating specific tasks, such as: vertical engagement with senior staff
- Be creative — provide incentives for attendance to key meetings, e.g. cater for events.
- Invite stakeholders to join a clinical advisory group.

MEETINGS

GEDI physician and CNC to organise meetings with other key stakeholders, e.g. ED senior management team, Community Discharge Liaison Department Head, Geriatric Services Medical lead, Orthogeriatric Team, etc.

Table 3. Engagement activities for key stakeholders

Stakeholders	Activities
CEO/COO/Administrator/ Health Service Executive	Endorse GEDI at executive and state level; accessible for review of policy and procedure for GEDI; ongoing monitoring of consistency of middle management support.
ED Nursing Director/ED Nursing Unit Manager	Advocate for GEDI in executive meetings; engage with medical management to build joint commitment to the need for GEDI; recognise the staffing needs for GEDI and facilitate recruitment and training; assist in developing documentation for GEDI protocols; meetings; endorse project grant applications.
ED Medical Director	Advocate for GEDI in executive meetings; engage with nursing management to build joint commitment to the need for GEDI; assist in developing documentation for GEDI protocols; meetings; support for project grant applications.
Inpatient geriatricians, general physicians and sub-specialty teams	Attendance at meetings — inform and involve regarding the GEDI model to facilitate acceptance and requirements; provide GEDI team access to case conferencing; accessible for direct GEDI referral
Hospital senior accountant/finance	Developing budget proposals related to GEDI rollout and ongoing service provision; advocating for GEDI expenditure at executive level; monitoring budgetary performance.
Hospital quality and safety representative	Assist team in accessing appropriate risk management policy and performing risk management assessment.
ED clinical staff	Attendance at education sessions; engage with GEDI in workplace; provide feedback.
Community health services manager	Facilitate communication pathways between hospital and community services.

GEDI model parameters

Determine scope for GEDI

The scope for the GEDI team needs to be identified early to determine the clinical areas in which the team will be working. GEDI may be implemented across all EDs in the health service or be limited to one ED.

- Will the CNC be working in one hospital ED or will they be overseeing several EDs?
- Will the GEDI staff be within one health service area or one hospital?
- Will positions be full or part time?
- What number of GEDI CNs will be required?

The GEDI CNC, CN and GEDI physician's scope of practice needs to be determined. Ensure that key stakeholders are involved in these discussions and in establishing key requirements for the roles. The team needs to determine the types of patients to focus on. For example, it might be more appropriate to include people over the age of 65 at some facilities.

Patients seen by GEDI in original south east Queensland site ED included:	Patients excluded by GEDI in original south east Queensland site ED:
• Patients ≥ 70 years, ATSI ≥50 years, or 50+ residents living residing in an RACF • Functionally active prior to admission	• Patients on dialysis • Patients awaiting aged care placement

Patients seen by GEDI in original south east Queensland site ED included:	Patients excluded by GEDI in original south east Queensland site ED:
• At risk of increasing community care or residential care needs	• Patients requiring significant rehabilitation e.g. acute stroke

Deciding on parameters
Presentation numbers and clinical indicators will assist in determining the parameters required for each GEDI service.

Establish governance

It is critical that GEDI exists within the ED administrative and governance structures. If it sits outside this structure, the risk is that GEDI will not be "owned" by the ED, lines of responsibility and communication will be disrupted, and GEDI may be seen as a visiting service instead of an integral part of the department. GEDI governance within the ED ensures that the:

- Aims and objectives align with those of the ED;
- Intervention is resourced appropriately from within the ED; and
- Future planning for ED service delivery considers the GEDI role.

Staffing GEDI

The numbers of GEDI CN staff required to operate the GEDI service is determined by a range of factors including numbers of presentations of older patients to the ED, the size of hospital and population demographic of the surrounding community. For example, an ED with overall presentation rates of 150 patients per day, of which 20% are over 70 years, will equate to 30 patients over 70 years in a 24-hour period.

Planning staffing levels
In the GEDI evaluative research project there were on average, 145 people who presented to the ED per day. Approximately 19% or 25—30 of these presentations were of people aged 70 years and over. Peak presentations times were between 10am and 4pm. GEDI nurses aimed to screen all presenting patients in this age cohort and provided targeted care for 5—10 patients each shift, according to level of complexity.

The average number of patients that GEDI can see per day will vary on patient complexity. Peak presentation times determine when overlap of CN shifts are best utilised. Presentations occurring late in the day, who may be eligible for discharge, will often be admitted to a Short Stay Unit overnight for further assessment and decision making by GEDI early the following morning. An example job description for GEDI CNs can be seen in Appendix P. A table providing the advantages and disadvantages for staffing GEDI from within the ED is provided in Appendix Q.

	**Planning for leave** Forward planning for leave (planned and unplanned) of staff in GEDI positions is important. Utilising the ED nursing staff pool provides an opportunity for interested ED nurses to experience the GEDI role. Such acting positions allow geriatric inexperienced nurses to become familiar with GEDI process and decision-making pathways, and encourages them to develop their geriatric nursing skills. This education and experience supports dissemination of the GEDI ethos amongst the general ED nursing staff and strengthens GEDI succession planning.

Train the trainer – for GEDI staff

A train the trainer program aimed at preparing staff to undertake the GEDI role may need to be developed. Such a program would include:

- awareness of the specific risks associated with ED presentation for older persons;
- attitudes to older people;
- ability to assess and recognise frailty; and
- decision-making related to care of older persons in the ED.

Awareness of the specific risks associated with ED presentation for older persons

Nurses' knowledge of issues relating to health risks for older persons presenting to the ED has been found to be poor (50, 51). Recognition of the differences in risk between age groups who present to the ED by GEDI/ED staff will provide evidence to underpin the GEDI model, prioritising frail older persons in the ED. The literature reports older persons are at increased risk of adverse events related to presentation to the ED, prolonged length of stay in the ED (2) and experience increased incidence of complications, such as new pressure areas, delirium, infection and resulting functional decline (4). Adverse outcomes of ED presentation and hospital admission are found to increase length of stay in hospital, increase rates of re-presentation and likelihood of increasing care requirements including RACF placement (52).

Attitudes to older people

Emergency department staff work in a fast-paced and high-pressure environment focused on delivering emergency care to critically ill or injured people. Care of older people presenting in lower triage categories may not be seen as a priority for emergency care. Studies evaluating ED staff attitudes to older people suggest staff see them as dependent, with the ED not set up for the kind of multidisciplinary care they require, which impacts negatively on ED workloads (53). Skar, Bruce (54) reported staff seeing older people as coming to ED for the "One Stop Shop" of services it provides not available to them in the community. Interestingly, a systematic review of the literature reports that younger people are more likely to present to the ED for non-urgent visits than older people (55). Such negative attitudes by ED staff can impact on the care provided to this vulnerable cohort.

Validated instruments may be used to measure attitudes of ED nurses to older people, such as the Older Person in Acute Care Survey (56). A large survey of Australian ED nurses utilising this survey found that staff felt older people were more time consuming, needed family involvement in their care and found getting comprehensive history information difficult (56). Similar findings were found

in a Canadian ethnography highlighting ED staff distress when unable to meet the needs of the older person cohort (57). Consideration of staff attitudes to the care of the older person in the ED needs to be addressed for interventions such as GEDI that are geriatric specific, to be successfully implemented. Positive ways to do this may include:

- Assisting with improving general knowledge of ED staff to care needs of the older person
- Rotating interested primary nursing staff through the GEDI role when regular staff take leave
- Communicating the GEDI role, focusing on how a GEDI model can assist the primary nurse to better care for their older patient to reduce complication and streamline their pathway through the ED.

Ability to assess and recognise geriatric syndromes and frailty

The presence of one or more geriatric syndrome should trigger a more detailed geriatric assessment is required either in the community, person's own home or as an in-patient, according to the person's needs (58). Examples of geriatric syndromes are:

- Falls
- Immobility
- Delirium and dementia
- Polypharmacy
- Incontinence
- End-of-life care.

To be able to undertake assessment effectively, skills are required, such as:

- cognitive assessment and delirium screening;
- knowledge and understanding of geriatric syndromes and skills in recognition;
- pain assessment in the confused patient.

Knowledge of the specific needs of the older person presenting to the ED is critical to ensuring appropriate care is provided and risk of iatrogenic complications is minimised. The literature reports that frailty is distinctly different from ageing and the common age-related changes that develop overtime (59). A tool that may be useful to differentiate between a high functioning, usually independent older person with functional reserve and one who is at risk of decline is a frailty assessment tool. See Table 4 for examples of tools. More detail on these tools can be found in Appendix R.

Table 4. Frailty tools

Reference	Name of tool	Area of intended use	Aim	Validated
Kydd (60)	Self-reported postal screening tool for frailty	Primary care	Self-reported screening tool for self-identification of frailty for referral	No
Lekan, Wallace (59)	Frailty Risk Score (FRS)	Admitted patients	Determine association of frailty to inpatient mortality or 30-day re-presentation	No
Rolfson, Majumdar (61)	Edmonton Frail Scale	ED/inpatient setting	Brief tool that can be completed by people without special training in geriatric medicine	Yes
Rockwood and Mitnitski (62) & Jones, Song (63)	Frailty Index score — (FI-CGA)	Admitted patients	Frailty index score reflects proportion of potential deficits present in that person, and indicates the likelihood that frailty is present	Yes
Queensland Health 2016, adapted from Rolfson, Majumdar (61) Hubbard, Peel (64)	Frailty Index	Admitted patients	Quantification of frailty as an index of accumulated deficits, incorporates multiple health domains to generate a score	Yes
Other tools not assessing frailty directly but which may be of use				
Reference	**Name of tool**	**Area of intended use**	**Aim**	**Validated**
Asomaning and Van den Broek (65)	Identification of Seniors at Risk (ISAR) tool	ED	To identify patients at risk of an adverse event post ED presentation	Yes

Decision-making related to care of older persons in the ED

The GEDI nurse focuses on influencing decision making in relation to disposition of the older patient in the ED. This provides information and options for the medical team that advocate for the patient and consider the patient and family's wishes.

For the other staff in the ED, education can be provided by the clinical coaches to influence knowledge and skills in the care of the older person. Prompting ED staff can be useful in increasing awareness of the needs of the older person. Some examples are:

1. "This person appears confused. Have you considered a 4AT assessment test for delirium and cognitive impairment?" (66)
2. "Have you assessed pain in this patient who appears confused? Try using the PAINAD scale — the Pain Assessment in Advanced Dementia Scale" (67)
3. And in the case of the dying patient - "Have you assessed the patient for a palliative pathway? Have you considered accessing a pump for appropriate pain medication delivery?"

Simple prompting such as this increases awareness of geriatric syndromes and specific needs in the care of the older person.

GEDI Step 2 – What the GEDI team does and how they do it

In this section, we will outline the functions and activities of the GEDI team and how they work with, support and enhance the care provided by the different members of the multidisciplinary team.

Multidisciplinary team approach

As discussed in the introduction, the GEDI team is a nurse-led, physician-championed team that aims to maximise and fast-track multidisciplinary decision making for older adults in the ED. The care of the older person who presents to the ED is managed in the same way as any other patient by the primary care team of emergency physicians and registered nurses, with referral to specialist medical and allied health teams as required. The GEDI team provides *additional* specialist consultation, coordination and facilitation of care related to older adults with complex needs.

Figure 6 defines the usual pathway for an older patient presenting to ED. The pink boxes identify ways in which GEDI nurses identify issues and formulate goals of care to streamline the care of the older adult, already provided by the ED medical and nursing team.

	**PLEASE NOTE!** It is very important to stress that the GEDI team do not take over the care of all older adults who present to the ED. Rather, the GEDI nurses assess which people, in the older cohort, would benefit from additional care coordination, *fast-tracking* and focusing of clinical decision making and advocacy related to treatment and disposition. They then work with the primary emergency care team of doctors, nurses and allied health professionals to streamline care.

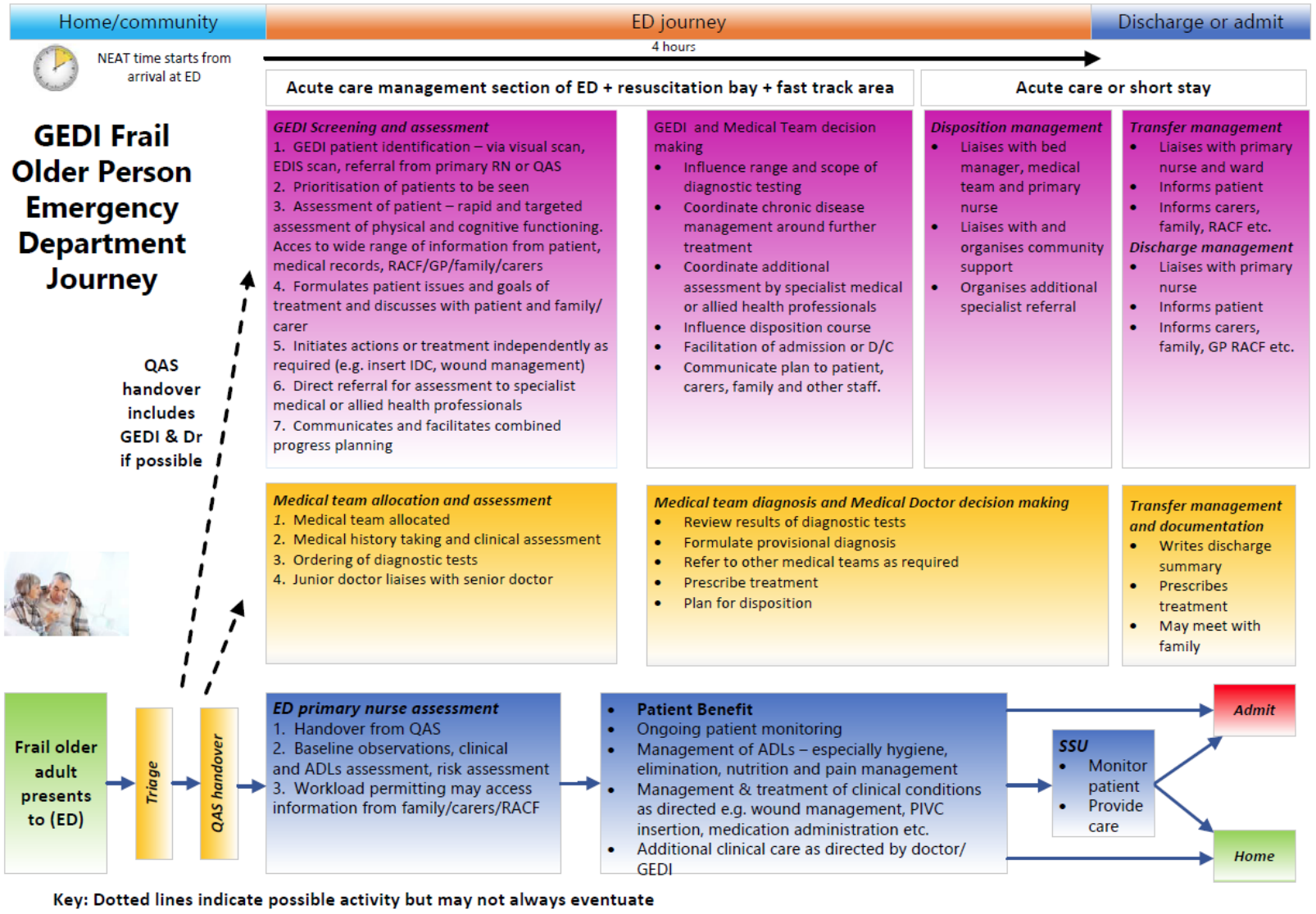


Figure 6: The ED journey of the older person

GEDI team clinician roles

ED physician role in GEDI

The ED physician's role in GEDI is to provide medical leadership for the GEDI model. This role is multifaceted. The incumbent needs the respect of colleagues to influence the hospital and ED executive, to instigate this model of care, and to provide medical leadership during the initial planning phase. The ED physician must be involved in influencing the ED medical team in accepting and advocating for the GEDI role and in educating the medical team about interdependent decision making. This medical position is also vital to ensuring that the medical team is educated about geriatric syndrome management and key principles related to this cohort, such as, end-of-life decision making and Advance Care Planning. The ED physician is also engaged in research activities related to developing the evidence to underpin clinical care of older adults in the ED. Finally, the ED physician needs to work with the GEDI nursing team to develop implementation of evidence-based practice for the older ED patient and on-going monitoring of performance.

GEDI Clinical Nurse Consultant role

The GEDI CNC provides leadership of the GEDI nurse team. In this role s/he provides support and guidance to the GEDI team, advocates for GEDI inclusion in medical and disposition decision-making and develops relevant clinical assessment and decision-making guidelines and documentation. S/he works with the GEDI physician to monitor GEDI processes and patient outcomes and works with the medical and nursing educators to deliver staff development activities designed to improve the care of older adults in the ED. The GEDI CNC is also the nurse lead for research projects related to improving the management of older adults in the ED.

The incumbent works with the Nurse Unit Manager of ED to recruit, manage and develop the GEDI nursing team. As part of this aspect of the role s/he is also responsible for supporting and, where required, educating/developing the GEDI nurses to ensure they meet the requirements of the position. Finding the right fit for the GEDI with aged care or geriatric experience in the ED, can prove challenging. To ensure GEDI can fulfil the role in the busy environment of the ED, the GEDI CNC works with the NUM to manage staff improvement.

GEDI Clinical Nurse role

The GEDI clinical nurse (CN) is a nurse with education and/or experience in both emergency and gerontological nursing. These nurses are part of the ED team and as such are line-managed by the NUM, with additional professional guidance and day-to-day support in coordinating activity from the GEDI CNC. As with all CN roles in the ED, GEDI CNs have included as part of their role, a specific quality improvement portfolio related to one of the national standards.

The specific functioning of the CN centres around the GEDI model including:

- screening, assessment;
- contributing to decision making;
- disposition planning;
- advocacy; and
- clinical interventions.

These are now described in greater detail. Refer to Appendix S for more detail on each role description.

GEDI patient screening, assessment, decision-making, and advocacy

Screening and Prioritisation

- GEDI patient identification — this is undertaken via visual scan of arriving patients or patients already in the online information system for the ED, referral from primary ED nurse or doctor, and/or consultation with paramedics transporting patient to hospital.
- Prioritisation of patients to be seen — the principles underpinning which patients the GEDI will see are:
  a. Patient has come from a residential aged care facility (RACF) — not all patients will need GEDI but a quick assessment will determine whether fast tracking of diagnostics or decision-making or rapid referral to specialist geriatrician or surgeon/physician can be facilitated by GEDI.
  b. Frailty — while a specific tool to measure frailty is not yet available, tools such as InteRAI, ISAR and (found in Appendix T) can assist in identifying older people who can benefit from GEDI input into their care. Experienced GEDI will be able to undertake a rapid assessment of severity of condition, complexity of co-morbidity, issues with cognitive functioning and carer burden and make a quick decision as to whether to intervene/assist.
  c. Referral from ED doctor or nurse — if any of the treating team request GEDI involvement screening can be undertaken.
- There are two types of patients for whom GEDI can extensively affect outcomes:
  a. Low acuity patients requiring a specific intervention, such as wound care, urinary catheter replacement or rapid diagnostic testing to confirm treatment plan. These patients may then be either rapidly returned to home/RACF or hospitalisation can be fast-tracked.
  b. Complex patients with deteriorating physical and cognitive functioning for whom this presentation may be a sign that additional care or support is going to be required in future. In these cases, more time spent on assessment and planning in the ED may prevent hospitalisation or re-presentation.
  c.

	**Prioritisation of GEDI review** 1. All RACF residents, regardless of age or reason for presentation 2. Frail older people over the age of 70 years 3. Older patients who are on palliative pathways 4. People from Aboriginal or Torres Strait Islander background over the age of 50 years (68) 5. Any other person appearing frail

Focus on RACF patients

The GEDI team places the highest priority on RACF patients, with the aim for a return to the RACF where appropriate. This is possible because the RACF has clinical staff that can provide care and monitoring. However, some RACFs may have difficulty in accessing newly prescribed medications out of hours, for example, and so the GEDI will work collaboratively with the RACF to ensure continuity of care and safe transfer. Regardless of triage category, GEDI staff can quickly identify and initiate interventions to enable faster ED processing. This selective targeting of RACF residents aims to reduce ED wait times for older patients who most often are assigned a lower priority triage category.

	**Work to do** The identification of RACF patients presenting to the ED may be difficult. To achieve this, it is suggested to: • identify street address for the RACF • distinguish between independent living and RACF at the same address • ask triage administrative officer to include the name of the facility in the address fields • create an alert in the ED information system • Suggest RACFs call GEDI when transferring a resident to ED

To facilitate rapid return to the RACF where appropriate, GEDI nurses communicate with the RACF staff to ensure ED staff have all the relevant information from the RACF and/or GP. The information can include:

- The sequence of events prior to transfer;
- Whether the GP has been involved or been notified of the transfer;
- Any therapies, interventions or treatments that have occurred prior to transfer;
- Whether contact has been made by RACF with the next of kin and/or Eenduring Power of Attorney to ensure they are aware of the transfer;
- Existence of Advance Health Directive/Statement of Choices on file with the RACF;
- Baseline functional status to compare with the person's current status; and
- Current medical history including medication list.

Example of how GEDI CN can quickly obtain information on transfer
Event: GEDI CN sees ambulance arrive in ambulance bay with frail older person on stretcher being unloaded. **Opportunity:** GEDI CN recognises opportunity to obtain and act on critical information from ambulance officer i.e. type of home that person came from, stairs, ramps, unit; mobility aids at home; does person live alone or with someone; is a family member coming behind the ambulance? OR if from RACF, GEDI CN will notice paperwork in officer's hand that suggests person is arriving from RACF.

GEDI will establish the goals of transfer with RACF staff and their ability to accept the care of the resident for discharge, including recommended follow-up GP care or allied health intervention availability. This may include facilitation of medication for palliation or medical treatment e.g. antibiotics.

GEDI nurses must assist in ensuring a medical discharge letter accompanies all returning RACF patients and any newly prescribed medications are dispensed and returned with the resident to the RACF. This is aimed at circumventing problems for RACF staff in obtaining new medications and promotes continuity of care. An example letter from GEDI to the patient's GP can be found in Appendix U. An example discharge checklist for GEDI is found in Appendix V.

Reasons patients living in the community are seen by GEDI:
1. When there are clear and early identification of needs, such as predetermined admission pathways (fractured neck of femur, Cognitive Assessment Management Unit) or interventions that may shorten ED LOS (provision of wound care, IDC placement, provision of analgesia, establishing goals of care). 2. When medical decision making may be uncertain and geriatric assessment may help to inform patient disposition. Individuals who do not have a clear, urgent medical indication for admission are the primary targets of the GEDI intervention.

Assessment

Assessment of patient — functioning both independently and interdependently, the GEDI nurse can undertake rapid and targeted assessment of physical and cognitive functioning as an extension to that undertaken by the primary care medical and nursing teams.

- The primary nurse will undertake the monitoring of vital signs, levels of consciousness and requirements for assistance with activities of daily living.
- The medical team will undertake a clinical history and order diagnostic tests.
- The GEDI nurse will add value to the assessment process by:
  - accessing information from a wide range of sources, such as: the patient, patient's previous medical records, RACF, GP, family members and carers;
  - accessing specific information related to end-of-life decision making and care planning;
  - undertaking some of the activity required for medical diagnosis and decision making e.g. collecting a blood sample or undertaking an ECG;
  - following up on delayed diagnostic test results;
  - fast tracking access to more complex diagnostic testing e.g. x-ray;
  - undertaking a delirium screen and further cognitive function tests; and
  - identifying carer burden or responsibilities at home, such as pets.

Assessment
Older persons identified for GEDI receive a modified geriatric assessment utilising, but not limited to, validated risk assessment tools. This assessment *may* include the following domains: • Presenting problem • Patient goal of presentation • Active and non-active medical problems • Current medication • Current activities of daily living i.e. bathing, dressing, eating, toileting, transferring • Instrumental activities of daily living function i.e. cooking, shopping, transport, financial and medication management, telephone use • Continence status • Falls history • Pain status • Cognitive function (Appendix W) including cognition and mood • Advance Care Planning arrangements • Sensory information including vision, hearing, communication barriers

- Social/cultural functioning including available supports, current activities/interests, social history, community services, legal and financial issues, issues of domestic violence and suspected abuse
- Carer status and carer stress/support issues, viewpoint

[Clinical experience and judgement should also be used on all people who present who appear frail, regardless of being from an RACF, older age, or high complexity of needs resulting from an acute exacerbation of chronic disease (e.g. early onset dementia, heart/vascular disease, respiratory disease associated with immobility). This addresses the (69) Commonwealth *Aged Care Act 1997 (No. 112, 1997 as amended)* philosophy which is not age specific but deals with people on a case-by-case basis. https://www.legislation.gov.au/Details/C2013C00389]

Advocacy and decision making

i) Shared identification of issues

- The GEDI nurse uses a primed decision-making framework (17) to determine whether the patient has particular geriatric syndromes that may interact with or be an underlying cause for this presentation;
- From the rapid and targeted assessment, the GEDI nurse identifies patient issues and formulates goals of treatment. This will be undertaken, where possible, with the family and/or carers. This is a key function of the GEDI nurse. Where possible GEDI will access any previously determined Advance Care Plans of Advance Health Directives to ensure that they are followed and the patient is not subjected to unwanted treatments or procedures by the multidisciplinary team;
- In some circumstances, the GEDI nurse will initiate actions or treatments independently, at this point (e.g. insert IDC, wound management);
- Direct referral for assessment to specialist medical or allied health professionals is also undertaken as appropriate at this point; and
- Throughout this process, the GEDI team communicates with the patient, their family members/carers and all members of the multidisciplinary team to facilitate combined progress planning.

ii) Influence decision making and disposition planning

- GEDI influence the range and scope of diagnostic testing. Using the primed decision-making approach, and, with reference to the goals of care that have now been established GEDI will discuss the utility of ordering some diagnostic tests with the treating medical team.
- GEDI coordinate clinical decision making around further treatment and may have to act as the patient or carer advocate.
- GEDI can coordinate additional assessment by specialist medical or allied health professionals – depending on local ED pathways and relationships with other departments this can be undertaken by direct referral by the GEDI nurse. Particularly useful pathways include direct referral to a geriatrician for assessment or direct referral to physiotherapist to assess falls risk and likelihood of safe mobilisation post discharge.
- In collaboration with all the multidisciplinary team, GEDI will influence disposition course. Sometimes junior medical officers will seek to admit an older person if diagnosis is unclear or safe return home cannot be achieved immediately. The GEDI nurse can provide additional information to the junior medical officer of possible solutions that may avoid an admission. For example, if a patient will be able to return home with additional community support a GEDI nurse may suggest a stay in the 'short stay' unit for a few hours while these community resources are put in place.

- GEDI can also support the primary nurse to facilitate the processes involved in admission or discharge.
- Most importantly having already established relationships with the patient, carers, family and other staff, GEDI nurses will communicate and explain clinical and disposition decision making.

Admission to hospital
GEDI nurses also play a major role in coordinating the care of older people between the ED and the admitting teams. When medical admission has been decided, the GEDI nurses guide can influence or provide inpatient referral pathways. These include: ➢ Orthogeriatric pathway for an older person with a fractured neck of femur ➢ Cognitive Assessment and Management Unit (CAMU — a secure environment) Older patients being admitted under sub-specialities (cardiology, surgical) or general medicine will have available information which may be otherwise overlooked when medical attention is focused on the management of an acute condition such as chest pain in the presence of delirium, a lack of capacity to inform medical decision making, or the absence of community supports.

Disposition coordination

Once a decision has been made about what treatment the patient requires and what is the best environment for that treatment (i.e. hospital admission, transfer to another facility or discharge home) the GEDI team can assist the primary nurse in the following ways:

- liaise with bed manager and medical team;
- liaise with and organises community support; and
- organises additional specialist referral.

If the decision is to admit or transfer the patient to another healthcare facility the GEDI nurse can assist by:

- liaising with primary RN and ward;
- informing the patient;
- informing carers, family, RACF etc.; and
- refer to inpatient teams using Patient Flow Manager (PFM).

PFM is a dashboard showing bed occupancy in all wards in the hospital and health service. GEDI identifies the patient's allied health referral requirements, high scores on risk assessment instruments and presence or absence of Advance Health Directive before they have left the ED, they then enter these into PFM. These fields appear in red on the admitted ward's dashboard so staff are alerted to the referral. This is then used by CHIP and Allied Health services to ensure early and proactive implementation of an appropriate plan of care. This inter-dependant function ensures that highlighted needs of the GEDI patient are addressed by the ward staff to ensure early intervention takes place.

If the decision is to discharge the patient home from the ED, the GEDI nurse can assist by:

- liaising with primary RN and RACF if appropriate;
- informing the patient; and
- informing carers, family, RACF etc.

	**Work to do: Suggested Documentation by GEDI CN** Seen by GEDI "Name" (i.e. recorded in clinical comments of ED information system) GEDI entry — assessment and management (i.e. recorded in clinical notes in ED Information system) RACF status — set up field in the ED information system, triage section to record if presenting from an RACF

Intervention — specific clinical interventions

As well as assisting the primary ED nurse and coordinating diagnosis and decision-making GEDI may instigate specific interventions for the older adult. These include but are not limited to:

- wound care;
- insertion or management of various devices e.g. peripheral intravenous catheters, difficult urinary drainage catheters, percutaneous endoscopic gastrostomy, etc.;
- urinalysis; and
- blood collection

NB: GEDI also assists in activities that will directly assist in streamlining patient flow within the ED for GEDI patients i.e. organising transport home, inter-department movement of patients, ADLs — providing sustenance and assisting to the toilet when able.

Clinical Integration with Allied Health Services

Allied Health Services provide a valuable addition to the GEDI service, providing a vital role in assisting older patients' measurement of current function. Interdisciplinary decision-making opportunities arise when information can be drawn from multiple sources to help patients, their families and clinicians.

The Allied Health team works with GEDI staff to identify patients who will benefit from functional assessment, both within ED prior to discharge or an inpatient referral once admitted. The Allied Health team can facilitate the older person's return home, with either GEDI or Allied Health staff arranging assessments within the home environment. Allied Health involvement can extend to physiotherapist, occupational therapist, dietician and social worker depending on the local service provision. This is recommended in The Silver Book (58) and the Geriatric Emergency Department Guidelines (26).

Discharge Coordination

The GEDI team coordinates patient discharge by instigating referrals to allied health specialties, wound care specialists and discharge facilitation services to prompt the early actioning of concerns. This aims to intervene early to potentially contribute to a shorter stay and prevent re-presentation. Collaboration between the GEDI team and community health team (including community nursing, non-government organisations and community allied health) is important for patients returning home who require additional and/or increased support, for example: assistance with activities of daily living, transport, wound care, medication supervision, continence aid prescription. These may be short term to assist in return to baseline functioning, or longer term, to address a permanent function decline.

High risk patients may benefit from linkages with Nurse Navigator support with a view to providing ongoing coordinated care to better manage care and prevent re-presentation. Additional linkages with primary health services, particularly GPs, is recommended to communicate changes and highlight new issues because of ED presentation.

GEDI Step 3 – Service management

Having implemented the GEDI service model, the next challenge for the GEDI team is to ensure the sustainability and ongoing management of the service. The principles of continued management are:

- establishing protocols in the ED that ensure the best care for older people e.g. identify which groups are responsible for which areas, establish palliative care pathways;
- GEDI team contributing clinical expertise to the ED;
- ensuring GEDI team professional and clinical development;
- contribution to staff development of nursing and medical teams related to care of older adults;
- embedding GEDI staff and service delivery management within the ED and ensuring GEDI evolves in line with the needs of the patient cohort, the ED, the hospital and community it serves; and
- monitoring and evaluation of GEDI staff process indicators.

GEDI involvement in identification of the need for and developing ED specific protocols for the care of older people in the ED

The GEDI CNC should be considered as a clinical expert in the care of older adults in the ED. Given the current and future demographic profile of Australia and our developing understanding of the specific requirements of acutely ill older adults, their care within healthcare services is assuming a higher priority. ED clinical service development related to the care of the older adult can be championed by the GEDI team. GEDI CNCs should be included in the ED management team to provide expert advice on current deficits in service delivery, gaps in provision of evidence-based practice and opportunities for protocol and practice development focused on person-centred care for the older person in the ED.

GEDI clinical expertise — portfolio management

GEDI CNs, employed as part of the experienced nursing leadership group in the ED, share this responsibility. GEDI CNs may play a valuable role in the ED by having a portfolio focused on specific areas that have high impact for the care of older patients. By engaging with ED primary nurses in the fulfilment of these portfolios, an opportunity for broader staff development may be enabled. The GEDI role crosses most aspects of the National Safety and Quality Health Standards, so potentially they may take responsibility for a wide range of portfolios in the ED. However, focus on geriatric specific areas may have a greater impact.

	**WORK TO DO** CN portfolios with high level of impact on the care of older people in the ED relating to the National Standards for Safety and Quality include: • Falls • Patient safety/medication safety • Delirium recognition • Patient engagement • Palliative care • Handover

Portfolio topics are largely determined by mandatory training and expectations, incident reporting or rostering. As well as having portfolios relating to the national standards, EDs may focus CN portfolios on population groups e.g. geriatric, paediatric and mental health patients.

Education and professional development

GEDI team

Professional development for GEDI nurses that is specific for aged care can be difficult to gain in the ED. Therefore, sourcing educational opportunity outside the ED is required. This may mean linking with inpatient teams or accessing education opportunities external to the ED or even the hospital. One opportunity that may exist within the health service is case conferencing. It is suggested GEDI staff attend specialist geriatric inpatient multi-disciplinary team meetings where GEDI patients seen in the ED are often discussed. This assists in GEDI team members learning about the complexities in geriatric patient care. Online resources that may assist in education and professional development of the GEDI team include:

- geriatric emergency websites;
- The Silver Book (58) and the Geriatric Emergency Department Guidelines (26); and
- geriatric nursing learning modules (See Appendix H to see these and other useful websites).

The GEDI nurses may be able to utilise allocated professional development time for paid education in care of the older person. Conferences may also be a way to increase knowledge in this area.

Professional development

GEDI staff should be encouraged to attend courses that extend their knowledge of acute geriatric care. Where relevant, community experience would be a good adjunct to their CN role in GEDI. This community exposure provides them with situated learning of their patients' care needs and identification of the potential barriers commonly seen in community settings. This also provides familiarity with the referral pathway and service availability in community settings.

ED Primary Nurses and Medical staff

GEDI staff are expected to also have an in-depth knowledge of the care of older people and as such will provide education of the ED multidisciplinary team through planned education sessions and opportunistically, whilst providing direct care in the department.

The members of the GEDI team may work with the medical and nursing educators to develop a program of education related to the care of the older person in the ED. Topics that may be included in the program include:

- attitudes to ageing and older persons;
- recognition of the physiological changes associated with the ageing process;
- recognition of cognitive impairment and delirium screening;
- trauma/falls assessment and management;
- pain assessment in the confused older person;
- wound care (skin tear management);
- palliative care in the ED;
- polypharmacy; and
- bladder and bowel management.

ED nurse educators and clinical coaches need to consider education regarding the older person as part of the core business for all ED staff. It is suggested that the GEDI medical consultant leads the geriatric portfolio for medical training and education. This will ensure that concerns related to the geriatric patient have equal focus with other age groups based on the specific needs of this vulnerable cohort.

Embedding GEDI staff and service delivery management within the ED

Different models of providing enhanced care of older adults in the ED exist. The GEDI model situates the team within the ED management structure. This is considered important because the focus of the service is not just discharge or admission but rather the enhancement of person-centred care within the ED and streamlining of service delivery.

During the GEDI evaluative research project this emerged as a core issue. Suggestions for addressing this include ensuring that the staffing, financial management, etc. of GEDI remains within the ED organisational structure and that the GEDI team report to ED management rather than any other hospital and health service entity outside of the ED. A similar model exists in general EDs that also accepts paediatric presentations. The paediatric ED specialist staff are acknowledged as clinical experts but the responsibility for managing this cohort of patients is shared by all staff, and the responsibility for service provision resides with ED management group.

As the local demographic and clinical needs of the community served by the ED change, ED management, working with the GEDI team, needs to ensure the appropriate development of the GEDI service. This may mean that staffing levels will change and even the specific expertise within the team may need to be reviewed from time to time. This process is enhanced by having a robust monitoring and evaluation framework in place.

Monitoring and evaluation of the care of the geriatric patient in the ED

In addition to evaluating the effect of the GEDI service on patient outcomes (discussed in detail in part 4), the GEDI team can contribute to the monitoring and evaluation of the quality of care for older adults in the ED. In general, it is suggested that evidence-based practice guidelines are used to direct the care for older adults in the ED. However, implementation of evidence-based practice guidelines is less effective than well-targeted indicators for differentiating the quality of care between hospitals (70) . Consequently, EDs may choose to audit specific care processes to monitor the quality of care provided to this cohort. GEDI team members may be able to assist in this process. Audits that may be conducted to evaluate care include:

- review of all level 1 and 2 incident reports for all patients over the age of 70 years in the ED;
- review of all incident reports for falls in the ED, in patients over the age of 70 years;
- numbers of patient seen by the GEDI team compared to numbers referred;
- timeliness of regular prescribed medication in the ED;
- provision of appropriate food and fluids during the diagnostic and treatment process;
- pain assessment and management;
- appropriate use of intermittent or in-dwelling urinary catheters;
- delirium screening for older persons presenting with behavioural management issues or developing behavioural management issues during ED stay; and
- communication with GP, RACF, family, carers.

	**Further monitoring and evaluation** Presenting process and outcome measures monthly, using a user-friendly dashboard approach to monitor and celebrate success. Appendix X. Other dashboard development ideas are in Appendix Y. This website shows people how to make a dashboard (http://chandoo.org/wp/2011/03/22/healthcare-dashboard/).

GEDI Step 4 — Service evaluation for sustainable funding and service delivery

Health service evaluation

Evaluation of any health service initiative is critical to providing robust evidence for practice in healthcare (71). The aim of a GEDI service evaluation is to compare outcomes from before service commenced to after service is in place. An evaluation may include and is not limited to:

- quantitative analysis of disposition, length of stay in the ED, length of stay if admitted, re-presentations up to 28 days after discharge and mortality;
- health economic cost-effectiveness analysis; and
- qualitative structure and process analysis to determine service users and staff issues and opportunities for service improvements with the health service.

Key documentation for evaluating your implementation

Quantitative analysis

The hospital ED Information System or EMR will collect information on all presentations to the ED. The list presented in Table 5 identifies data items for a minimum data set required to perform a baseline analysis of presentations to the ED for persons aged 70 years and over and Aboriginal and Torres Strait Islander peoples aged 50 years and over.

Table 5: A list of data items for a minimum data set

Description	Data item for collection	Evaluation
Time of arrival to the ED/hospital	Arrival Date	Arrival Date *minus* Departure Actual At = length of stay in the ED
Time of departure from the ED	Departure Actual At	
Length of stay in the ED to ready to leave ED — to account for delay in getting into a ward	TimeDiff Arrival Depart. Ready	TimeDiff Arrival Depart. Ready *minus* Departure Actual At = delay
Diagnosis code for presentation to the ED	Diagnosis ICD Code Primary	Provide frequency of type of presentation to the ED NB: ICD 10 code can be converted into 25 systems for easier analysis of conditions (see Appendix Z)
Date of death — this date is usually only present for an in-hospital death	Died At	Can be used to provide mortality data in the ED/inpatient setting
How the person arrived at the ED	Mode of Arrival Code	Provide frequency of method of transport to the ED
Triage number using Australasian Triage Scale (1–5)	Triage Priority	Provide frequency of triage priority in the ED
Assigned hospital Medical Record Number	Medical Record Number (MRN)	Unique identifier for linking of information with inpatient hospital data

Age at time of presentation	Present Age in Years	To identify all presentations in the geriatric age group (≥70)
Gender	Present Gender	To determine percentages of males and females presenting in cohort
Person identifies as Aboriginal, Torres Strait Islander or both Aboriginal and Torres Strait Islander	Indigenous Status	To determine percentage of Aboriginal, Torres Strait Islander or both Aboriginal and Torres Strait Islander presenting in this cohort
Postcode	Present Postcode	To determine main geographical areas where presentations are from i.e. seasonal flux; high presenting RACF
Optional created fields in EDIS		
GEDI interactions	GEDI fields	GEDI referred – referred to GEDI GEDI attended – seen by GEDI

Data from the hospital admission management database should contain information about older people admitted to hospital via the ED (see Table 6). Linking of the information via the Unit Record Number or admission episode will provide further information on hospital admissions. The hospital data manager can assist in determining how this can be achieved.

Table 6: Information that the hospital admission database should contain

Admission to a ward within the ED		
Time of admission to a ward WITHIN the ED i.e. Short Stay Unit (SSU) (Not hospital inpatient)	Admitted at	Date time of admission minus Departure Actual At = length of stay in the ED in addition to initial ED stay
Time discharged from ward within the ED i.e. SSU	Departure actual at	
Discharge home or admission to hospital as inpatient	Departure destination	To determine how many people went home or were admitted
If transferred, name of hospital transferred to	Transfer destination Hospital Code	
In hospital mortality	Died At	Died as inpatient
Admission to hospital as inpatient		
Time of admission to hospital as inpatient	In-patient admit datetime	
Time of discharge from hospital to place of residence	In-patient discharge datetime	
Discharging ward/unit	Discharge ward	
Length of stay as inpatient (separate to stay in the ED)	fractional length of stay	
In hospital mortality	Died At	Died as inpatient

- Numbers of persons ≥70 years of age and over presenting to the ED; discharged from the ED, transferred, admitted in hospital, died, departure status;
- Average age of people ≥70 years of age who present to the ED;
- Most common presentation types (ICD-10 code or category);
- Percentages of people presenting in each triage category (1-5);
- Average Length of stay in the ED; and
- Average Length of stay if admitted to hospital as inpatient (calculated in bed days).

NB: Re-presentations can be calculated with more advanced statistical methods.

	**Obtain monthly reports from ED information system** Liaise and build a good rapport with the ED data manager (or similar) to obtain rolling monthly reports on these data items

Once baseline data has been collected, any changes identified time periods of implementation of the GEDI service can be tracked. The GEDI team may also wish to collect other data, such as the items listed here (Table 7). An example GEDI data collection sheet can be seen in Appendix AA.

Table 7: Additional data that may be collected

Additional data to be collected/used if available		
Identify if person is from a residential aged care facility	RACF Yes/No	To determine frequency of presentations from RACFs to compare with aged people from community
Name of facility (if available)	RACF NAME	To identify facilities with highest numbers of transfers
Screening tool score collected by GEDI nurse (i.e. InterRAI, TRST, ISAR) Appendix AA	InterRAI score	These scores are used to determine if GEDI involvement is required. Other GEDI data items might be of use to collect

Health economic cost effectiveness analysis

Information on the cost and cost savings of your GEDI service will be beneficial in asserting the value of the service with hospital administrators. This can then be used to leverage funding for increasing GEDI positions and hours of coverage in the ED.

Your hospital financial databases should contain data on the total cost of the presentation to ED and admission to hospital. Together these costs provide information on the cost of a presentation and subsequent admission, which can be used to provide information on any reductions since your GEDI service is in place.

Total cost as inpatient alone	Total inpatient cost
Total cost of ED presentation	Total ED cost

From this data, you can calculate the:

- average cost of presentation to the ED
- average cost of admission to hospital

Cost saved can be demonstrated by a reduction in hospital admissions in this cohort. For example: these results from the primary GEDI evaluation show:

Item	Pre-GEDI period (12 months)	Post-GEDI Period (12 months)	Savings
Number of admitted bed days	649	480	169 bed days saved
Average inpatient cost	$4897.66	$7,320.00	
Inpatient cost TOTAL	$1,430,115,61	$911,340.08	$518,775.53

Additionally, opportunity costs of empty beds that can be utilised for:

- day surgical patients
- elective patients

This will potentially have a positive impact on benchmarked targets such as the National Elective Surgical Targets (NEST).

While the presentation of graphs, figures and cost savings can be quickly understood by management; how the service works in practice is far more of a concern to the staff who work in the ED and the older people and their families experiencing GEDI. For this reason, evaluation of the structures and processes in place to enable the GEDI service to operate is critical in assisting with acceptance and change management.

To do this as a quality improvement activity, interviews with key staff, management and users of the service are recommended. Potential key staff include:

- GEDI nurses in the ED;
- other nurses working in the ED (both clinical and managerial);
- medical and allied health staff in the ED;
- management who the GEDI team report to; and
- patients who have been seen by GEDI and their carers or family members.

Suggested areas of enquiry can be seen in figure 4, adapted from Irvine, Sidani (21) Nursing Role Effectiveness Model:

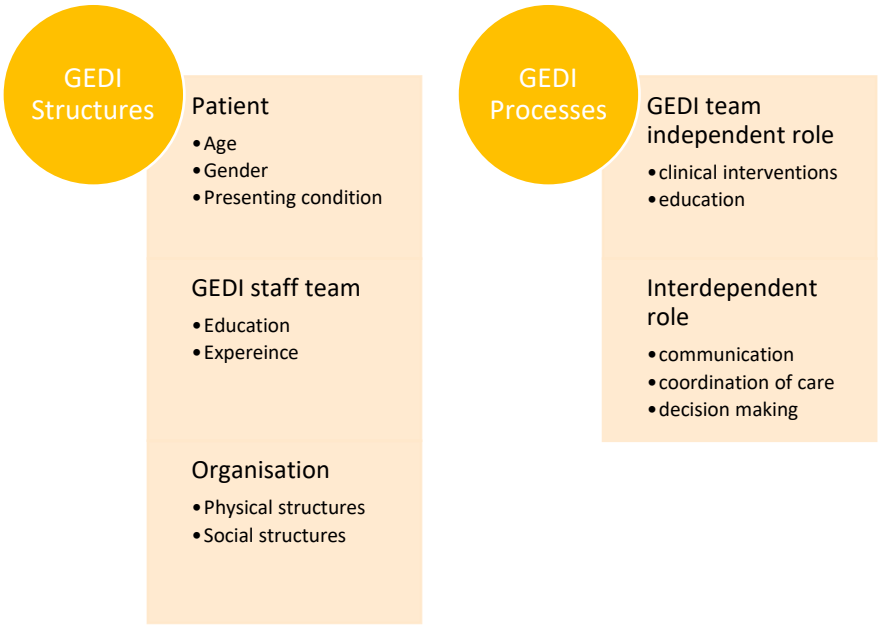


Figure 4: Structure and process elements of the GEDI service

From these areas of enquiry, interview or survey questions can follow the elements set out in Tables 8 and 9.

Table 8: Structure pathways

STRUCTURES	
Service (GEDI) structure	
Setting	General information, physical area of the services provided, clients seen
Staffing	Staffing requirements needed to operate GEDI
Organisational structure	
Access to resources	What resources are available? Ways of overcoming lack of access to resources — funding for staffing. Availability of resources so that the service can function i.e. ability to contact GEDI, community services, family
Physical structures	Physical components needed for GEDI to operate — space, tools used
Road map of social structure	Informants' views on key personnel — acceptance, ability
Barriers	Barriers to setting up — continuous funding GEDI, time for service provision, sustainability
Barrier solutions	Solutions to identified barriers

Table 9: Process pathways

PROCESSES	
Interventions	
Regular event chronology	Regular practices; good processes of care
Irregular event chronology	Irregular practices; poor process of care
Referral	
Referral practice before CEDRiC	Practice before CEDRiC
Referral practice after CEDRiC	Practice after CEDRiC and after hours
Problem-solving	What healthcare providers do when issue arises i.e. what happens after hours; GEDI unavailable
Role	
Key features of GEDI team roles	Activities undertaken by GEDI team
Changes in working practices	Perception of how practice has changed
Communication	
Inter personnel communication	Methods of communication between team and other healthcare professionals
Patient involvement	Methods of communicating to patient
Patient satisfaction: Information	Information about condition and treatment

Improvement	
Room for improvement — GEDI team roles	Recommendations for improving GEDI team roles
Programme improvement recommendations	Patient's programme improvement recommendations

Evaluation of the GEDI service, in common with all adjunctive models of service delivery should be routinely evaluated to ensure that they continue to meet the needs of the healthcare organisation and of the population served by that organisation.

Appendix A — National and international guidelines and position statements

The American College of Emergency Physicians (ACEP) — Geriatric Emergency Department Guidelines
The Geriatric Emergency Department Guidelines document is the product of two years of consensus-based work that included representatives from the American College of Emergency Physicians, The American Geriatrics Society, Emergency Nurses Association and the Society for Academic Emergency Medicine. The purpose of these Geriatric Emergency Department Guidelines is to provide a standardised set of guidelines that can effectively improve the care of the geriatric population and which is feasible to implement in the ED. These guidelines create a template for staffing, equipment, education, policies and procedures, follow-up care, and performance improvement measures.
https://www.acep.org/geriEDguidelines/

Australia & New Zealand Society for Geriatric Medicine (27). **Position Statement no. 14. The management of older patients in the emergency department.**
http://www.anzsgm.org/managementofolderpatientsintheemergencydepartment.pdf.pdf

Queensland Government (72), **Clinical Services Capability Framework CSCFV3.2 Geriatric Services – Emergency Geriatric Care.**
https://www.health.qld.gov.au/__data/assets/pdf_file/0029/444269/cscf-geriatric.pdf

Australian College for Emergency Medicine (ACEM) (29), **Policy on the care of elderly patients in the emergency department.** https://acem.org.au/getattachment/fc1be790-5545-4405-b462-a1f6834f09ab/Policy-on-the-Care-of-Elderly-Patients-in-the-Emer.aspx

Care of Older Australians Working Group on behalf of the Australian Minister's Advisory Council (AHMAC), **Age-Friendly principles and practices: managing older people in the health service environment**. Endorsed by Australian Health Ministers (July 2004).
http://seniorfriendlyhospitals.ca/files/Australian%20Health%20Ministers'%20Age%20Friendly%20Principles%20and%20Practices.pdf

World Health Organization (16). **Making Health Systems Work: Technical Brief No. 1: Integrated health services - what and why?** Online:
http://www.who.int/healthsystems/service_delivery_techbrief1.pdf

Australian Commission on Safety and Quality in Health Care (73) **Delirium Clinical Care Standard.** (ISBN 978-1-925224-06-1). Sydney: ACSQHC. Online:
https://www.safetyandquality.gov.au/wp-content/uploads/2016/07/Delirium-Clinical-Care-Standard-Web-PDF.pdf

Appendix B — NPC/NP daily work schedule

The daily schedule will change according to the health and whereabouts of residents, and the routine of the facility. Some wings may prefer the NPC/NP not visit during handover or medication administration time, and others might prefer it. Resident meal times might be a consideration for visiting but seek direction from the nursing staff as it is usually best to not interrupt the meal, especially if the resident has dementia.

At the commencement of a shift, a good routine might be to: review the resident list from the previous day, check phone messages and emails about any urgent resident requirements, or read progress notes of any residents flagged for assessment that day. The work-load should be prioritised according to the needs of the residents. For example, those residents returning from hospital, or who are palliative or acutely unwell will be prioritised over routine reviews or procedures.

If no residents are flagged for assessment, commence rounds as per established routine. (Make times to go to each area so that staff expect the NPC/NP at certain times on certain days for more routine concerns).

On arrival to each wing, liaise with the RN or EN in charge about any resident they are concerned about and check with carers as they have the most direct contact with the residents. Prompts for questioning might include: hospitalisation of residents or any residents scheduled for return from hospital, deterioration, disposition changes, falls, GP visits/orders and care, medication issues. Those residents reaching end-of-life care may require a palliative care plan or changes to their plan.

Conduct each resident assessment within the scope of care applicable to the NPC/NP clinical scope of practice, employment role and in accordance with the AHD and collaborative agreements. Assist with updates to the AHD as required. Order pathology/medication as required and contact and collaborate with the GP as necessary.

Document in resident's notes and provide education and/or written instructions to the residents, family members and nursing staff as necessary. Remember, the RN or EN in charge is responsible for the day-to-day care of the resident and for updates to the care plan and it is important not to cross over into their role.

Meetings are an important consideration and must be scheduled around resident assessments and prioritised needs.

Effective collaboration and communication is key to ensuring optimal outcomes for the residents.

Appendix C — NPC/NP position descriptions and key responsibilities

The following document provides an extensive list of items to consider for inclusion in a NP or NPC position description.

The purpose of the NPC/NP role is to establish a collaborative working environment across a multi-disciplinary healthcare team, with a view to provide comprehensive healthcare sensitive to the needs of residents within the aged care facility. The NPC/NP will provide advanced assessment to contribute toward diagnosing and initiating therapeutic interventions and make referrals where appropriate, in collaboration with the GP and nursing staff. The NPC/NP identifies deterioration and performs timely interventions to stop decline in the resident's condition where possible.

The NPC/NP will empower residents through increased choice of care provision, complement the role of the GP and multidisciplinary team and promote development of advanced nursing practice through mentoring and sharing of skills and knowledge.

The NPC will establish an environment of trust and respect with the GPs to ensure a smooth transition to the evolving nurse practitioner role within the aged care environment.

The NP will also enable mentoring for future nurse practitioner candidates.

The NPC/NP role may provide a flexible service involving occasional week-end or after hours work as required by the facility.

Key result areas/key performance indicators

Key performance indicators are outlined and agreed within the parameters of the performance agreement established annually between the NPC/NP and the care director or appointed organisation representative.

The NPC/NP works autonomously and collaboratively and always within their scope of practice and competence.

Clinical responsibilities

- identify deterioration in residents; assessment and diagnosis of health issues;
- select and recommend appropriate diagnostic and therapeutic interventions and regimes, based upon advanced holistic health assessment, within the boundaries of accountable safe practice, intervention, acceptability and efficacy;
- triage residents' needs and provide prompt appropriate referral to other services when required;
- develop, review and utilise Clinical Practice Guidelines using the best available evidence;
- Implement therapeutic interventions independently or in collaboration with GP where appropriate;
- Participate in review of pharmacotherapy in a cooperative approach with GPs and/or pharmacist;
- advocate for residents at their, or their families, request regarding clinical care/interventions including end-of-life choices to promote quality of life;
- work autonomously and in close collaboration with GPs, nursing staff and other healthcare professionals to plan and ensure timely delivery of person-centred care to the residents; and
- promote Advance Care Planning.

Administrative Responsibilities

- Establishment, facilitation and updating of policies and procedures relative to the role;
- Creation of new or updating of current clinical pathways for chronic disease management and other common conditions; and
- Participation in relevant meetings that will enhance the clinical service that is delivered to residents, e.g. clinical practice meetings; medication advisory committee meetings.

Staff education responsibilities

- Provide education to residents and/or their families about their health conditions and prescribed medications;
- Provide formal and informal education of nursing staff on topics relevant to the nursing care of the residents in the facility. This includes, but is not limited to, health promotion, medications and wound management; and
- Act as a resource and support for staff and residents regarding complex clinical matters, including medical emergencies.

Reporting

- Periodic monitoring/auditing and evaluation of own performance utilising a tool developed in collaboration with clinical governance and quality risk and safety teams;
- Participate in data collection as required for continuous improvement and research purposes; and
- Actively participate in the RACF and external benchmarking processes.

Continuous improvement and planning process

- Integrated approach to care service delivery at the facility level;
- Implement any appropriate continuous improvement initiatives as deemed suitable to enhance clinical outcomes for residents and RACF reputation;
- Contribute to the ongoing development of policy and practice;
- Attend, as required, further education including short courses and conferences to maintain currency of knowledge and as evidence of continuing advanced practice for ongoing NPC/NP education and NP endorsement;
- Work with the GEDI team at the local ED to increase knowledge of the residential aged care facility/community to hospital interface, implementing streamlined processes where identified to improve the healthcare experience for residents and to increase knowledge and skills for self-improvement; and
- Evaluate outcomes to inform ongoing practices and processes within continuous improvement model.

Sustainability

- Work towards a sustainable business model for the NPC/NP role within the RACF;
- Appropriately bill for services with Medicare in collaboration with the GP and collaborative agreements in place; and
- Ensure that a cohesive working relationship is maintained with all parties to create an effective working environment.

Professional development and training

- Ongoing professional development and training to keep abreast of developments in the aged or disability care sectors, covering residential and community care delivery;
- Ongoing development in information technology to maximise use of organisation systems; and
- Self-directed management regarding targeted education opportunities.

Appendix D – INTERACT tools

Based in the United States of America, INTERACT® (Interventions to Reduce Acute Care Transfers) is a quality improvement program that focuses on the management of acute change in the resident's condition. It includes clinical and educational tools and strategies for use in every-day practice in long-term care facilities. The overall goal of the INTERACT® program is to reduce the frequency of transfers to the acute hospital. Transfers to the hospital can be emotionally and physically difficult for residents and result in numerous complications of hospitalisation, and they are costly.

There are four basic types of tools:

1. Quality Improvement tools
2. Communication tools
3. Decision Support tools
4. Advance Care Planning tools

The specific tools are designed for use by selected members of the care team. However, in order for the INTERACT® team to be successful, all members of the care team should be aware of all of the tools and their uses. The INTERACT® project champion will assist your team in using the tools. The tools have been designed to help staff improve care, but not increase unnecessary paperwork. http://www.pathway-interact.com/

Appendix E — Position description and key responsibilities for additional HIPS staff

Clinical Nurse (CN) position description

The CN needs to be able to work semi-autonomously, being self-directed and using their initiative in the absence of the NPC/NP. The role requires full responsibility for actions and willingness to work towards best practice.

Key personal attributes

- Aims to work harmoniously within a flexible team environment through effective communication, building relationships with the residents, fellow team members and other health professionals;
- Possess a positive attitude and pro-active approach;
- Be an effective facilitator;
- Actively work towards improvement activities;
- Provide support, knowledge and skills in all areas of care delivery, accepting associated responsibilities;
- Ability to promote effective team effort in the work place; and
- Foster commitment to standards of excellence in the clinical care role.

Qualifications and experience

- Current AHPRA Division 1 registration; and
- At least 3 years post graduate nursing experience in aged care.

Clinical Responsibilities

- Assist with education/presentations as necessary;
- Clinical support for NPC/NP as competing priorities arise to assist with troubleshooting and clinical assessment within scope of practice and competency;
- Assist with roll-out of pro-active interventions, such as, but not limited to: scheduled health assessments, enrolments for personally controlled electronic health records (PCEHR), promotion of increased uptake of Advance Care Planning; and
- Review documented resident conditions and match to the equivalent hospital code for diagnostic related group (DRG).

Administrative responsibilities

- Using clinical expertise to assign treatment codes to clinical care episode with high degree of consistency;
- In absence of NPC/NP assist with informing the Administration Officer to plan NPC/NP reviews and follow-up of resident's care;
- Work closely with NPC/NP to document bundled interventions used for primary care;
- Work closely with NPC/NP to document interventions likely to prevent avoidable hospital admissions;
- Work closely with NPC/NP to prioritise competing care needs across RACF entities
- Assist with identification of trends and analysis of RACF data collected; and
- Assist with collection of data and compilation of elder clinical profiles to obtain minimum data set for each resident residing in eligible RACF entities.

HIPS Administrative Officer (AO) position description

The administrative officer role requires a high level of problem solving skills that will be utilised to assist streamlining processes to maximise efficiency within the project, enabling the clinical team to maximise their clinical time and focus on residential care, assessments, review and follow-up.

Key personal attributes

- Accepts full responsibility for own actions
- Practical knowledge of RACF systems is a distinct advantage
- Preparedness to work harmoniously within a flexible team environment
- Positive outlook and pro-active approach
- Active participation in the process of improvement activities
- High degree of organisational and time management skills
- High level understanding of privacy and confidentiality.

Qualifications and experience

- Advanced computer skills including RACF systems, Excel and SharePoint.
- Maintenance of database to a high degree of accuracy
- Experience with scheduling systems
- Excellent phone manner with customer service focus
- Well-developed written and verbal communication skills
- Proven track record for working effectively within a team
- Demonstrated knowledge and skills in all administrative tasks and customer service
- Demonstrated ability to work autonomously.

Key responsibilities: administrative

- Phone receptionist
- Scheduling of resident assessments and reviews across eligible RACF entities, as per priorities identified by clinicians
- Active participation in the planning of targeted pro-active interventions such as, but not limited to: scheduled health assessments, enrolments for personally controlled electronic health records (PCEHR), auditing resident files for information such as Advance Health Directives or Advance Care Plans being in place
- Assisting the clinical team in the process of reviewing documented resident conditions to match the equivalent hospital code for DRG
- Participation in the HIPS team discussions regarding strategies to increase productivity
- Provision of practical assistance with education/presentations as needed
- Assistance with data collection for key project indicators, e.g. hospital admissions, hospital length of stay, etc.
- Liaison with HIPS project team and other key stakeholders as required.

Appendix F — Useful websites for Nurse Practitioners

The following websites are specifically useful to Geriatric Nurse Practitioners:

Department of Health Eligible Nurse Practitioners Questions and Answers
http://www.health.gov.au/internet/main/publishing.nsf/Content/midwives-nurse-pract-qanda-nursepract

Endorsement as a Nurse Practitioner
http://www.nursingmidwiferyboard.gov.au/Registration-Standards/Endorsement-as-a-nurse-practitioner.aspx

Medicare Billing
https://www.humanservices.gov.au/organisations/health-professionals/services/medicare/bulk-billing-nurse-practitioners-and-midwives

Royal Australian College for General Practitioners (RACGP)
https://www.racgp.org.au/practicesupport/cca

Collaborative Care Agreement Guide
https://www.racgp.org.au/download/Documents/PracticeSupport/2011collaborativecareagreement.pdf

Collaborative Care Agreement template for General Practitioner(s) & Nurse Practitioner(s)
https://www.racgp.org.au/download/Documents/PracticeSupport/2011collaborativecareagreementform.pdf

Please note — State specific information is also available. For example:

Advance Health Directive
Qld https://www.qld.gov.au/law/legal-mediation-and-justice-of-the-peace/power-of-attorney-and-making-decisions-for-others/advance-health-directive
WA http://www.publicadvocate.wa.gov.au/A/advance_health_directives.aspx
NSW http://www.health.nsw.gov.au/patients/acp/pages/default.aspx

Clinical Governance for Nurse Practitioners in Queensland
https://www.health.qld.gov.au/__data/assets/pdf_file/0032/158837/np-impguide-1.pdf

Nurse Practitioners in Primary care — scheduled drugs (Victoria)
https://www2.health.vic.gov.au/public-health/drugs-and-poisons/nurses-midwives-and-registration-endorsements/nurse-practitioners-and-others-registration-endorsements/nurse-practitioner-lists-approved-by-minister/nurse-practitioners-primary-care-scheduled-drugs

Appendix G — Useful equipment for HIPS

Key equipment required for the implementation of HIPS within your organisation will vary depending on individual need, however the following items are suggested:

Pocketalker (or similar) – to enable amplification of voice for improved communication with residents (https://www.williamssound.com/pocketalker)

ECG

Bladder scanner

Doppler

Drug stock:

- prescription documents
- PBS prescription printer paper
- emergency medication stock (particularly for use after hours).

Best practice (or similar) software for PBS and MBS billing records

Transport (if required at more than one site)

Mobile phone

Office space and office equipment

Advertising materials such as:

- Business cards
- Brochures to advertise the service
- Posters in the facility to advertise the service

Appendix H — Online training and support resources

The British Geriatrics Society: The Silver Book
The British Geriatrics Society (BGS) is a professional body which draws together experts from all the relevant disciplines within the field of geriatrics. Its aim is to inform and influence the development of healthcare policy in the United Kingdom and ensure design, commissioning and delivery of age appropriate health services. The *Silver Book* was first published in 2012 and provides information addressing how older people are cared for within the first 24 hours of an urgent care episode. The focus of the *Silver Book* is the skills and competencies required by healthcare professionals to better assess and manage frail older people. http://www.bgs.org.uk/silverbook/campaigns/silverbook

Decision Assist
Decision Assist is a national program providing education, resources and advisory services to support aged care staff and general practitioners in palliative care and advance care planning.
http://www.decisionassist.org.au/

Geriatric ED
The Geriatric ED website provides wide-ranging information for creating a more senior-friendly ED department. Information on policies, procedures and protocols, the interdisciplinary team, accessibility equipment and the environment is provided. There is also information on planning for change, sustaining change and examples of change. The site provides relevant and recent posts from clinicians working in this field.
https://geriatric-ed.com/

Geri-EM
Geri-EM is a personalised E-learning website targeted at those working in geriatric emergency medicine. Although this site is designed primarily for physicians working in ED wanting to provide optimal care to older clients, the site will also be of interest to all health-care professionals caring for older patients. The site welcomes members of the public with an interest in geriatric care, so may also be of use to carers. The site contains group discussions and interactive content such as: recommended readings and resources for use in the ED, knowledge assessments (pre-tests), knowledge checks (post- tests), teaching material, question and answers with immediate feedback, videos of simulated patient encounters and discussion boards.
http://geri-em.com/

ConsultGeri
ConsultGeri is the clinical website of The Hartford Institute for Geriatric Nursing. This website provides education for any healthcare professionals who require integration of care of the older client within their practice and educational curriculum. Information is provided for both undergraduate and graduate students.
https://consultgeri.org/education-training/e-learning-

UCLA Health System

The UCLA Health System has developed a Geriatric Age Specific Learning Module for Clinical Staff. The aim of this learning module is to enable clinicians to list age-related changes for the normal older person, describe changes in the older person that relate to medication usage and to differentiate between delirium and dementia.
https://www.uclahealth.org/hr/workfiles/AgeSpecificSLM-Geriatric.pdf

Palliative care

Palliative care is an approach that improves quality of life of patients and their families facing problems associated with life-threatening illness, through prevention of suffering by early identification, and impeccable assessment and treatment of pain and other problems — physical, psychological and spiritual. There are many internet sites regarding palliative care such as:
http://www.centreforpallcare.org/
http://www.emrpcc.org.au/
https://www.health.qld.gov.au/cpcre

Appendix I — Service evaluation

A satisfaction survey for residents, care staff and the GP could be as simple as a short questionnaire on Survey Monkey. Yes/No answers, short free-form answers or a Likert Scale would be appropriate for such surveys.

Questions for residents could include:
How long did you wait to see the NPC/NP?
Were you happy with the care they provided?
Were you transferred to hospital?
Has your health problem resolved or improved?

Care staff questions could include:
How long did you wait for the NPC/NP?
Did the NPC/NP involve you in the assessment?
Did the NPC/NP keep you up to date on treatment plans for the resident?
Has the health issue improved?

Questions for GPs might include:
How did the NPC/NP assessment align with your assessment?
Did the treatment suggested by the NPC/NP align with your prescribed treatment?
In your opinion, have the actions of the NPC/NP prevented this resident from being transferred to ED?

To determine transfer to ED rates, a tick sheet may be considered:

ED Transfer record

Resident name:

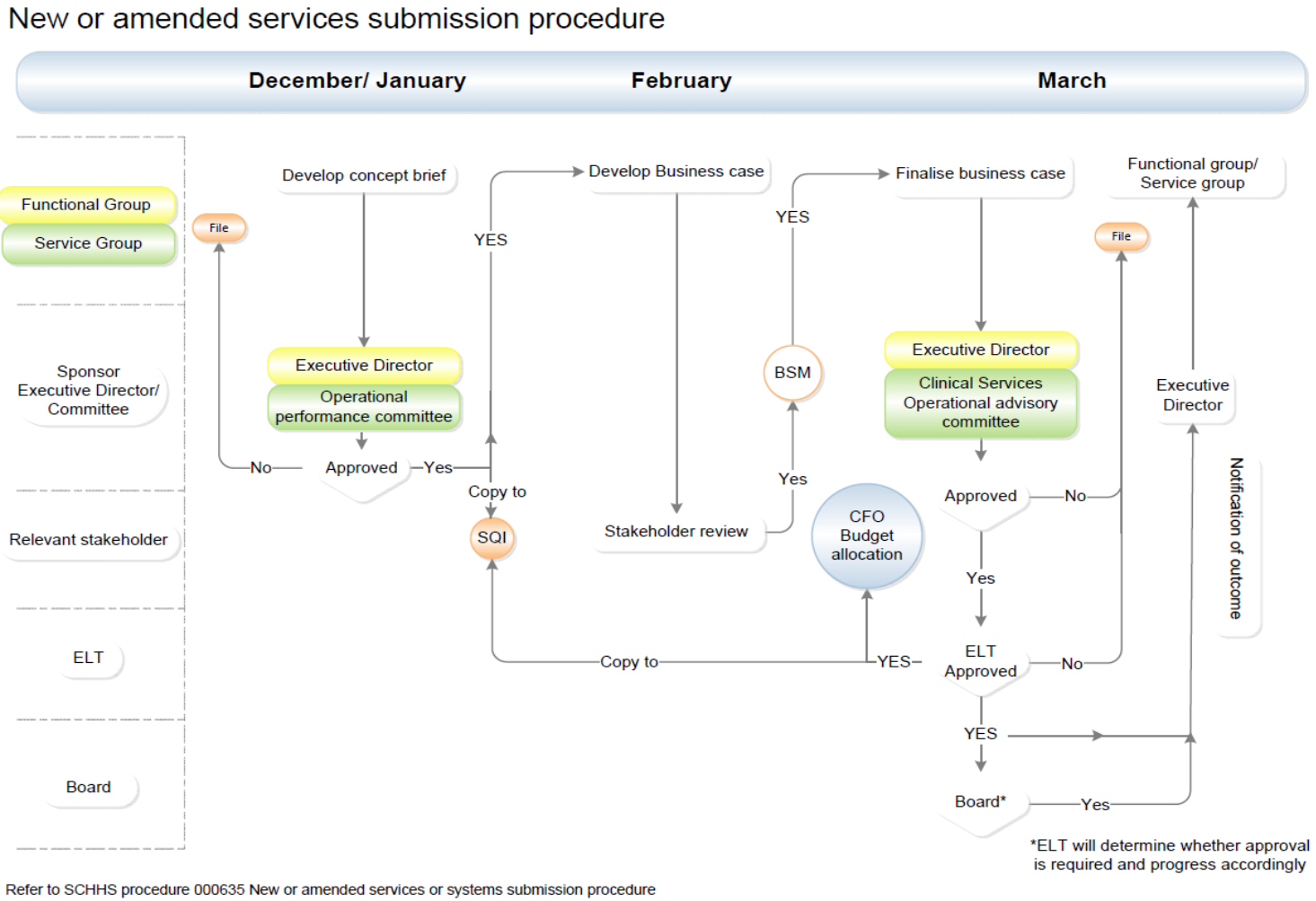
Date:

Time of transfer:

Transferred by: RN ☐	**NPC/NP** ☐	**GP** ☐	**Family request** ☐
NPC/NP notified	**Yes** ☐	**No** ☐	**N/A** ☐

Appendix J — Example concept brief of business case pathway

Example concept brief or business case templates. These can be used to develop arguments to support the implementation of a GEDI service in an organisation.



Example of new or amended services, or systems submission procedure

Documents will be available in the organisation that are designed to ensure that all new or amended services or systems have an approved concept brief prior to progression to a business case, are able to be funded, are aligned with the hospital and health service (HHS) strategic plan, are reviewed by and communicated to all stakeholders and are registered with the Safety, Quality and Innovation Unit, and are managed in accordance with the HHS financial management practice.

Examples of documents might be:

- Policy
- Procedures
- Concept brief templates
- Business case templates
- Audit compliance strategy

Appendix K — GEDI CNC job description

This position description is broad enough for use to recruit a GEDI CNC. However, attention to questions during interviews needs to focus on:

- Define boundary spanning and how you use it in your role,
- Provide a clinical scenario and ask applicant "Should patient be admitted or discharged?"
- Provide a clinical scenario and ask applicant "Who would you consult in decision making in this scenario?"

Example:

The Role

- Assume responsibility and accountability for own actions and the delegation and supervision of nursing care to Registered Midwives (RMs), Registered Nurses (RNs), Enrolled Nurses (ENs) and Assistants in Nursing (AINs).
- Lead the achievement of [positive patient outcomes by:
    - Applying expert clinical nursing knowledge and skills, and coordinating clinical practice within a speciality area.
    - Taking accountability and responsibility for ensuring that the practice is evidence based and continually monitoring and evaluating nursing activity in the speciality area.
- Contribute to the effectiveness of the multidisciplinary team through the provision of clinical nursing expertise and leadership.
- Facilitate a learning environment by operationalising strategies that support and promote education, learning, and workforce development including leadership in research initiatives.
- Provide nursing leadership that drives system and quality improvement initiatives and change management.
- Actively participate in clinical networks and work collaboratively with healthcare teams across the care continuum.
- Participate in ongoing professional development of self and others and take an active role in Performance and Development Plans (PDP).
- Actively participate in working environment supporting quality human resource management practices including employment equity anti-discrimination workplace health and safety, and ethical behaviour.
- Follow defined service quality standards, occupational health and safety policies and procedures relating to the work being undertaken in order to ensure high quality, safe services and workplaces.
- Implement and monitor the organisation's quality standards, occupational health and safety policies, procedures and programs and provide clinical governance in the relevant health area.

Appendix L — GEDI implementation checklist

This is an example of a checklist for key points to address prior to implementation of GEDI

Checklist — key points to address prior to implementation of GEDI

- ☐ Identify the aim of the GEDI implementation
- ☐ Identify ED physician who is 100% supportive in adopting the GEDI intervention
- ☐ Identify current personnel resources and models within the ED currently
- ☐ Identify what cannot be changed
- ☐ Engage with local PHN prior to implementation to assist with:
  dissemination of information
  provision of educational sessions informing key stakeholders in the community
- ☐ Identify how stakeholder expectations will be managed
- ☐ Identify how barriers to change can be minimised both internally and externally
- ☐ Lobby hospital management to adopt GEDI model
- ☐ Gather data (NB: allow time to collect data on aged care presentations to ED, admissions to hospital and length of stay)
- ☐ Identify how clear communication will be ensured within the ED
- ☐ Identify how clear communication will be safeguarded back to the community
- ☐ Identify the cost implications of implementing GEDI

Appendix M — Formula for determining GEDI staffing

Example of formula for determining staff required for GEDI in a level 4 facility.

A level 4 facility that is GEDI ready has:

- Access to Geriatrician during business hours;
- Specialist trained RNs to perform targeted screening and geriatric assessments;
- Access to allied health professionals during business hours, e.g. physiotherapist, occupational therapist, pharmacist and social worker; and
- Aboriginal and Torres Strait Islander health workers, as required.

The staffing for the GEDI team during the evaluative research project in a level 4 facility were:

Clinical Nurse Consultant — 0.8 FTE

Clinical Nurses — 2.4 FTE were required to cover 2 overlapping shifts weekdays and 1 staff member on each day of the weekend.

GEDI CN start times during evaluative research project
Monday to Friday: 07:00 — 15:30 and 09:00 — 17:30 overlapping Weekend: GEDI CN from 07:00 — 15:30

Appendix N — Resources required for GEDI

An example of the resources used by the GEDI team during the evaluative research project:

1. The InterRAI screener app — to assist nurses identify the most appropriate people in the ED for further review by GEDI.
2. Pocket talker — to assist in applifying voice for improved communication with the older people presenting to ED.
3. Mobility aids — to assist those presenting with mobilisation difficulties ie to help them walk to the toilet or to their car on discharge.
4. GEDI office space and desk and computer.
5. Access to a designated private area — for difficult conversations such as speaking to family regarding palliation and/or ceiling of care.
6. Communication notice board — to provide the ED department with GEDI information at a glance, e.g. may be used to track outcomes.
7. GEDI communication book/online form/mechanism for ED staff to enter information regarding after GEDI hours presentations.
8. GEDI flyers — to educate and inform regarding the GEDI service

GEDI Nursing Team Needs to Stand Out
Choosing a bright, eye-catching uniform enhances easy recognition and assists patients and staff to clearly identify the GEDI nursing team within a busy emergency department.

Appendix O — Useful websites

The following websites are useful for anyone caring for the elderly:

Advance Care Planning Australia

This website provides information for health and healthcare workers, individuals, family, friends and carers of palliative patients, and provides education and training as well as links to Advance Care Planning and Advance Health Directives for each state and territory in Australia. Forms and requirements for writing Advance Care Plans and appointing substitute decision makers vary between and states and territories and this site will direct you to choose the appropriate ACP forms for each state or territory.
http://www.advancecareplanning.org.au/resources\

Alzheimer's Australia

Alzheimer's Australia, a non-government organisation, provides online information on dementia, support and services, education and consulting, research and publications. There is a link for a help sheet showing what is good care in a residential facility.
https://www.fightdementia.org.au/support-and-services/families-and-friends/residential-care/what-is-good-care

Beyond Blue

Beyond Blue provides information on depression and anxiety in older people through the various programs it runs for this cohort.
https://www.bspg.com.au/dam/bsg/product?client=BEYONDBLUE&prodid=BL/0063&type=file
A checklist is also provided by Beyond Blue for anxiety:
https://www.beyondblue.org.au/the-facts/anxiety-and-depression-checklist-k10\

My Aged Care

This website is a Commonwealth government initiative providing a wide range of information. This includes information on eligibility and assessment, resources for service providers and health professionals and for people wanting to access information for themselves or family members. This includes information on aged care services providing assistance at home, after hospital transition, respite care, RACFs. It also has information on advance care planning. https://www.myagedcare.gov.au/

National Cancer Institute

The National Cancer Institute provides information about planning for advanced cancer, care givers and questions to ask about advanced cancer https://www.cancer.gov/about-cancer. It also provides information about palliative care. http://www.cancer.gov/about-cancer/advanced-cancer/care-choices/palliative-care-fact-sheet

Appendix P — GEDI CN job description

This position description is broad enough for use to recruit GEDI CN. However, attention to questions during interviews needs to focus on:

- Define boundary spanning and how you use it in your role
- Provide a clinical scenario and ask should patient be admitted or discharged
- Who would you consult in decision making in this scenario?

Example key criteria:

1. Advanced client/carer commincation and care planning of the elderly admitted to the ED to ensure approproate and coordinated assessment of this vulnerable cohort of patients.
2. A key responsbibility of this position will be in the identifcation, timely assessment, interventions and care for persons with dementia and/or delirium., An expectation fort his role will include the education of mursing and medical staff regarding evidence based best practice in geriatric emergency medicine. Furthermore, this position will require contribution to data collection.
3. The GEDI serivce are seeking enthusiastic, flexible and motivated clinical nurses wo towrk in an evolving model of care with unique challenges as the service develops and adapts to the needs of the regions ageing population.
4. The CN reports directly to the GEDI CNC and ED NUM.

Example GEDI Role:

- Assume responsibility and accountability for own actions (at an advanced level) and the delegation and supervision of nursing care to Registered Midwives (RMs), Registered Nurses (RNs), Enrolled Nurses (ENs) and Assistants in Nursing (AINs).
- Practice autonomously and provide leadership within the unit which supports the meer5ing of unit specific and Organisational goals and Ket Performance Indicators.
- Identify, select, implement and evaluation nursing interventions for elderly patients with complex healthcare needs.
- Lead the management and coordination of comprehensive care at an advanced level that is additional to the responsibility of a nurse, Grade 5.
- Contribute to quality ea;tj care ad thje nursng profession by participating in research activities; accepting a delegated portfolio and continually developing clinical expertise and practice.
- Facilitate accurate and timely communication to effective multidisciplinary team functioning.
- Facilitate a learning environment by enabling staff to share knowledge and expertise, support the development of other staff and students and engage actively in Performance and Development Plans (PDP).
- Contribute to work unit/service development related to the area of expertise by actively participating in clinical education networks and working collaboratively with healthcare teams across the care continuum.
- Actively participate in working environment supporting quality human resource management practices including employment equity anti-discrimination workplace health and safety, and ethical behaviour.
- Follow defined service quality standards, occupational health and safety policies and procedures relating to the work being undertaken in order to ensure high quality, safe services and workplaces.

- Implement and monitor the organisation’s quality standards, occupational health and safety policies, procedures and programs and provide clinical governance in the relevant health area.

Appendix Q — Advantages and disadvantages of using existing ED staff in GEDI roles

Advantages	Disadvantages
No additional FTE is required if using existing roles	You will need to source funding for the dedicated roles
Extension of staff knowledge and skills e.g. CHIP nurses working as GEDI nurses and need to work in acute areas of ED and provide clinical interventions	ED will not have governance over the GEDI model due to differences in job description and control over the staff employed through another service/department
Standardising the intervention and role supports therefore individuals willing to adopt and engage with the GEDI model's philosophy would be required to ensure the model's success	No ability to select the most appropriate candidate for the position
	ED may not benefit from the investment of a geriatric nursing portfolio
	Allied health professionals have a specific of practice which does not include the variety of skills and interventions required for the GEDI role. For example, medication administration, wound management, in-patient referral for admission, AHDs, IDC insertion
	Nurses working between departments/roles may result in role confusion, for example, the CHIP nurse role is not ED based and is that of a consultant liaison role primarily focussing on discharge planning, therefore the ability to front load assess may be diminished due to not being a constant presence in ED

Appendix R — Tools for assessing frailty

This appendix contains examples of frailty assessment tools.

Self-reported postal screening tool for assessing frailty in a primary care setting (60).

Patient address

Practice logo and address

Dear_____,

In order to improve the services that we offer to adults aged over 75 registered with this practice we ask that you take the time to complete this short questionnaire and return it back to [redacted] in the envelope provided by _____

If you have any difficulty in completing the questionnaire please seek assistance from a friend or relative or alternatively contact [redacted] or [redacted] Elderly Care Community Nurses on [redacted] or [redacted] for further assistance Monday - Friday between 09:00 - 16:00.

Please leave a message if there is no-one available to take your call.

The information obtained from this questionnaire will be held in the strictest of confidence.

This questionnaire is also available in other formats and languages, upon request. These can be obtained by contacting [redacted] or [redacted] on the above number.

Thank you for your co-operation.

Yours sincerely,

Name the GP's...

1	Have you had any dizziness in the last 12 months?	YES / NO
2	Have you had any falls in the last 12 months?	YES / NO
3	If yes, how many falls have you had?	
	1 to 2 / 3 to 4 / 5 or more / N/A	
4	Were you able to get up without any help?	YES / NO / N/A
5	Are you worried about falling?	YES / NO
6	Do you have steps to get in to your home?	YES / NO
7	Do you have stairs inside your home?	YES / NO
8	Do you have difficulty getting up or down steps or stairs?	YES / NO / N/A
9	Do you still manage to get outdoors? - on your own? - with help?	YES / NO YES / NO YES / NO
10	Do you use any of the following? - Walking stick(s) - Zimmer frame - 3 wheeler - Trolley - Crutches	 YES / NO YES / NO YES / NO YES / NO YES / NO
11	Do you have difficulty with washing and dressing yourself?	YES / NO
12	Are you able to make hot drinks and meals yourself?	YES / NO
13	Do you have any problems with any of the following? - Getting in or out of bed - Getting in or out of a chair - Getting on or off of the toilet	 YES / NO YES / NO YES / NO
14	Do you ever find yourself wet because you can't get to the toilet in time?	YES / NO
15	Do you have problems with your bowels?	YES / NO
16	Do you think you have a problem with your memory?	YES / NO
17	Has anyone in your family suggested that your memory is less good than it used to be?	YES / NO
18	Do you worried about your mood?	YES / NO
19	How many different types of tablest do you take?	YES / NO
	None / 1 to 4 / 5 to 9 / 10 or more	
20	Do you think your tablets are giving you side effects?	YES / NO / N/A
21	Do you have difficulty remembering to take all of your tablets?	YES / NO / N/A
22	Do you have a blister pack/dosette box?	YES / NO / N/A
23	Do you live alone?	YES / NO
24	Do you have a community alarm?	YES / NO
25	Do you have support from carers? This can be from family, social work, private or others.	YES / NO
26	For how many hours a week do your carers visit?	
	N/A / 1 to 3 / 4 to 6 / 7 or more	

Is there anything that you are worried about? For example finance, health, benefits, housing etc.

_____

_____

Are you happy for a nurse to contact you with any of your concerns?
By telephone? YES / NO Home visit? YES / NO

Please can you supply an up to date telephone number.

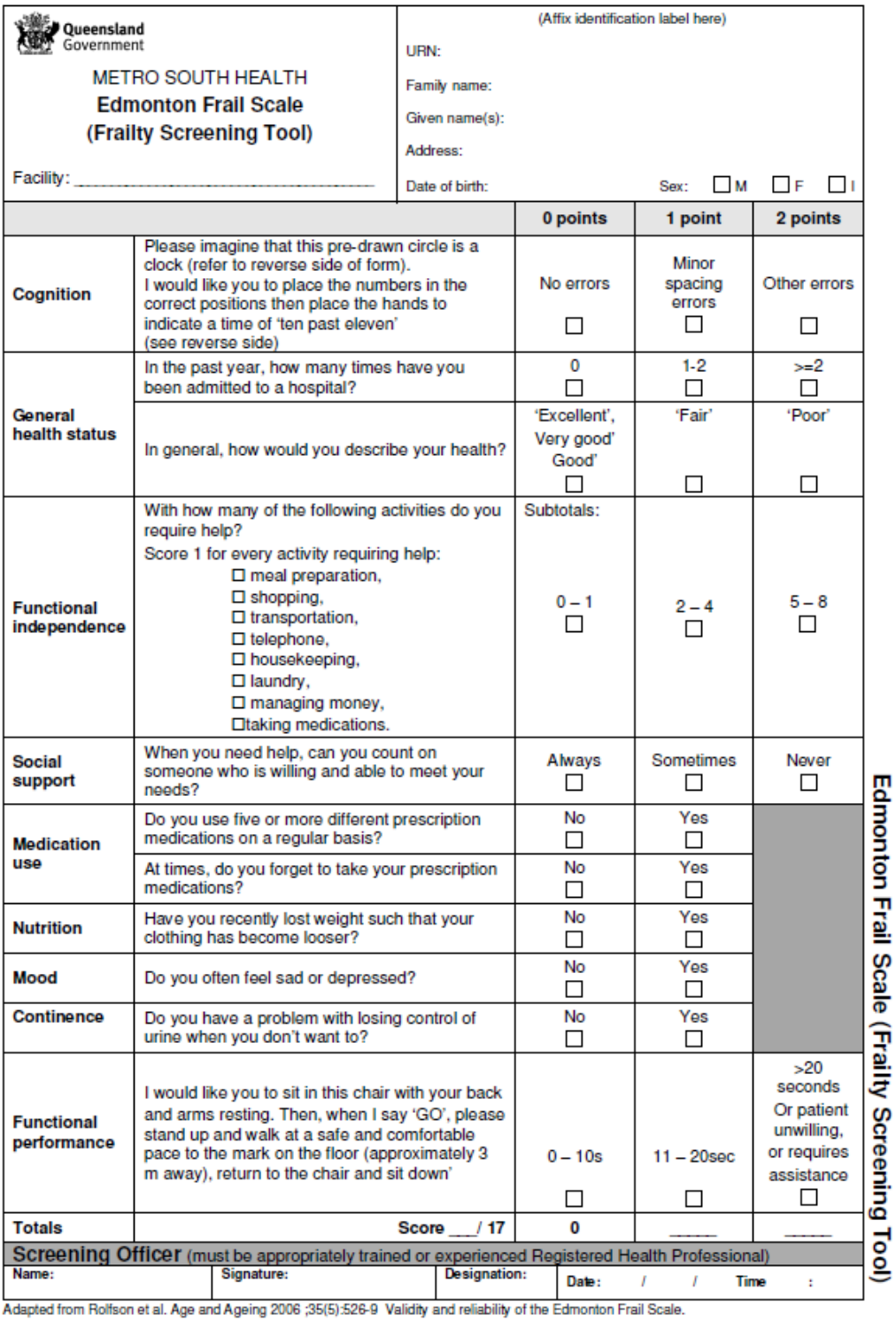
_____

Thank you for your time.

Figure 1. The screening tool consisted of 3 sheets of A4 paper. It was sent to over 75s registered at a local GP surgery with a covering letter and a stamped addressed return envelope.

Edmonton Frail Scale (61)

This is a frailty assessment tool in use in some Queensland health facilities.



Queensland Government

METRO SOUTH HEALTH

Edmonton Frail Scale
(Frailty Screening Tool)

Facility: _____

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I

		0 points	1 point	2 points
Cognition	Please imagine that this pre-drawn circle is a clock (refer to reverse side of form). I would like you to place the numbers in the correct positions then place the hands to indicate a time of 'ten past eleven' (see reverse side)	No errors ☐	Minor spacing errors ☐	Other errors ☐
General health status	In the past year, how many times have you been admitted to a hospital?	0 ☐	1-2 ☐	>=2 ☐
	In general, how would you describe your health?	'Excellent', Very good' Good' ☐	'Fair' ☐	'Poor' ☐
Functional independence	With how many of the following activities do you require help? Score 1 for every activity requiring help: ☐ meal preparation, ☐ shopping, ☐ transportation, ☐ telephone, ☐ housekeeping, ☐ laundry, ☐ managing money, ☐taking medications.	Subtotals: 0 – 1 ☐	2 – 4 ☐	5 – 8 ☐
Social support	When you need help, can you count on someone who is willing and able to meet your needs?	Always ☐	Sometimes ☐	Never ☐
Medication use	Do you use five or more different prescription medications on a regular basis?	No ☐	Yes ☐	
	At times, do you forget to take your prescription medications?	No ☐	Yes ☐	
Nutrition	Have you recently lost weight such that your clothing has become looser?	No ☐	Yes ☐	
Mood	Do you often feel sad or depressed?	No ☐	Yes ☐	
Continence	Do you have a problem with losing control of urine when you don't want to?	No ☐	Yes ☐	
Functional performance	I would like you to sit in this chair with your back and arms resting. Then, when I say 'GO', please stand up and walk at a safe and comfortable pace to the mark on the floor (approximately 3 m away), return to the chair and sit down'	0 – 10s ☐	11 – 20sec ☐	>20 seconds Or patient unwilling, or requires assistance ☐
Totals	**Score ___/ 17**	**0**	_____	_____

Screening Officer (must be appropriately trained or experienced Registered Health Professional)

Name:	Signature:	Designation:	Date: / /	Time :

Adapted from Rolfson et al. Age and Ageing 2006 ;35(5):526-9 Validity and reliability of the Edmonton Frail Scale.

Page 1 of 2

V1.0 – 10/2016

Edmonton Frail Scale (Frailty Screening Tool)

Queensland Government

METRO SOUTH HEALTH

Edmonton Frail Scale
(Frailty Screening Tool)

Facility: _____

(Affix identification label here)

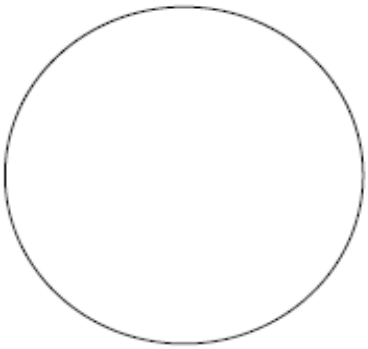
URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I



Please imagine that this pre-drawn circle is a clock.

I would like you to place the numbers in the correct positions then place the hands to indicate a time of 'ten past eleven'

Triage Notes:

Triaging Medical Officer:

Name:	Signature:	Designation:	Date: / / Time :

Appendix S — Additional information on GEDI role descriptions and responsibilities

GEDI ED physician role

AS identified above, the GEDI ED physician's role is to provide medical leadership for the GEDI model. This role is multifaceted. The incumbent needs the respect of colleagues that means s/he can influence hospital and ED executive to instigate this model of care and provide medical leadership during the initial planning phase. The ED physician must be involved in influencing the ED medical team as a whole in accepting and advocating for the GEDI role and in educating the medical team about interdependent decision making. This medical position is also vital to ensuring that the medical team is educated about geriatric syndrome management and key principles related to this cohort, such as, end-of-life decision making and advance care planning. The ED physician is also engaged in research activities related to developing the evidence to underpin clinical care of older persons in the ED. Finally, the ED GEDI physician needs to work with the GEDI nursing team to develop implementation of evidence-based practice for the older ED patient and on-going monitoring of performance.

GEDI ED physician responsibilities

Clinical responsibilities

- Enhanced communication and coordinated care for older people through acting as a clinical resource and expert in geriatric emergency medicine;
- Oversight of medical staff to promote informed decision making and best practice;
- Identify areas GEDI nurses can provide information to enable more informed and rapid assessment of older people in the ED; and
- Establish clinical networks with hospital inpatient teams.

Administrative responsibilities

- Promote the GEDI model of care in the ED to embed it within the ED culture of care of the older person;
- Act as a change agent;
- Negotiate resource use in the ED;
- Advocate GEDI in strategic planning with senior staff;
- Establish and maintain research collaborations; and
- Administrator of GEDI team, formal documentation and budget.

Joint GEDI team administrative responsibilities

- Providing education for emergency staff in evidence-based care of the frail older person;
- Establishment of rapid, direct referral pathways to specialised geriatric and palliative care departments; and
- Participation in quality improvement projects and research.

	**Clear delineation of roles and responsibilities** When implementing a new model of care, clear delineation of roles and responsibilities within teams needs to be acknowledged and addressed to reduce existing staff being threatened by impending change.

GEDI Clinical Nurse Consultant (CNC) role

The GEDI CNC (or senior GEDI at level appropriate to the service) provides leadership of the GEDI nurse team. In this role s/he provides support and guidance to the GEDI team, advocates for GEDI inclusion in medical and disposition decision-making and develops relevant clinical assessment and decision-making guidelines and documentation. S/he works with the GEDI physician to monitor GEDI processes and patient outcomes and works with the medical and nursing educators to deliver staff development activities designed to improve the care of older persons in the ED. The GEDI CNC is also the nurse lead for research projects related to improving the management of older persons in the ED.

The incumbent also works with the Nurse Unit Manager of ED to recruit, manage and develop the GEDI nursing team. As part of this aspect of the role s/he is also responsible for supporting and, where required, educating/developing the GEDI nurses to ensure they meet the requirements of the position. If this proves to be problematic, the GEDI CNC works with the NUM to manage underperforming staff.

The Nursing Role Effectiveness Model is a useful tool to allow us to examine the role of the CNC in more depth. It was developed to describe nursing functions that could then be used to evaluate nursing practice in relationship to the roles nurses assume in healthcare (21). The model links patient and system outcomes to the nurses' role. The key feature of this model is the identification of the independent, dependent and interdependent roles of the nurse. For the role of the GEDI CNC, most functions within the ED are independent and interdependent. Examples of these functions can be seen in Table 1a.

Table 1a. GEDI CNC dependent and interdependent clinical roles

Independent	Interdependent
Clinical expertise and support for GEDI CNs Identification and implementation and evaluation of new treatments, technologies and therapeutic techniques for aged care Provides complex patient-centred consultancy Development and management of the clinical processes, e.g. care maps, clinical pathways	Multidisciplinary patient-centred decision making related to treatment options and hospital admission or discharge Collaboration with all ED staff in the design and conduct of quality improvement initiatives

GEDI is designed with CNC oversight

However, this position may depend on:

- Size of the organisation and aged care presentations to ED
- Number of staff allocated to the GEDI team
- Whether the GEDI CNC will be working across ED departments within a hospital and health service or only within one ED department.

GEDI CNC responsibilities

Clinical leadership

- Act as a role model and expert clinician in the clinical setting
- Contribute to the development and management of clinical processes, e.g. care maps, clinical pathways
- Provide leadership in the ongoing review of clinical practice for a more complex service, i.e. a service provided at multiple sites or by multiple CNCs across an area health service
- Participate on state and on national working parties
- Assume leadership roles which promote broader advancement of clinical practice, e.g. membership of editorial boards, leadership of position papers and development of advanced nursing practice standards

Research

- Initiate, conduct and disseminate the findings of locally based research in aged care
- Participate as co-researcher in larger studies
- Manage research projects requiring clinical contribution from others
- Adapt and apply related scientific research to a clinical specialty, i.e. research from other scientific disciplines applied to nursing
- Initiate original research projects
- Disseminate research results through specialist publications and presentation.

Ongoing facilitation of GEDI model implementation

- Identify culture and most effective means of communication with stakeholders
- Liaise with key stakeholders
- Educate new and changing staff on the GEDI model
- Share successes within the department
- Reflect on key activities that are not working to explore how these could be done differently
- Focus on activities designed to keep the GEDI model on track
- Consider external organisational context.

Education

- Participate in formal and informal education programs
- Identify clinical education needs
- Collaborate with others in the development and delivery of education programs
- Undertake primary responsibility for the planning and implementation of specialist clinical education for the HHS
- Develop significant education resources for nurses and other healthcare professionals
- Participate in the development and delivery of postgraduate tertiary programs
- Ongoing personal self-development.

Clinical services planning and management

- Identify future issues and new directions for the services
- Understand audit process and quality improvement projects
- Contribute to formal service and strategic planning processes within the organisation
- Provide ongoing comprehensive analysis of current practice and the impact of new directions of the clinical specialty service
- Initiate, develop, implement and evaluate strategic change for the clinical specialty/service.

GEDI CN role

The GEDI clinical nurse is a nurse with education and/or experience in both emergency and gerontological nursing. These nurses are part of the ED team and as such are line managed by the NUM with additional professional guidance and day-to-day support in coordinating activity from the GEDI CNC. As with all CN roles in the ED, GEDI CNs have included as part of their role, a specific quality improvement portfolio related to one of the national standards. The specific functioning of the CN centres around the GEDI model including screening, assessment, contributing to decision making, disposition planning, advocacy and clinical interventions.

The GEDI clinical nurse (CN) role has independent and interdependent functions facilitating potential evaluation of practice. Examples of these functions can be seen in Table 2a. The GEDI CN has high level communication skills, ability to multitask, knowledge of clinical pathways and protocols and has confidence in approaching all levels of staff. Key to the GEDI CN role is the geriatric risk screening and rapid assessment of patients of 70 years of age and over who present to the ED. This screening identifies frailty in this cohort, therefore those that require further input from GEDI. A modified targeted geriatric assessment is performed to fast track clinical needs and decision making regarding the appropriate pathway. This action results in earlier consultation liaison and coordination with junior and senior medical officers within the ED and other specialties. The GEDI CN provides ED and RACF staff with a single point of contact when having difficulty managing a frail older person with an acute illness.

Table 2a. GEDI CN independent, dependent and interdependent roles

Dependent	Interdependent	Independent
Provision of non-nursing initiated medications and investigations	Decision making involving patient, carers, multidisciplinary team members including SMOs, nurses and allied health. Patient flow, including facilitation of discharge or admission, i.e. appropriate disposition planning Ensure all patients have discharge summaries to provide continuity and informed collaborative care planning involving GP, RACF, families and community services Establish rapid, direct referral pathways to specialised and palliative care departments	Geriatric screening Targeted geriatric assessment Co-ordinated care of older people through enhanced communication and being a dedicated single point of contact within ED for RACF staff, NPs, community services, paramedics and GPs Liaison with older person, Enduring Power of Attorney (when in place) and ED medical team for health-related decision-making and end-of-life care planning Nurse initiated interventions such as, nurse initiated medications, wound care, IDC management, education Wound care assessment, management and advice for older people in ED Evidence-based education for ED staff on care and management of the frail elderly person

GEDI CN responsibilities

Clinical responsibilities

- Works collaboratively with all ED staff
- Enhanced communication by providing a dedicated single point of contact within the ED for RACF staff, NP community services, paramedics and GPs to obtain support and advice regarding optimal care and management of acutely unwell or injured frail older person or RACF resident
- Rapid assessment and management of frail older persons in the ED in collaboration with the primary nurse
- Provides evidence based clinical care for older persons in the ED in collaboration with the primary nurse
- Provision of a consultative service for patient-centred care of the frail older person or RACF resident within the ED
- Direct referral to Geriatricians and rapid consultation pathways with other medical service streams
- Pre-hospital communication with the RACF, GP, NP and ambulance service, facilitating appropriate transfer decision making and early arrival triage
- Liaison with hospital acute-care substitution services such as the Hospital in The Home and palliative care services.

Administrative responsibilities

- Facilitation of both discharge back to place of residence or admission — i.e. appropriate disposition planning
- Ensuring discharge summaries are provided to all care providers, e.g. GPs, RACF, primary carers, community services following acute ED care to allow seamless transition of care
- Provide education for ED staff in evidence-based care of the frail older person or RACF resident
- Facilitate education/clinical exposure in the ED for NP candidates specialising in care of the frail older person or RACF resident to enhance skill base and knowledge of the ED setting
- Establishment of rapid, direct referral pathways to specialised geriatric and palliative care departments.

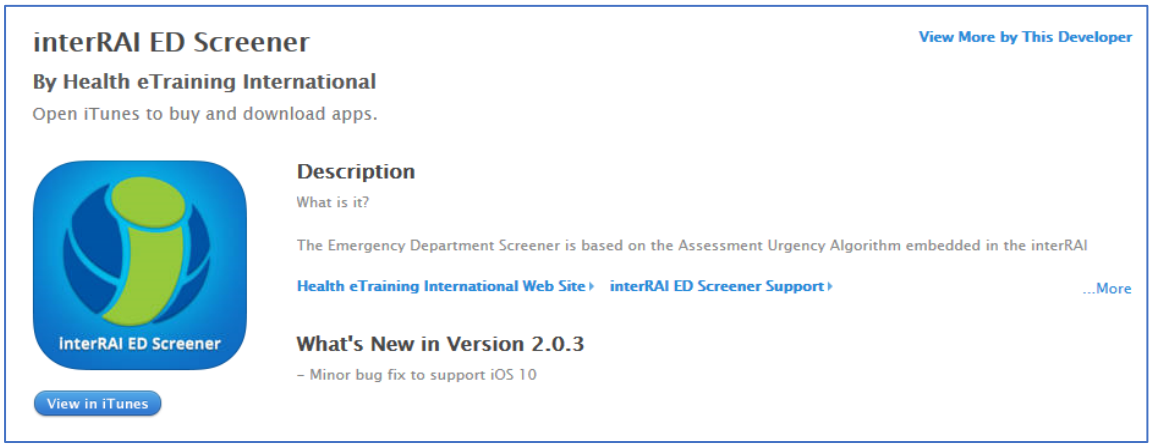
	**Clear role delineation is required** It is important during this pre-implementation phase that role delineation is made clear to all ED staff. The role of the CN in ED is not a primary care role, it is a specialist adjunct role in ED.

Appendix T — Screening tools

InterRAI — ED screener

The GEDI nurses in ED use the interRAI ED screener. This is a tool to screen older people who present to ED resulting in a score from 0-6 of risk. InterRAI risk is defined, as those older persons most at risk of an increased length of stay (LOS) or re-presentation to ED, i.e. frail older persons. High risk scoring individuals can also be determined at the ED clinician's discretion. Geriatric risk screening minimises time spent with older persons likely to least benefit from a geriatric assessment i.e. not frail older person. The older person is classified into six levels of need with higher scores indicating greater need for geriatric intervention and case management. The algorithm is based on 4 activities of daily living (ADLs). This provides a score between 1 and 6, 1-2 being low risk, 3-4 medium risk and 5-6 high risk. The link to the app online is provided here; https://itunes.apple.com/us/app/interrai-ed-screener/id871248119?mt=8

The app looks like this:



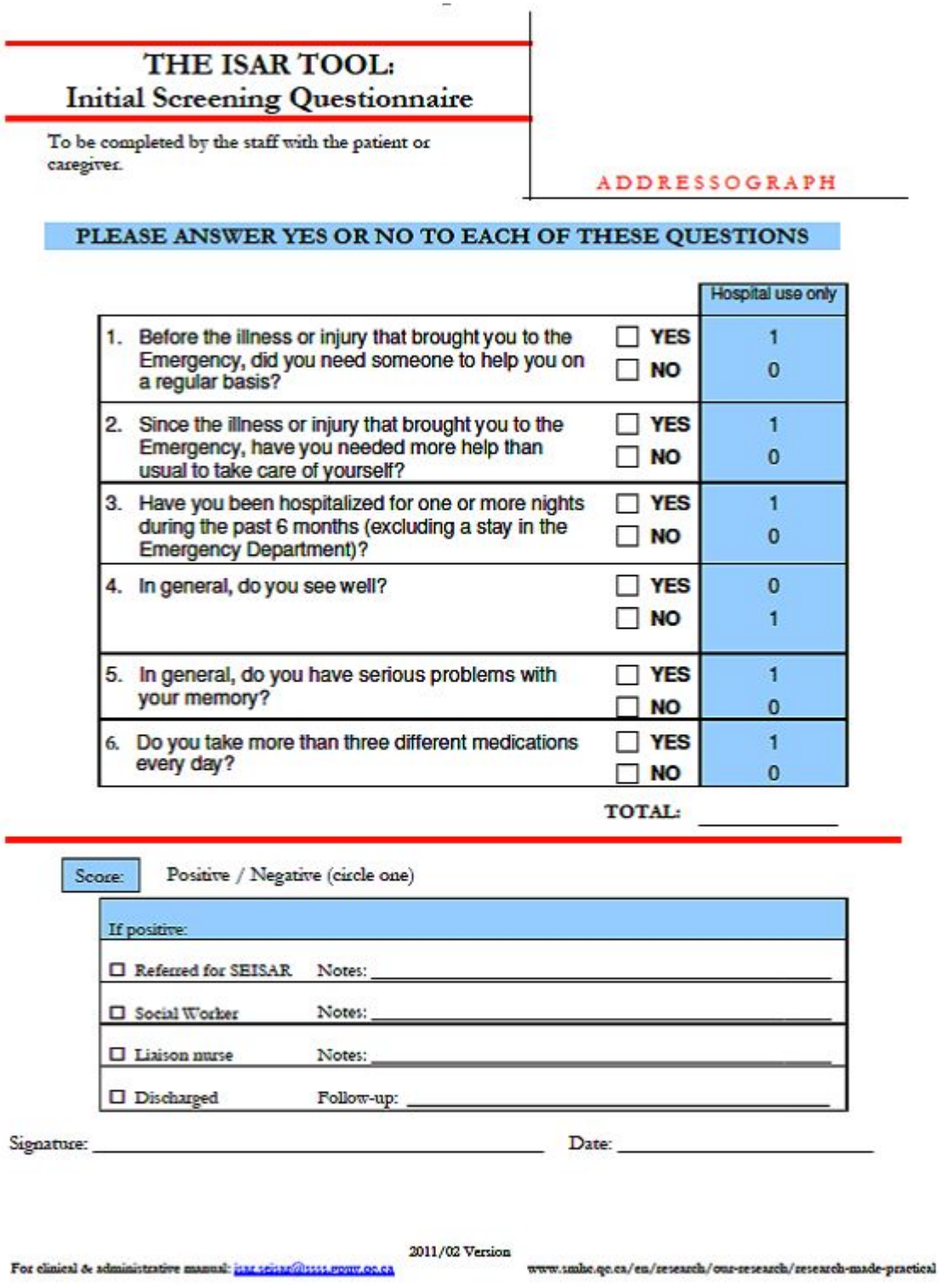
The Triage Risk Screening Tool (TRST)

The TRST screening tool is designed for health professionals who have received training in its administration. This tool predicts repeat emergency department visits and hospitalisations in older patients discharged from the ED. A link to the screening tool is provided here: http://tools.farmacologiaclinica.info/index.php?sid=10048

ISAR Screening Tool

The ISAR screening tool is an initial screening questionnaire to be completed with the patient and or their caregiver. The link is provided here:

http://www.smhc.ca/ignitionweb/data/media_centre_files/240/ISAR%20tool%20v2011_02%20_e_%20_%20February%202011.pdf The Screening tool looks like this:



THE ISAR TOOL:
Initial Screening Questionnaire

To be completed by the staff with the patient or caregiver.

ADDRESSOGRAPH

PLEASE ANSWER YES OR NO TO EACH OF THESE QUESTIONS

		Hospital use only
1. Before the illness or injury that brought you to the Emergency, did you need someone to help you on a regular basis?	☐ YES ☐ NO	1 0
2. Since the illness or injury that brought you to the Emergency, have you needed more help than usual to take care of yourself?	☐ YES ☐ NO	1 0
3. Have you been hospitalized for one or more nights during the past 6 months (excluding a stay in the Emergency Department)?	☐ YES ☐ NO	1 0
4. In general, do you see well?	☐ YES ☐ NO	0 1
5. In general, do you have serious problems with your memory?	☐ YES ☐ NO	1 0
6. Do you take more than three different medications every day?	☐ YES ☐ NO	1 0
	TOTAL:	_____

Score: Positive / Negative (circle one)

If positive:	
☐ Referred for SEISAR	Notes: _____
☐ Social Worker	Notes: _____
☐ Liaison nurse	Notes: _____
☐ Discharged	Follow-up: _____

Signature: _____ Date: _____

For clinical & administrative manual: isar.seisar@ssss.gouv.qc.ca 2011/02 Version www.smhc.qc.ca/en/research/our-research/research-made-practical

Appendix U — Sample GEDI nurse discharge letter for the GP

This example of a discharge letter from GEDI to the patient's GP identifies requirements for inclusion.

Emergency Department:

Hospital:

Hospital Road:

Suburb: Date:

Patient Sticker to be inserted here

Patient Allergies:

☐ Yes	Details:	☐ No

Dear Doctor

The above-mentioned patient presented to the Emergency Department at _____ Hospital today following:

_____

During this visit the Geriatric Emergency Department Initiative (GEDI) Clinical Nurse completed a Geriatric Assessment resulting in the following actions:

☐ A referral to My Aged Care has been sent. Specifically: _____

☐ Wound care was completed. Specifically: _____

☐ Treatment provided. Specifically: _____

Care requirements on discharge:

☐ Aftercare recommendations. Specifically: _____

☐ Wound care plan suggested: _____

Services contacted/arranged by GEDI:		Appointment date
☐		
☐		

☐		

The following are recommended for further action by the primary healthcare team:

☐ Medication Review

☐ Bowel Management Plan/ Pain Management Plan

☐ Wound Care required – for chronic wounds consider referral to USC/Blue Care Wound Solutions Clinic – call Blue Care on 1800 030 289

☐ Discussion and completion of an Advance Health Directive

☐ Formal Cognitive Assessment/Geriatrician Review

☐ Older Persons Mental Health Team Referral

☐ Review of Drivers Licence

☐ Webster Pack for medication management

☐ Other: _____

Additional communication provided by the ED team:

☐ A copy of this discharge summary has been given to the patient/carer/RACF

☐ Discharge summary uploaded to MyHealthRecord

☐ Other:

Thank you for the ongoing care of this patient.

Please do not hesitate to contact us for further information.

Kind regards

The GEDI Team

Hospital Emergency Department

Telephone:

Monday – Friday 0700-1730; Weekends and public holidays 0700-1530

Appendix V — GEDI emergency department discharge checklist

This is an example of a discharge checklist that ED staff can use when discharging older patients.

Item	Yes	No	Not required
Patient aware of provisional diagnosis?	☐	☐	
Patient aware of follow-up arrangements?	☐	☐	
Patient aware of red flags and when to return if concerned?	☐	☐	
Does the patients live alone?	☐	☐	
Time of discharge appropriate?	☐	☐	
NOK/care/personal responsible aware?	☐	☐	☐
RACF aware?	☐	☐	☐
Cannula/ID band removed?	☐	☐	
Discharge referral letter?	☐	☐	
Medications – return of patients own	☐	☐	☐
Medications provided if new - prescriptions provided or filled?	☐	☐	☐
Results/X-Rays provided?	☐	☐	
Relevant discharge factsheet	☐	☐	
Medical/Workers comp certificate	☐	☐	☐
Treating ED doctor has deemed the patient clinically and functionally safe for discharge?	☐	☐	
Identified risks have been mitigated where possible. Risks may include supervision for discharge and ongoing care • unsafe home circumstances or environment, such as the departure of elderly patient's home at night • known domestic violence situations • arrangement of interventions and resources to avoid ED re-presentation, such as equipment, additional supports such as nursing support, allied health follow-up	☐	☐	
Transfer to another facility (RACF) = clinical handover to facility at point of departure	☐	☐	☐
Completion of Emergency Department Medication Administration Record (EDMAR) for nursing home residents if a new medication has been prescribed in the ED	☐	☐	☐

Appendix W — 4AT cognitive assessment

The 4AT is a validated screening instrument designed for rapid initial assessment of delirium and cognitive impairment. The link to this screening assessment tool is provided here; https://www.the4at.com/ and a copy of the tool is below.

4AT

Assessment test for delirium & cognitive impairment

(label)

Patient name:

Date of birth:

Patient number:

Date: **Time:**

Tester:

CIRCLE

[1] ALERTNESS

This includes patients who may be markedly drowsy (eg. difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

Normal (fully alert, but not agitated, throughout assessment)	**0**
Mild sleepiness for <10 seconds after waking, then normal	**0**
Clearly abnormal	**4**

[2] AMT4

Age, date of birth, place (name of the hospital or building), current year.

No mistakes	**0**
1 mistake	**1**
2 or more mistakes/untestable	**2**

[3] ATTENTION

Ask the patient: "Please tell me the months of the year in backwards order, starting at December." To assist initial understanding one prompt of "what is the month before December?" is permitted.

Months of the year backwards	Achieves 7 months or more correctly	**0**
	Starts but scores <7 months / refuses to start	**1**
	Untestable (cannot start because unwell, drowsy, inattentive)	**2**

[4] ACUTE CHANGE OR FLUCTUATING COURSE

Evidence of significant change or fluctuation in: alertness, cognition, other mental function (eg. paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs

No	**0**
Yes	**4**

4 or above: possible delirium +/- cognitive impairment
1-3: possible cognitive impairment
0: delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)

4AT SCORE ☐

GUIDANCE NOTES Version 1.2. Information and download: **www.the4AT.com**

The 4AT is a screening instrument designed for rapid initial assessment of delirium and cognitive impairment. A score of 4 or more *suggests* delirium but is not diagnostic: more detailed assessment of mental status may be required to reach a diagnosis. A score of 1-3 suggests cognitive impairment and more detailed cognitive testing and informant history-taking are required. A score of 0 does not definitively exclude delirium or cognitive impairment: more detailed testing may be required depending on the clinical context. Items 1-3 are rated *solely on observation of the patient at the time of assessment*. Item 4 requires information from one or more source(s), eg. your own knowledge of the patient, other staff who know the patient (eg. ward nurses), GP letter, case notes, carers. The tester should take account of communication difficulties (hearing impairment, dysphasia, lack of common language) when carrying out the test and interpreting the score.

Alertness: Altered level of alertness is very likely to be delirium in general hospital settings. If the patient shows significant altered alertness during the bedside assessment, score 4 for this item. **AMT4 (Abbreviated Mental Test - 4)**: This score can be extracted from items in the AMT10 if the latter is done immediately before. **Acute Change or Fluctuating Course**: Fluctuation can occur without delirium in some cases of dementia, but marked fluctuation usually indicates delirium. To help elicit any hallucinations and/or paranoid thoughts ask the patient questions such as, "Are you concerned about anything going on here?"; "Do you feel frightened by anything or anyone?"; "Have you been seeing or hearing anything unusual?"

Appendix X — Sample geriatric assessment instrument dashboard

Sample Geriatric Assessment Instrument (Dashboard) (58). This provides some examples of content that may be useful in developing a dashboard.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GLOBAL MEASURES												
Patient volume >65												
% of total admissions												
Readmissions												
72 hour ED revisits												
24 hour admission upgrades												
Geriatric abuse												
Deaths												
DISEASE SPECIFIC												
FALLS												
Hip Fractures												
Traumatic ICH												
Blunt Abdominal Injury												
Death												
Fall-Risk Assessment												
Physical Therapy Eval												
URINARY CATHETERS												
Check List Used												
Catheter Days												
Automatic Discontinue												
CAUTI Stay Length												
MEDICINE MANAGEMENT												
High Risk Meds Noted												
ED High Risk Meds												
Adverse Reaction Revisit												
Non-compliance Revisit												
DELIRIUM												
Screen Documented												
Restraint Indications												
Chemical Restraint Attempt												
Behavior Physical Restraint Used												

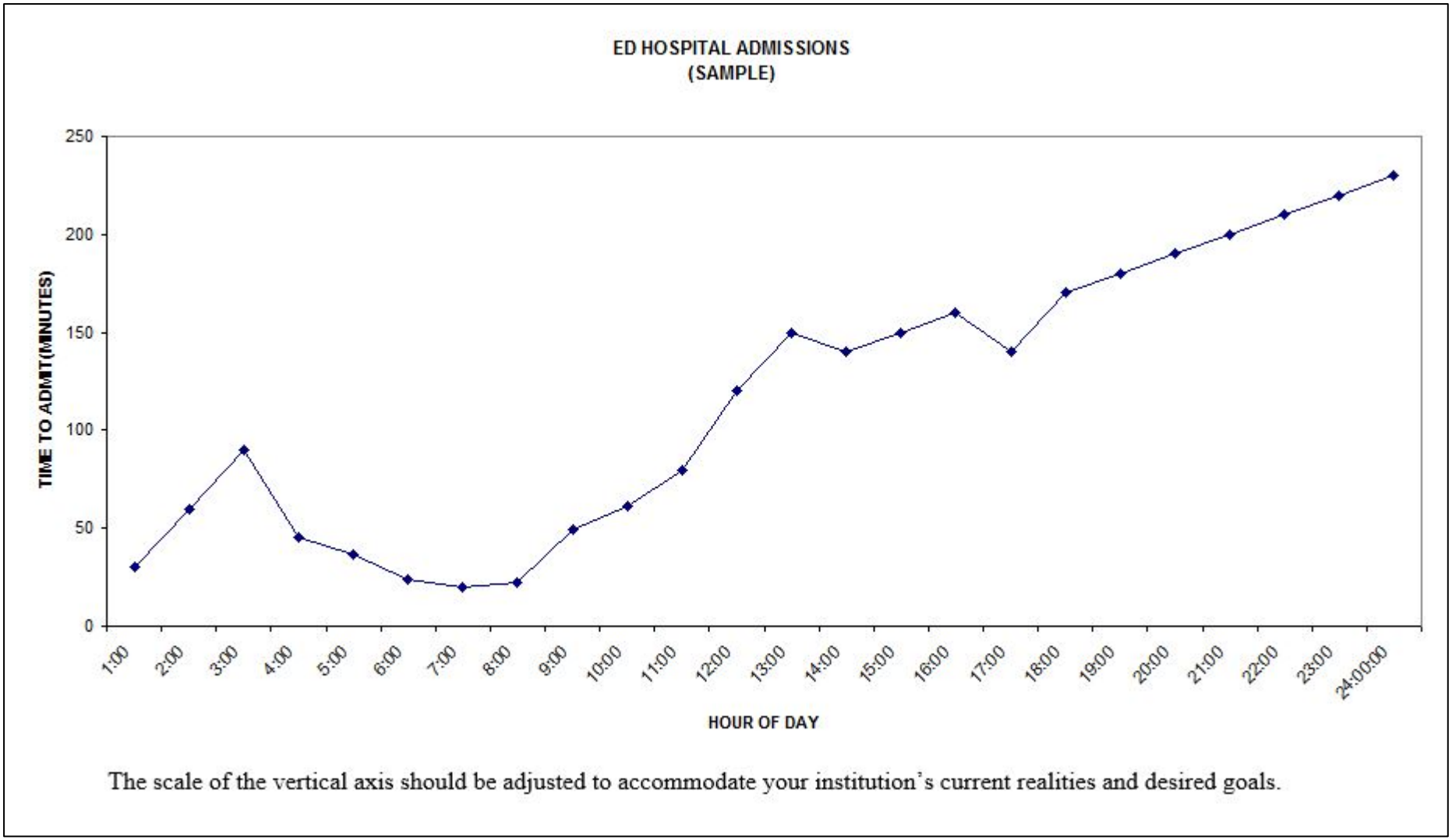
Appendix Y — ED patient flow analysis

This is an example of an ED patient flow analysis provided by the Institute for Healthcare (IHI). The first page provides the information required the second page provides an example graph. Ref (**http://www.ihi.org/resources/Pages/Tools/EmergencyDepartmentHourlyPatientFlowAnalysis.aspx**

Luther Midelfort – Mayo Health System, Eau Claire, Wisconsin, USA
Emergency Department Hourly Patient Flow Analysis

Patients Admission Log

NAME/MED REC #	AGE	ADMITTING DIAGNOSIS	ED MD	ADMITTING MD	ED ARRIVAL TIME	DECISION TO ADMIT TIME	TIME OF ADMISSION TO FLOOR/UNIT& BED NUMBER	PLACEMENT	COMMENTS



The scale of the vertical axis should be adjusted to accommodate your institution's current realities and desired goals.

Link to other resources for creating dashboards here: http://chandoo.org/wp/2011/03/22/healthcare-dashboard/

Appendix Z — ICD-10 Major Diagnostic Code mapping

The Emergency Department Information System (EDIS) listed an ICD-10 code regarding the reason for presentation to the ED. There are over 1200 of these codes making analysis of the data difficult. Mapping the ICD-10 codes to 25 designated major levels can assist in the analysis for presentations of older persons within major categories such as: Cardiovascular, Dermatology, Endocrine, Gastroenterology, Haematology, etc. The designation of these major levels was done in response to data quality assessments of EDIS data by the Health Statistic Unit, Department of Health, Queensland Government, 2012. (https://www.health.qld.gov.au/__data/assets/pdf_file/0033/355749/ed10.pdf)

1 = Cardiac
2 = Dermatology
3 - Endocrine
4 = ENT & Mouth
5 = Environmental conditions
6 = Gastrointestinal
7 = Haematology
8 = Iatrogenic
9 = Infectious
10 = Metabolic
11 = miscellaneous
12 = Neoplasia
13 = Neurological
14 = OBGYN
15 = Ophthalmology
16 = Orthopaedic
17 = Paediatric
18 = Psychiatric
19 = Renal
20 = Respiratory
21 = Toxicology
22 = Trauma
23 = Urology
24 = Symptoms
25 = Immunological

Appendix AA — GEDI nurse data collection sheet

This is an example of the GEDI data collection sheet used for the evaluative research project. It provides details of the types of data collected from patient engagements with the GEDI nurses. Potentially this could provide data for clinical auditing of the GEDI service.

CEDRiC - GEDI Worksheet **Geriatric Emergency Department Intervention Program** Facility: Nambour General Hospital	**Affix patient label here** URN: Family Name: Given Name: Address: Date of Birth Sex: M☐ F☐		**Affix patient label here** URN: Family Name: Given Name: Address: Date of Birth Sex: M☐ F☐		**Affix patient label here** URN: Family Name: Given Name: Address: Date of Birth Sex: M☐ F☐	
Date seen by GEDI:		☐No GEDI Involvement		☐No GEDI Involvement		☐No GEDI Involvement
Staff member						
InterRAI score						
ADDS score						
CGA completed / Clinical note entry	☐ Yes ☐ No ☐Short ☐Long ☐ No		☐ Yes ☐ No ☐Short ☐Long ☐ No		☐ Yes ☐ No ☐Short ☐Long ☐ No	
GEDI clinical initiated intervention #	☐ No ☐Pathology ☐Imaging ☐Education ☐Wound managemt ☐ IV ☐Urinalysis ☐Provides sustinence ☐Mobilising ☐Other _____		☐ No ☐Pathology ☐Imaging ☐Education ☐Wound managemt ☐ IV ☐Urinalysis ☐Provides sustinence ☐Mobilising ☐Other _____		☐ No ☐Pathology ☐Imaging ☐Education ☐Wound managemt ☐ IV ☐Urinalysis ☐Provides sustinence ☐Mobilising ☐Other _____	
Face to face? communications with:	☐ No ☐Carers/NOK ☐ED Dr ☐Geriatrician ☐Allied Health ☐Other _____		☐ No ☐Carers/NOK ☐ED Dr ☐Geriatrician ☐Allied Health ☐Other _____		☐ No ☐Carers/NOK ☐ED Dr ☐Geriatrician ☐Allied Health ☐Other _____	
Referrals to:	☐ No ☐Rapid Response ☐CSRT ☐ NGOs ☐MAC ☐Other _____		☐ No ☐Rapid Response ☐CSRT ☐ NGOs ☐MAC ☐Other _____		☐ No ☐Rapid Response ☐CSRT ☐ NGOs ☐MAC ☐Other _____	
Phone calls to or from?:	☐ No ☐Family ☐RACF ☐ NGO ☐GP ☐Geriatrics ☐Other _____		☐ No ☐Family ☐RACF ☐ NGO ☐GP ☐Geriatrics ☐Other _____		☐ No ☐Family ☐RACF ☐ NGO ☐GP ☐Geriatrics ☐Other _____	

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