

Patient Deterioration Programme Project Charter

Waitemata District Health Board

30 November 2016

Patient Deterioration Programme Project Charter

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Approval required from:	Clinical Governance Board
Document changes:	Roles and team membership (p.9 , p.18) amended post presentation to CGB 1 Dec 2016

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1. Overview

1.1 Purpose

This document outlines the proposed introduction of a formal Patient Deterioration Programme at Waitemata District Health Board (Waitemata DHB). A patient deterioration programme will build on current patient deterioration safety systems at Waitemata DHB and will link to the Health Quality and Safety Commission (HQSC) national patient deterioration programme.

1.2 Project Background

The Waitemata DHB promise is to provide ‘best care for everyone’ and its two priorities are to enhance patient experience and achieve better outcomes. The WDHB Quality Strategy (2013-2016) aims to provide safe, clinically effective, and patient and family centred care.

Ensuring deteriorating patients receive appropriate and timely care is essential to meeting the aim of safe, effective, quality patient care. Early recognition and response to clinical deterioration can minimise and reverse the severity of deterioration and the level of intervention required to stabilise a patient’s condition and can reduce patient harm, morbidity and mortality, hospital length of stay and associated health costs (HQSC, Dec 2015). This focus has been present in WDHB already for many years in the form of emergency resuscitation team call (777 calls), the North Shore Early Warning Score (NEWS), the critical care outreach team and education in the form of Advanced Care Life Support (ACLS) teaching and the Acute Care Training (ACT) day aimed at junior doctors and nurses.

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Rapid response systems (RRS)

Studies have established that patients often exhibit physiological signs of deterioration for some time before a serious event such as a cardiac arrest or an unplanned admission to an Intensive Care Unit (Chen, Ou, Hillman, et al., 2014; Franklin & Matthew, 1994; Kause et al, 2004; McQuillan et al, 1988). This has led to the development of rapid response systems designed to detect and respond to acute changes in patients, including deterioration in their vital signs (Bellamo et al., 2004; Chen et al., 2014; DeVita, Bellamo, Hillman, et al., 2006; Hillman et al., 2001; International Society for Rapid Response Systems [iSRRS], 2016). Since their introduction in Australia in the 1990's rapid response systems have become a standard approach to improving the management of inpatient deterioration in many countries including Australia, New Zealand, USA, United Kingdom, Canada and the Netherlands (HQSC, Dec 2015; iSRRS, 2016).

At a minimum, a rapid response system consists of a system to detect patient deterioration and trigger a response (afferent limb) and an escalation responder team system (efferent limb) (Pedersen, Psirides & Coombs, 2014). Typically this would include an early warning scoring recognition and response system such as our own NEWS system for vital signs and an expert rapid response team such as a Medical Emergency Teams (MET) or Critical Care Outreach Team (CCOT). Even with a rapid response system in place, it is recognised that additional clinical and organisational processes and systems (such as education, and evaluation) are required to manage the clinically deteriorating patient effectively (ACSQHC, 2010; DeVita et al., 2006). A mature rapid response system is expected to include governance and measurement as part of their overall structure (DeVita et al., 2006).

Failure to rescue

Despite the presence of these safety systems, local, national and international evidence shows that the care of patients who become acutely unwell is inconsistent, clinical deterioration may still be unrecognised, underappreciated, or not acted upon appropriately resulting in preventable patient harm and adverse events such as cardiac arrest, unplanned admission to ICU, and inappropriate treatment (ACSQHC, 2010, HQSC 2015, NICE 2007). Contributing factors are multifactorial and include staffing and high workload, clinical prioritisation, failures in communication, team and social factors, patient factors, training and education, inadequate policy, and environmental factors (HQSC, Dec 2015; NHS National Patient Safety Agency, 2007).

As the inpatient population becomes older, care more complex, and length of stay shorter, there is concern that suboptimal management of the clinically deteriorating patient will become an increasing problem (HQSC, April 2015). This is a significant factor for Waitemata DHB which has the largest and fastest growing DHB population in New Zealand with 580 000 residents and an expected population growth of 18% by 2025 (Waitemata DHB Annual report 2014/2015). Waitemata DHB residents also have the highest life expectancy in New Zealand at 83.7 years, 1.6 years higher than the national average (Waitemata DHB Annual report 2014/2015).

For these reasons, management of patient deterioration remains a high priority for health systems worldwide. Several countries such as Australia, England, Scotland, and now New Zealand have implemented national programmes to support the development of these processes and systems.

Health Quality and Safety Commission (HQSC) Patient Deterioration Programme

The HQSC have been exploring the potential for a national deteriorating patient programme in New Zealand since 2014 (HQSC, June 2016). This has been driven by concern about variability in response

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systems across New Zealand, findings from adverse events, demand from healthcare professionals, and a review of international evidence supporting a standardised approach to managing the deteriorating patient (HQSC, June 2016).

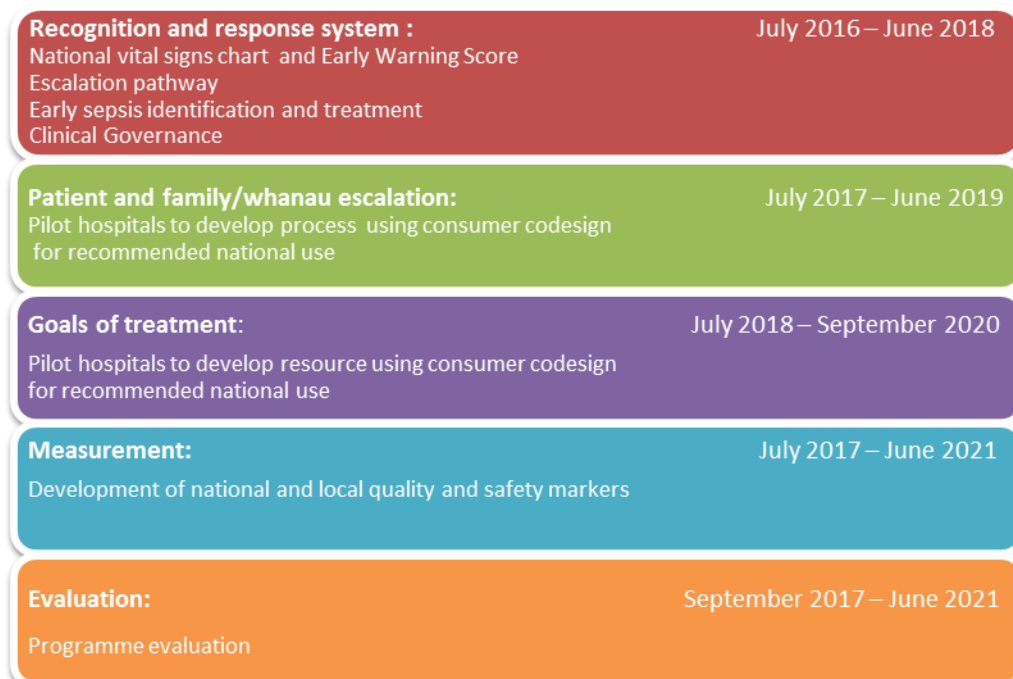
The HQSC have identified the following as key issues in the management of the deteriorating patient in the New Zealand setting:

- variation in vital signs charts and scoring systems
- variation in the skills and knowledge and availability of responders
- patient and family concern not acted on
- unnecessary or unwanted treatment (HQSC, September 2016)

In April 2016, the Commission board approved an investment of \$2.5 million over five years for a national patient deterioration programme (2016-2021). The programme's stated aim is to 'reduce harm from failures to recognise and respond to acute physical deterioration for adult inpatients (excluding maternity) by July 2021'. This programme consists of five phased work streams (Figure 1) delivered using regional networks, with planned interventions including the development of a national vital signs chart and early warning score, guidance on response systems and teams, patient and family escalation, escalation of treatment planning, and improved system measurement (HQSC, Sept 2016).

The HQSC has formally requested Waitemata DHB support and engagement in this programme (see appendix 1). Waitemata DHB contributed to HQSC's initial scoping for this programme (Drs Maher and Casement and CCOT CNS Sonya English and Charlotte Firth) and is participating in the national programme via the Northern Regional Alliance who commenced a regional network for the Northern Region Deteriorating Programme in September 2016.

Figure 1: HQSC Deteriorating Patient Programme 2016-2021



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Waitemata DHB

Current situation

Waitemata DHB has a number of systems and processes in place for recognising and managing the deteriorating patient (see appendix 2). There is a well-established rapid response system consisting of the NEWS scoring and trigger system, a 24 hour 777 resuscitation team and a nurse led Critical Care Outreach Team that has been in place since 2006. The early warning system now includes a Maternity (MEWS) and paediatric (PEWS) version and the outreach service has expanded to offer a seven day 0730-2230 hours service at North Shore Hospital and a seven day 1400-2230 hours service at Waitakere Hospital.

Technology has been introduced to improve performance including eVitals electronic vital signs monitoring and the Smart page cell phone communication and task prioritisation system. Waitemata Central has been introduced to coordinate bed management and provide 24 hour clinical support. The Surviving Sepsis Collaborative has been established to improve recognition and treatment of patients with infection and sepsis.

Gaps in the system

Whilst there has been ongoing local development and growth of our rapid response systems and processes there is evidence that some patients who deteriorate in our hospitals still experience variation in care, and in some cases preventable harm resulting from failure to recognise, escalate, or respond appropriately. Factors contributing to these failures are described below:

1. Recognition of deterioration - incomplete vital signs recording and interpretation. Waitemata DHB NEWS audit results of 500 patient charts between January and June 2016 show that only 46% of charts had observations completed as per hospital policy.
2. Failure to escalate care – In the same 500 patient chart audit, a NEWS trigger was activated only 65% of the time and appropriate escalation of care occurred in only 7-23% of patients.
3. Failure to respond appropriately - Serious adverse events occurring as a result of patient deterioration that has gone unrecognised, underappreciated, or not acted upon appropriately are still regularly reported (reported separately).

24 hour response systems

Where deterioration is recognised and escalated, we are unable to provide a consistent 24 hour response at both hospitals with the current systems. The Critical Care Outreach Team service does not continue overnight, and both senior and junior medical and nursing staff support is reduced out of hours. The ICU consultant on call is primarily responsible for managing patients on the ICU/HDU and not available as resource for the whole hospital. The management of the hospital at night and out of hours has been explored previously in the North Shore 'High Acuity Patients' project (2014-2016), 'Hospital Out of Hours' project (2015), and the 'Hospital 24/7' project (2014). It is recognised that further work is needed in this area.

Rapid response system workload

Episodes of escalation in care requiring a medical response are increasing and that we are unable to respond to these calls in the timeframe specified, or with the personnel specified in our current escalation policy. Smart page data for North Shore Hospital for the year July 2015 - June 2016 shows high volumes of escalation of care calls (see appendix 3). Of 93,795 total pages for the year, there were 2376 calls for a NEWS trigger score of 2 which requires surgical or medical review within one hour and 5657 calls for a

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NEWS trigger score of 3 or more which requires medical or surgical review within 30 minutes. It is anticipated that the introduction of eVitals and a national scoring system will increase escalation calls significantly, placing additional demand on the escalation systems and responders.

Referral numbers to the CCOT are steady at between 4297 and 4653 for the past three years. NEWS activations account for more than 50% of these referrals. The Outreach Team reports a higher workload overall due to high patient acuity increasing the length of time spent with each referred patient. Emergency 777 calls are increasing. In 2015 there were 1372 calls, compared to 781 calls in 2012.

Summary

This evidence indicates that the demand for processes and systems to support safe, consistent, effective 24 hour care for the clinically deteriorating patient is not adequate, presenting an ongoing risk to patient safety. Local and national scoping has identified a number of improvement opportunities and initiatives to further develop and strengthen our management of the deteriorating patient. The introduction of a patient deterioration programme will promote a structured and systematic approach towards improving the management of deteriorating patients.

1.3 Project description

This paper proposes that Waitemata DHB adopt an organisational approach to the management of the clinically deteriorating patient by establishing a formal Patient Deterioration Programme. This programme would:

1. provide a governance structure to develop and coordinate an organisation wide strategic approach to the management of patient deterioration
2. oversee Waitemata DHB involvement in the national and regional patient deterioration programme (July 2016 – June 2021)
3. facilitate the development and introduction of new systems and processes to improve, monitor, and evaluate care of the clinically deteriorating patient.

1.4 Project objectives

The aim of Patient Deterioration Programme is to reduce harm from failures to recognise and respond to acute physical deterioration for all inpatients.

The key priorities initially identified for this programme for Waitemata DHB are:

1. Establish programme governance structure and Executive Steering Group
2. Address gaps in the provision of consistent 24 hour care and review the current adult escalation pathway. This might include a review current response team models including current after hours teams at Waitakere, after hours medical support, hospitalist and extended CCOT as alternative models of care, and an options paper or business case for improvement.
3. Introduce a process for patient and whanau/family escalation of care using consumer co-design
4. Promote structured handover e.g. ISBAR as standardised communication tool review, improved medical and afterhours handover process
5. Goals of treatment – review treatment escalation and ceiling of care plans and process, review end of life care.
6. Establish a clear measurement set to monitor and support evaluation of programme

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1.5 Project benefits

The establishment of an organisation wide Patient Deterioration Programme will have expected benefits (as stated in the HQSC Patient Deterioration Programme Charter) that include:

- reduced patient harm through consistent recognition and response to patient deterioration across the organisation
- improved communication between patients, family/whanau and clinicians
- contribution to reduced length of stay and increased critical care capacity by reducing unplanned ICU admissions
- contribution to reduced loss of disability-adjusted life years
- improved knowledge about patient deterioration
- reduced unwanted and unwarranted treatments for patients unlikely to benefit from them
- effective clinical leadership and enhanced decision-making

2. Strategic alignment

The Waitemata DHB promise is to provide ‘best care for everyone’ and its two priorities are to enhance patient experience and achieve better outcomes. The Patient Deterioration Programme stated aim ‘to reduce harm from failures to recognise and respond to acute physical deterioration for all inpatients’ supports and aligns with both the DHB promise and priorities.

Waitemata DHB is participating in the regional and national patient deterioration programme. The introduction of patient and family escalation processes and improved treatment planning identified as local, regional, and national priorities will engage consumers in co-design and as partners in care, and will enhance consumer-clinician communication.

A more consistent rapid response system will enhance patient safety and clinical effectiveness and evidence suggests this could improve outcomes related to patient morbidity and mortality, and promote more effective use of resources such as intensive care.

3. Scope

In scope: All inpatient groups for Waitemata DHB Patient Deterioration Programme
All adult inpatients for the HQSC Patient Deterioration Programme

Out of scope: Maternity and paediatrics for the HQSC Patient Deterioration Programme

4. Stakeholders

Stakeholders	
Programme Sponsors	Waitemata Central Staff
Institute for innovation and Improvement	Surviving sepsis collaborative
Programme Steering Group	E vitals project team
Clinical Governance Board	Palliative Care Team
All nursing and medical staff	Advanced Care Planning team
Heads of Division Nursing, Midwifery, Medical,	Resuscitation Committee

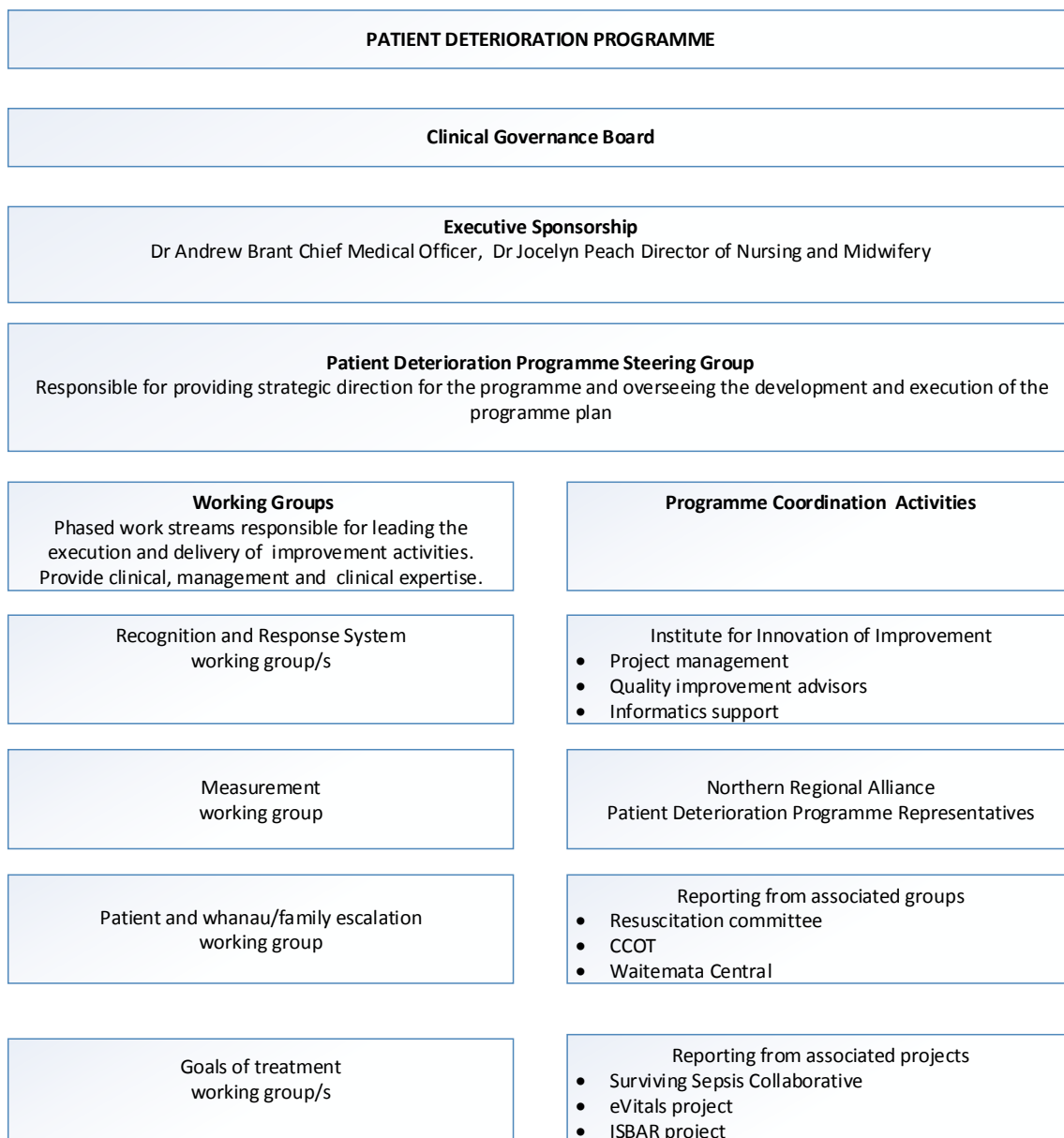
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Stakeholders	
Intensive Care Services	Allied Health
Critical Care Outreach Team	ISBAR project team

5. Roles and team membership

A short-term programme establishment steering group has been set up to provide direction during the programme establishment phase. The following diagram outlines the proposed future governance and programme structure. Roles and team membership is detailed in Appendix 4.

Figure 2: Proposed governance and structure of Patient Deterioration programme – Updated 23 Dec 2016



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6. Programme overview

The programme plans to use a staged approach and expert working groups to meet its stated objectives.

The programme plan will complement the national and regional programme priorities and plans where possible, but it is acknowledged that local priorities might necessitate different work streams and time timeframes

Table 1: HQSC Timeline for Patient Deterioration Programme work streams



 HQSC Patient Deterioration Programme work streams (5 years)									
	2017		2018		2019		2020		2021
1. Recognition and Response: National vital signs and EWS chart	Refine & implement								
Escalation pathway									
Early Sepsis management									
Clinical governance									
2. Patient Whanau escalation	Test	Refine and implement							
3. Goals of treatment			Test	Refine and implement					
4. Measurement				Ongoing activity					
5. Evaluation of programme									

Table 2: Waitemata DHB Patient Deterioration Programme timeline

 Waitemata DHB Patient Deterioration Programme timeline (3 years)									
	2017		2018		2019		2020		2021
1. Recognition and Response: National vital signs and EWS chart									
24 hour Response Team (WDHB)									
Escalation pathway									
Structured handover (WDHB)									
Early Sepsis management (WDHB)									
Clinical governance (WDHB)									
2. Patient Whanau escalation									
3. Goals of treatment									
4. Measurement									

7. Recommendation

The Patient Deterioration Programme Steering Group seeks the approval of the Clinical Governance Board for the commissioning of a Patient Deterioration Programme based on the approach and structure outlined in this paper.

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8. References

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Waitemata DHB Annual Report, 2014/2015

Waitemata DHB Quality Strategy, 2013-2016

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Appendix 1: HQSC Patient Deterioration Programme letter to Waitemata DHB CEO



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7 October 2016

Dale Bramley
Chief Executive
Waitemata District Health Board

dale.bramley@waitematadhb.govt.nz

Dear Dale,

Patient deterioration programme: update on developing recognition and response systems

As you may know, the Commission is leading a national patient deterioration quality improvement programme between July 2016 and July 2021. The programme aims to reduce harm from failures to recognise and respond to acute physical deterioration for adult inpatients (excluding maternity) by July 2021.

The first goal for the programme is that all DHB hospitals implement recognition and response systems by July 2018. These systems include a nationally standardised vital signs chart with early warning scores (or electronic equivalent), a localised escalation pathway and response arrangements, effective clinical governance and leadership, and systems for ongoing measurement for improvement.

We would welcome your leadership with this to ensure that the recognition and response system is properly established, supported and maintained within your DHB hospitals. You can do this by supporting the recognition and response system as an organisational patient safety priority throughout the levels of leadership in your DHB.

A national expert advisory group has been established with representatives from consumer, academic and relevant specialties ensuring geographical spread. There is an expectation that the clinical members of the group will be a conduit back to their DHB and wider region. Members are:

- Alison Pirret, Counties Manukau Health
- Roger Conway, Auckland DHB
- Rick Forster, Bay of Plenty DHB
- David Tripp, Capital & Coast DHB
- Steve Eamshaw, South Canterbury DHB
- Courtenay Thrupp, consumer
- Maureen Coombs MBE, Victoria University of Wellington
- Wilbur Familo, Counties Manukau Health
- Ruth Large, Waikato DHB
- Emma Merry, Hawke's Bay DHB
- Seton Henderson, Canterbury DHB
- George Giddings, Southern DHB
- Martine Abel, consumer
- Alex Psirides, Clinical Lead – patient deterioration programme

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Commission staff have met with regional quality and safety groups to discuss the programme and how best to connect with the programme. These regional groups will provide additional support, regional coordination and networks to support sustainable implementation by DHBs.

The programme will be testing and refining the national approach to recognition and response systems during this financial year. Five DHBs with a mix of size and location have agreed to assist us and represent the regions. The participating DHBs are:

- Auckland
- Hauora Tairāwhiti
- Whanganui
- Nelson Marlborough
- Canterbury

Further information on the programme can be found at:

<http://www.hqsc.govt.nz/our-programmes/other-topics/new-projects/the-deteriorating-patient>

The Commission's programme team includes a specialist in recognition and response, quality improvement advisor, senior project manager, senior analyst and an advisor on consumer engagement and co-design.

If you have any queries please contact one of the following team members:

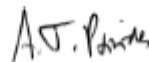
- Gary Tonkin, Senior Portfolio Manager: gary.tonkin@hqsc.govt.nz
- Jenny Hill, Specialist – recognition and response systems: jenny.hill@hqsc.govt.nz
- Emma Forbes, Senior Project Manager: emma.forbes@hqsc.govt.nz

We look forward to your support as we work with your DHB to implement the programme over the coming years.

Kind regards,



Dr Janice Wilson
Chief Executive



Dr Alex Psirides
Clinical Lead – patient deterioration programme

cc: DHB Chief Medical Officer
DHB Director of Nursing
Project contacts for partnering DHBs

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Appendix 2: Comparison of early warning score activation systems and impact on responder workloads using WDHB Smart page data July 2015 - June 2016

Escalation criteria

An entire year of Smartpage data from July 2015-June 2016 for North Shore Hospital was analysed to simulate the volume of cases at different levels (tiers) of EWS activation in different monitoring systems. These systems include the Wellington Hospital EWS chart (the likely model for the national chart), the Alfred Hospital MET criteria, the NHS (UK) EWS and the current Waitemata DHB NEWS chart. The data presented below replicates what would have happened at North Shore Hospital during that period had each of those vital sign charts been in effect.

There was significant variation in the volumes of cases at different EWS escalation levels (e.g. MET team or equivalent, ward registrar, ward house officer and/or increased nursing observation) based on which EWS chart was used and related to where different health services determined its threshold for EWS scoring for each vital sign parameter. Of note, small changes in even one EWS parameter (e.g. a change in threshold of systolic blood pressure by 10mmHg) could produce very significant changes in volume between the escalation level groups and thus move large work/review volumes from one workforce group to another. Overall volumes for each EWS system are included below; data is for a period of exactly 1 year and there were 93,795 total pages (excluding duplicates) recorded.

	WDHB NEWS	NHS (UK) EWS	Wellington EWS system (current)	Alternative Wellington EWS (old)	Alfred Hospital, Melbourne
Highest tier	NEWS 3+	High Risk	Blue Zone (MET)	Pink Zone (MET)	MET
Frequency	5657	3008	1187	669	5067
2nd highest tier	NEWS 2	Medium Risk	Red Zone	Orange Zone	Clinical Review
Frequency	2376	2774	3356	1480	942
3rd highest tier	News 1	Low Risk	Orange Zone	Gold Zone	N/A
Frequency	1727	5449	2581	6147	N/A
4th highest tier (i.e. no escalation)	News 0	EWS 0	Normal	Normal	Normal
Frequency	83975	82504	83330	84220	88688

	WDHB	NHS (UK)	Wellington	Alt. Wellington	Alfred Hospital
Total Escalations (3 highest tiers)	9760	11231	7124	8296	6009

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Time between highest tier (MET or equivalent) activations

The distribution of time between occurrences of EWS scores corresponding to the highest level tier is not uniform at North Shore Hospital. There are periods where highest tier EWS scores are clustered together and then longer periods between occurrences. This effect may be due to a number of factors including the timing of vital signs recording by nurses across different wards. It is important to consider the capacity of each workforce group in terms of their ability to practically respond to the volumes of calls including time to physically move around the hospital.

The data below replicates what would have happened at North Shore Hospital during the 2015-2016 period in terms of frequency of calls if other MET/RRT systems were in place. The table below shows the number of cases per year against the time (in 30 minute bands) between occurrences of highest tier EWS scores across North Shore Hospital and alternative systems.

The current Wellington EWS system would provide the lowest overall number of calls and may be most manageable in terms of workflow for a MET team but would have a corresponding higher number of ward registrar and house officer reviews compared to other systems, including the current NEWS system—meaning resource may need to be directed there to handle increased workload for those groups.

A mandatory or automatic type response to a NSH NEWS score of 3 or higher or a 'MET criteria' from the Alfred Hospital EWS system would produce greater than 5000 highest tier level calls per year including a number of instances of these calls occurring almost simultaneously at different parts of North Shore Hospital.

	MET/RRT level calls per year across NSH site				Current WDHB (NEWS 3)
	Wellington EWS	Old Wellington EWS	NHS (UK) EWS	Alfred EWS	
Simultaneous calls (within 0 to 30 mins of each other - duplicates excluded)	116	49	650	1595	1934
Nearly simultaneous calls (within 30 to 60 mins of each other)	91	33	430	974	1105

	MET/RRT level calls per day across NSH site				Current WDHB (NEWS 3)
	Wellington EWS	Old Wellington EWS	NHS (UK) EWS	Alfred EWS	
Simultaneous calls (within 0 to 30 mins of each other - duplicates excluded)	0.3	0.1	1.8	4.4	5.3
Nearly simultaneous calls (within 30 to 60 mins of each other)	0.2	0.1	1.2	2.7	3.0

Limitations of this analysis: Only patients whose vital signs were entered the Smartpage system are registered. Therefore this data is likely to underestimate the true number of EWS occurrences. The Smartpage system is routinely not active for junior medical staff from 8am-4pm Monday-Friday so this data does not capture 'in-hours' activity

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Appendix 3: Patient Deterioration Programme - Current activity and gap analysis



Patient deterioration
current state driver d

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Appendix 4: Programme roles and team membership Updated 23 Dec 2016

Programme establishment steering group

Name	Project Role	WDHB Role
Dr Penny Andrew	Steering group lead	Director - Institute for Innovation and Improvement
Jeanette Bell	Project Manager Regional meeting representative	Project Manager - Institute for Innovation and Improvement
Dr Paul Muir	Steering group member	Medical Administrator RACMA Fellow
Dr Jonathan Wallace	Steering group member Regional meeting representative	Anaesthetic MOSS RACMA Fellow
Dr Lesley Maher	Steering group member Regional meeting representative	Consultant Intensivist Chair WDHB Resuscitation Committee

Project Sponsors

Name	Project Role	WDHB Role
Dr Andrew Brant	Executive Sponsor	Chief Medical Officer
Dr Jocelyn Peach	Executive Sponsor	Director of Nursing and Midwifery

Patient Deterioration Programme Steering Group

The Patient Deterioration Programme Steering Group will be responsible for overseeing and coordinating the initial development and management of the programme and execution of the programme plan. They will report to the Executive Sponsors and Clinical Governance Board quarterly. The Steering Group will work with the Expert Advisory Group to identify, establish and oversee work-streams and working groups to lead and carry out identified programme activities.

Name	Project Role	WDHB Role
Dr Penny Andrew	Steering group lead	Director - Institute for Innovation and Improvement
Dr Lesley Maher	Intensive Care Services Representative Regional meeting representative	Consultant Intensivist Chair WDHB Resuscitation Committee
Dr Jonathan Casement	Intensive Care Services Representative	Clinical Director Intensive Care Services
Sarah Olley	Critical Care Outreach and nursing representative Regional meeting representative	Team Leader Critical Care Outreach Team
Jeanette Bell	Project Manager	Project Manager - Institute for

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Name	Project Role	WDHB Role
	Regional meeting representative	Innovation and Improvement
Dr Paul Muir	Steering group member	Medical Administrator RACMA Fellow
Dr Jonathan Wallace	Regional meeting representative	Anaesthetic MOSS RACMA Fellow
TBA	General Surgery Representative	
TBA	General Medicine Representative	
TBA	Child, Woman and Family Representative	
TBA	Senior Nursing Representative	

Northern Region Deteriorating Patient Programme Meeting Representatives

Name	Project Role	WDHB Role
Dr David Grayson	WDHB Clinical Lead Patient Safety Programme	Clinical Director ORL
Dr Lesley Maher	Steering Group member Intensive Care Services Representative Regional meeting representative	Consultant Intensivist Chair WDHB Resuscitation Committee
Jeanette Bell	Project Manager Regional meeting representative	Project Manager - Institute for Innovation and Improvement
Dr Jonathan Wallace	Steering Group member Regional meeting representative	Anaesthetic MOSS RACMA Fellow
Sarah Olley	Steering Group member Regional meeting representative	Team Leader Critical Care Outreach Team

Programme working groups

Programme working groups and expert advisory groups of subject matter experts will be established over the three year period according to identified priorities and timelines. They will be responsible for leading the development and execution of improvement activities within their workstream. Working groups will report to the programme steering group.