

10. Emerging composite care bundle to reduce opioid-related harm

10.1. Background

'Bundles' of care processes that improve clinical outcomes have become a common means of evaluating the quality of care and compliance with best practice, typically around specific care activities (core measure sets) for a defined problem. For example, a ventilator-associated pneumonia prevention bundle includes four activities. Compliance can be measured using a 'composite' measure of the fraction of all indicated care elements that a sample of patients actually receives, or by an 'all-or-none' measure in which a patient must receive all of the bundle elements before their care can be categorised as a 'success'.⁴⁶

'Composite', in the context of the collaborative and this how-to guide, is the term used to describe the emerging care bundle outlined in this section. This is a combination of three other bundles, a *composite* of similar-themed elements from each of the bundles for the three individual harm areas (opioid-induced constipation, opioid-induced ventilatory impairment and uncontrolled pain). The composite care bundle also contains measures related to opioid-induced nausea and vomiting (OINV).

10.1.1. Care bundle elements

The elements in this care bundle seek to reduce opioid-related harm in patients who are prescribed and administered opioids (Table 10.1.1).

⁴⁶ C Crocker, W Kinnear. 2008. Weaning from ventilation: does a care bundle approach work? *Intensive and Critical Care Nursing* 24(3): 180–86.

Table 10.1.1: Emerging composite care bundle

Element	Care bundle elements – composite
One See 10.2	Provide patients/consumers and family/ whānau with information about opioid use for pain management and the associated risk of harms in formats appropriate to their needs. The harms covered include, at a minimum, opioid-induced constipation (OIC), opioid-induced ventilatory impairment (OIVI) and opioid-induced nausea and vomiting (OINV).
Two See 10.3	Identify patients with an increased risk of opioid-related harm, using standardised risk assessment tools and methods.
Three See 10.4	When prescribing and administering opioids, anticipate, prevent and manage harm using pharmacological and non-pharmacological approaches. These approaches should include: opioid-sparing analgesics and techniques, dietary measures, fluid and co-prescribed laxatives for OIC, rational use of naloxone for OIVI and anti-emetics for OINV.
Four See 10.5	Monitor and document to identify harm (sedation level and respiratory rate, bowel movements, nausea and vomiting, pain behaviours/indicators) and effectiveness of any related interventions, using evidence-based guidelines and methods.
Five See 10.6	Regularly educate staff about pain management and opioid use, opioid-related harms and risk reduction strategies. Education includes assessment of knowledge and skills, educational intervention/s and reassessment.

10.1.2. Outcome measure for emerging composite care bundle

Table 10.1.2 describes the outcome measure for use with the emerging composite care bundle.

Table 10.1.2: Emerging composite care bundle outcome measure

Measure	Formula	Operational definitions	Exclusions	Population
Percentage of patients administered an opioid with OIC, and OINV, and the percentage of patients prescribed an opioid with uncontrolled pain. Number of days between two consecutive episodes of OIVI in patients where an opioid was administered and count of episodes of OIVI in patients where an opioid was administered	<p>OIC numerator: Total number of patients where bowels not open for > 3 days</p> <p>OIC denominator: Total number of patients where an opioid was administered</p> <p>OIVI measure 1: Number of days between two consecutive episodes of OIVI: Days = Day x – Day y</p> <p>OIVI measure 2: Number of episodes compiled on a prospective basis</p> <p>Uncontrolled pain numerator: Total number of patients with uncontrolled pain</p> <p>Uncontrolled pain denominator: Total number of patients</p>	<p>Opioid: All opioids (strong and weak, including but not limited to: morphine, oxycodone, fentanyl, pethidine, methadone, tramadol, dihydrocodeine, codeine); includes regular and/or PRN opioids</p> <p>Administered: Gave a medicine to a patient; this includes self-administration by the patient</p> <p>Opioid-induced constipation (OIC): Bowels not open for >3 days (day one being the day when an opioid was first administered)</p> <p>Opioid-induced ventilatory impairment (OIVI): Either: respiratory rate 8–10 and sedation score $\geq 2/3$</p> <p>Uncontrolled pain: ≥ 2 consecutive pain scores of $\geq 7/10$ or ($\geq 3/5$) in 24 hours</p> <p>Opioid-induced nausea and vomiting (OINV): An episode of post-operative nausea and/or vomiting; nausea is defined as the subjective and unpleasant sensation associated with the conscious urge to vomit</p> <p>Prescribed: In practice, authorised an order to supply or administer a substance used or capable of being used to prevent, treat or palliate a disease, or the symptoms or effects of a disease for the purpose of clinical treatment of a patient under the authorising person’s care</p>	Nil	Age 12 years and over admitted to a hospital inpatient area

who have had an opioid prescribed

OINV numerator:

Total number of patients with an episode of OINV

OINV denominator:

Total number of patients who were administered an opioid

10.2. Element One

Provide patients/consumers and family/whānau with information about opioid use for pain management and the associated risk of harms in formats appropriate to their needs. The harms covered include, at a minimum, opioid-induced constipation (OIC), opioid-induced ventilatory impairment (OIVI) and opioid-induced nausea and vomiting (OINV).

10.2.1. Background

Patients report that they are often not given adequate information about pain control measures despite wanting to be informed.⁴⁷ Generally, patient-focused interventions that engage patients actively in their care can have a beneficial effect on patient experience and health status; this includes the use of written materials to improve health literacy.⁴⁸ Data on the effectiveness of patient education in pain management is

⁴⁷ D Taylor, S Loh, K Mulligan, et al. 2010. Management of acute postoperative pain in Australian hospitals: room for improvement. *Journal of the Australasian Association for Quality in Health Care* 20: 29–36.


⁴⁸ A Coulter, J Ellins. 2007. Effectiveness of strategies for informing, educating, and involving patients. *British Medical Journal* 335: 24–27.

limited. However, because patient attitudes and beliefs can modify their pain perceptions and analgesic requirements, patient and carer education may positively influence the outcome of acute pain management.⁴⁹

10.2.2. Provide patients with information about opioid use



In an effort to reduce opioid-related harm and improve patient experience, teams involved in the safe use of opioids national collaborative focused on improving health literacy and patient self-management support (Table 10.2.2).


Table 10.2.2: Purpose, change ideas and lessons learned in relation to improving health literacy and patient self-management support

What	How	Lessons learned
<p>Provide patient-centric education using standardised information for consistent messaging</p> <p> <i>Document in the clinical record when providing patients with information: what was given, who got it, who gave it and when.</i></p>	<ul style="list-style-type: none"> • Provide information in a simple, visually appealing, easy-to-read format. • Use a process for staff to routinely converse with patients about their pain. • Discuss with patients their current knowledge. • Ask patients to help in developing a patient information leaflet. That is, use a patient co-design approach. • Obtain cultural review and approval for any patient information. • Develop a guidance resource (eg, patient constipation pamphlet) for clinical staff on the correct use of the patient information leaflet. 	<ul style="list-style-type: none"> • Following co-design principles in developing resources (where patients/consumer advocates partnered with clinical staff – interdisciplinary team) resulted in more useful resources. • Challenges were to: <ul style="list-style-type: none"> ○ present sometimes technically complex language in a simple-to-understand format ○ distribute the completed resource ○ make staff conversations part of routine care ○ measure improvement in patient experience. • Other challenges were the time required to roll out the information and ensuring the sustainability of the process.

⁴⁹ Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists. 2013. *Guidelines on Acute Pain Management*. Melbourne: Australian and New Zealand College of Anaesthetists.

What	How	Lessons learned
	<ul style="list-style-type: none"> • Educate clinical staff on how to use the patient information leaflet. • Introduce the leaflets and display them in wards. • Encourage the use of leaflets at education sessions and handover meetings. • Routinely include leaflets in patient pre-admission packs and give them to patients at pre-admission clinics, at Early Recovery After Surgery (ERAS) boot camps and on admission to the ward. • Identify a nurse to be responsible for sustaining the change idea on the wards. <p>Resources produced for individual opioid-related harms during the collaborative:</p> <p><u>Waitemata DHB Patient Information Leaflet</u></p> <p><u>Counties Manukau Health Patient Information Leaflet</u></p> <p><u>Counties Manukau Health Staff Guide on Using Patient Information Leaflet</u></p> <p><u>MidCentral DHB Patient Information Leaflet</u></p>	<ul style="list-style-type: none"> • A dedicated staff member is needed to sustain the change idea on the ward. • Patients were interested in how laxatives work. • Staff assumed patients would not want to know how laxatives work. • Patients widely accepted the leaflet as a tool for partnership. • How staff used the patient information leaflet varied, prompting the development of a guidance resource (patient constipation pamphlet). • The information leaflet was included in the ward admission pack for the nurse to discuss with the patient. • Patients did not always receive the information. • Patients remember more information if a staff member goes through it with them.

What	How	Lessons learned
	<p>Capital and Coast DHB Patient Information Leaflet</p> <p> Consider equity and cultural appropriateness.</p>	
<p>Empower patients to ‘speak up’ when in pain or if experiencing adverse drug events to help with timely management of pain and adverse drug events</p>	<ul style="list-style-type: none"> • Use a message to give patients ‘permission’ to ask for help: ‘Please let staff know if you are in pain. No matter how busy we seem, you are important to us.’ 	<ul style="list-style-type: none"> • Barriers reported by patients included; not wanting to bother busy staff, fear of opioid addiction, expectation that negative experiences are a natural part of disease and recovery processes, and poor understanding of the benefit of or need for analgesics.
<p>Improve patient awareness</p>	<ul style="list-style-type: none"> • Develop a patient information poster. • Work with patients to identify appropriate language for the poster. • Work with local kaumātua (elders in Māori society) to ensure the poster is culturally appropriate. • Display patient information posters in every bathroom. • Encourage patients to discuss their bowel movement habits with nursing staff. <p>Resource produced during collaborative:</p> <p>MidCentral DHB Patient Information Poster</p> <p> Consider equity and cultural appropriateness.</p>	<ul style="list-style-type: none"> • It is necessary to engage with the patient population to develop suitable and appropriate posters. • It is necessary to work with cultural advisors to ensure the posters use appropriate language.

What	How	Lessons learned
Give patients easy access to information – information at bedside	<ul style="list-style-type: none"> • Develop a patient information card (in-flight card). • Place at the patient’s bedside within reach of the patient (as patient can be immobile). • Laminate the card, make it easy-to-read and provide information about: <ul style="list-style-type: none"> ○ what an opioid is ○ pain relief ○ managing pain – ‘what you can do’ ○ opioid-related harms. <p> Consider equity and cultural appropriateness.</p>	<ul style="list-style-type: none"> • A hook was needed to hang the in-flight card on the bedside locker.

10.2.3. Measurement to support Element One

Table 10.2.3 describes the process measure for use with Element One in the emerging composite care bundle.

Table 10.2.3: Process measure for Element One in the emerging composite care bundle

Measure	Formula	Operational definition	Exclusion	Population
Percentage of patients provided with information about opioid use and associated harms	<p>Numerator: Total number of patients/consumers and families/whānau who received information</p> <p>Denominator: Total number of patients who were administered an opioid</p>	<p>Family/whānau: Includes any family member, friend or caregiver who is supporting the patient during their inpatient stay; the information is provided so the support person can help the patient to: 1) identify/report any opioid-related harms; and 2) self-manage those harms if they occur</p> <p>Opioid: All opioids (strong and weak, including but not limited to: morphine, oxycodone, fentanyl, pethidine, methadone, tramadol, dihydrocodeine, codeine); includes regular and/or PRN opioids</p> <p>Information about opioid use for pain management and associated risk of harms: Information about the role of opioids in alleviating pain, and how patients can help to prevent and identify opioid-related harms and, if a patient experiences harm, how and when they should alert their care team</p> <p>At a minimum: Information should include the three listed harm areas, but could include other harms</p> <p>In formats appropriate to their needs: Information needs to be tailored to the patient to optimise their understanding. Information should be provided to patients in a format that suits their level of literacy and preference, such as patient leaflet, one-on-one discussion or video</p>	The patient is not in a state to receive or understand the information and the family/whānau, is unavailable	Age 12 years and over admitted to a hospital inpatient area, or their support person

Measure	Formula	Operational definition	Exclusion	Population
		Administered: Gave a medicine to a patient; this includes self-administration by the patient		

10.2.4. Template

Refer to Appendix 4 for the measurement template to use with this care bundle.

10.2.5. Tip

- ✓ Develop a reliable process for providing information to patients/consumers and families/whānau.

10.3. Element Two

Identify patients with an increased risk of opioid-related harm, using standardised risk assessment tools and methods.

10.3.1. Background


Risk assessment tools can effectively identify high-risk patients, which enables interventions aimed at reducing patient harm, decreasing hospital costs and improving postsurgical experiences for the intended subsets of high-risk patients.⁵⁰

10.3.2. Identify patients with an increased risk of opioid-related harm

In an effort to reduce opioid-related harm and improve patient experience, teams involved in the safe use of opioids national collaborative focused on identifying patients with an increased risk of opioid-related harm (Table 10.3.2).

⁵⁰ H Minkowitz, R Scranton, S Gruschkus, et al. 2014. Development and validation of a risk score to identify patients at high risk for opioid-related adverse drug events. *Journal of Managed Care & Specialty Pharmacy* 20(9): 948–58.

Table 10.3.2: Purpose, change ideas and lessons learned in relation to identifying patients with an increased risk of opioid-related harm

What	How	Lessons learned
Identify patients at high-risk of post-operative nausea and vomiting (PONV)	<ul style="list-style-type: none"> • Develop a tool (ie, a sticker) to undertake risk assessment for PONV. • Undertake standardised assessment at pre-admission and on admission to hospital. • Place sticker in the patient’s record when assessing the patient. <p data-bbox="465 603 1057 635">Resources produced during collaborative:</p> <div data-bbox="474 651 721 794" style="border: 1px solid black; padding: 5px; margin: 5px 0;">  </div> <p data-bbox="465 817 1281 849">Southern DHB Pre-operative Nausea and Vomiting Sticker</p> <p data-bbox="465 896 1258 970"><u>Southern DHB SOP Pre-operative Assessment and Post-operative Treatment of PONV</u></p> <p data-bbox="465 986 1303 1018">(Note: Contains a section on non-pharmacological interventions)</p>	<ul style="list-style-type: none"> • Ownership in clinical area can be difficult. • Change idea appears to spread easily.

What

How

Lessons learned

Risk of Nausea and Vomiting

Risk Factors	Points	Points
Female Gender	1	
Non-smoker	1	
History of PONV	1	
History of travel sickness	1	
Postoperative Opioids	1	
Total =	(0 ... 5)	

A total of 3 or more points indicates high risk of post operative nausea and vomiting. Offer prophylactic anti-emetics

Southern DHB Risk Assessment Sticker

Screen patients for risk of OIVI

- Screen new patients that attend surgical pre-assessment clinic.
- Use an appropriate evidence-based assessment tool as part of the formal assessment process for patients attending clinic.

- One DHB team added STOPBANG⁵¹ as part of the formal assessment process.
- Integrating the assessment tool into the pre-operative assessment process improved the reliability of the intervention.
- The process for acute patients should differ from the process for those not attending clinic.
- One of the higher-risk groups of patients (found to have more frequent events) was not

⁵¹ www.stopbang.ca

What	How	Lessons learned																								
		a group routinely assessed in pre-assessment clinic.																								
Refer high-risk patients	<ul style="list-style-type: none"> • After referral, a pharmacist takes an accurate medication history. • Involve the pain team early and on an ongoing basis. 	<ul style="list-style-type: none"> • The prescriber did not always review medication history. • Many opioid prescriptions were based on prescriber preference. • Staff varied in their level of understanding of patient harm. 																								
Track cumulative opioid doses	<ul style="list-style-type: none"> • Use cumulative dose stickers to highlight the cumulative opioid doses patients are given. <div data-bbox="521 671 1218 917" data-label="Form"> <p>Cumulative Opiate OT/PACU Handover OSA Risk: <input checked="" type="checkbox"/> YES/NO</p> <p>Patient has received... Circle all that apply</p> <p>GA <input type="checkbox"/> LA <input type="checkbox"/> Sedation <input type="checkbox"/> Regional/Block <input type="checkbox"/> Epidural <input type="checkbox"/> PCA <input type="checkbox"/> Wound/nerve infusion <input type="checkbox"/></p> <p>Immunohesal Morphine Dose _____ micrograms at _____ hrs / / _____</p> <table border="1"> <thead> <tr> <th>Medication</th> <th>PREOP</th> <th>INTRA-OP</th> <th>PACU</th> </tr> </thead> <tbody> <tr> <td>FENTANYL</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> </tr> <tr> <td>MORPHINE</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> </tr> <tr> <td>PETHIDINE</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> </tr> <tr> <td>TRAMADOL</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> </tr> <tr> <td>PARECOXIB</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> <td>Revised: _____ Dose: _____</td> </tr> </tbody> </table> <p>Please / Observations: _____ High, dose and time</p> </div>	Medication	PREOP	INTRA-OP	PACU	FENTANYL	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____	MORPHINE	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____	PETHIDINE	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____	TRAMADOL	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____	PARECOXIB	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____	<ul style="list-style-type: none"> • Documenting this information and discussing it at staff handover gave staff critical information to use as part of their assessment of patient needs. • The National Medication Chart was the most reliable place to capture this information. • This change idea has prompted a modified protocol for sending patients from the Post-Anaesthetic Care Unit to the ward. Patients who either recently received opioids or received higher doses of opioids have longer monitoring times. • Challenges were: <ul style="list-style-type: none"> ○ ensuring staff discussed this information at staff handover ○ the level of staff awareness of risks for patients who have received high doses of opioids ○ inconsistencies in whether staff completed the sticker.
Medication	PREOP	INTRA-OP	PACU																							
FENTANYL	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____																							
MORPHINE	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____																							
PETHIDINE	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____																							
TRAMADOL	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____																							
PARECOXIB	Revised: _____ Dose: _____	Revised: _____ Dose: _____	Revised: _____ Dose: _____																							

10.3.3. Measurement to support Element Two

Table 10.3.3 describes the process measure for use with the emerging composite care bundle.

Table 10.3.3: Process measure for Element Two in the emerging composite care bundle

Measure	Formula	Operational definition	Exclusion	Population
Percentage of patients that are identified using locally agreed risk assessment tools and methods	<p>Numerator: Total number of patients that were assessed, using a risk assessment tool consistent with hospital guideline, before they are prescribed an opioid</p> <p>Denominator: Total number of patients to whom an opioid has been prescribed</p>	<p>Identify: Assess and evaluate patients using locally agreed risk assessment tools and methods before prescribing an opioid</p> <p>Patients with an increased risk: Patients who have one or more co-morbidities or risk factors that increase the risk of them suffering opioid-related harm compared with patients with no co-morbidities or risk factors</p> <p>Opioid-related harm: At a minimum, this should include OIVI and OINV</p> <p>Opioid: All opioids (strong and weak, including but not limited to: morphine, oxycodone, fentanyl, pethidine, methadone, tramadol, dihydrocodeine, codeine); includes regular and/or PRN opioids</p> <p>Risk assessment tools and methods: Approaches to determine the quantitative or qualitative estimate of risk related to opioid use</p> <p>Prescribed: In practice, authorised an order to supply or administer a substance used or capable of being used to prevent, treat or palliate a disease, or the symptoms or</p>	Where risk assessment is not feasible or prudent due to, example, acuity, or level of consciousness	Age 12 years and over admitted to a hospital inpatient area

effects of a disease for the purpose of clinical treatment of a patient under the authorising person's care

10.3.4. Template

Refer to Appendix 4 for the measurement template to use with this care bundle.

10.3.5. Tip

✓ Opioid use in the operating theatre and Post-Anaesthetic Care Unit affects patients after their transition to the ward.

10.4. Element Three

When prescribing and administering opioids, anticipate, prevent and manage harm using pharmacological and non-pharmacological approaches. These approaches should include: opioid-sparing analgesics and techniques, dietary measures, fluid and co-prescribed laxatives for OIC, rational use of naloxone for OIVI and anti-emetics for OINV.

10.4.1. Background

The reason for using non-opioid analgesics and techniques combined with opioids is to minimise the adverse effects of opioid analgesic medication. Termed 'balanced' analgesia, it involves the use of smaller doses of opioids in combination with non-opioid analgesic drugs (for example, paracetamol, nonsteroidal anti-inflammatory drugs – NSAIDs) and adjuvant analgesics (for example, local anaesthetics, anticonvulsants). Examples of opioid-sparing techniques include, but are not limited to: use of non-opioids (for example, non-steroidal anti-inflammatory drugs, paracetamol, topical agents, adjunct agents, antidepressants, anticonvulsant agents, local anaesthetics), use of techniques (for example, cognitive behavioural therapy, feedback, reassurance, motivational interviewing, resiliency training, acupuncture, massage, bio-feedback, transcutaneous electrical nerve stimulation, physical therapy, ice, heat, vibration, nerve blocks), activities (for example, yoga, Pilates, music therapy, art therapy, stretching, group and individual pain education, therapeutic exercise) and opioid total dose minimising techniques (for example, use of sustained action opioids in tolerant patients, use of effective opioid extending techniques, use of lower potency opioids as first opioid option, and optional or mandatory washout periods).

Opioid analgesic overdose is a life-threatening condition. The unpredictable clinical course of intoxication demands empirical management of this potentially lethal condition.⁵²

10.4.2. Anticipate, prevent and manage harm using pharmacological and non-pharmacological approaches

In an effort to reduce uncontrolled pain and improve patient experience, teams involved in the safe use of opioids national collaborative focused on preventing harm (Table 10.4.2).

Table 10.4.2: Purpose, change ideas and lessons learned in relation to preventing harm through pharmacological and non-pharmacological approaches

What	How	Lessons learned
Prevent harm using pharmacological approaches – anti-emetics for OINV	<ul style="list-style-type: none"> • Reduce the use of ondansetron as a co-prescribed anti-emetic. • Choose alternative treatments in discussion with the Anaesthetic Department. • Introduce a ladder of anti-emetics. • Produce a sticker to guide the prescription of anti-emetics. • Present the sticker at Grand Round. • Include an appropriate balancing measure. 	<ul style="list-style-type: none"> • Staff were reluctant to change practice due to the effectiveness of ondansetron. • If anaesthetists prescribe ondansetron immediately post-operatively, staff continue to prescribe and administer it on the wards

⁵² E Boyer. 2012. Management of opioid analgesic overdose. *New England Journal of Medicine* 367: 146–55.

Resource produced during the collaborative:

Medicine				
P, R, O, C, H, L, O, R, P, E, R, A, Z, I, N, E				
Dose	Units	Route	Frequency	Dose calculation (eg. mg/kg per dose)
_____ * _____	mg	buccal	b d	▲
Dose range if needed		Indication	Pharmacy & special instructions	
3 - 6		N & V	USE 1st	
Medicine				
C, Y, C, L, I, Z, I, N, E				
Dose	Units	Route	Frequency	Dose calculation (eg. mg/kg per dose)
_____ * _____	mg	PO / IV	t d s	▲
Dose range if needed		Indication	Pharmacy & special instructions	
12.5 - 25		N & V	USE 2nd	
Medicine				
O, N, D, A, N, S, E, T, R, O, N				
Dose	Units	Route	Frequency	Dose calculation (eg. mg/kg per dose)
_____ * _____	mg	PO / IV	t d s	▲
Dose range if needed		Indication	Pharmacy & special instructions	
4 - 8		N & V	USE 3rd	

Lakes DHB Anti-emetic Prescription Sticker

Use standard protocol for managing OIVI

- Ensure DHB OIVI Management Protocol is appropriate for the particular DHB.
- It is recommended that an OIVI Management Protocol contains, at a minimum, the following information:
 - naloxone available on all wards where opioids are used
 - flowchart detailing respiration rate and sedation score with the necessary response
 - when to call rapid response team
 - dose of naloxone and how to administer


- No specific testing was involved.

What	How	Lessons learned
	<ul style="list-style-type: none"> ○ ongoing monitoring requirements ○ second dose to be given ○ ongoing monitoring and IV infusion dosing ○ documentation of naloxone use for OIVI in clinical record. <p>Resource produced during the collaborative:</p> <p><u>MercyAscot OIVI Management Protocol</u></p>	
<p>Co-prescribe and administer laxatives</p>	<ul style="list-style-type: none"> ● Introduce a laxative step-wise guide on managing OIC for clinical staff. ● The guide should include preventive non-pharmacological approaches, laxative ladder and the importance of documentation. ● With the completed guide: <ul style="list-style-type: none"> ○ display it on the wards ○ display it in A3 size in clinical areas ○ use it at education sessions and handover meetings ○ use it as an education resource at orientation sessions for resident medical officers ○ display it in doctors' areas of the wards for reference and reinforcement. <p>Resources produced during the collaborative:</p> <p><u>Counties Manukau Laxative Step-wise Guide</u></p> <p><u>Counties Manukau DHB Laxsol Prescribing Sticker</u></p>	<ul style="list-style-type: none"> ● The guide needs to have simple graphics and be easy to use. ● Simplicity encourages staff to use the guide. ● The guide was useful for increasing awareness. ● The rate of appropriate prescribing and administration increased. ● A patient's bowel status has become a discussion point at ward handover and huddle sessions. ● Staff attitude to constipation has changed from seeing it as an accepted complication to seeing it as an unacceptable harm.

What	How	Lessons learned
	<p><u>MidCentral DHB Guideline for Management and Prevention of Opioid Related Constipation</u></p>	<ul style="list-style-type: none"> • It is necessary to reinforce use of the guide at each change in medical staff run. • It is necessary to talk with clinicians about the resource and the rationale behind it.
Use laxative stickers	<ul style="list-style-type: none"> • Develop stickers to remind staff to co-prescribe laxatives. • Print a 'Regular Opioid – Regular Laxative' sticker and attach it to the top of computer screens as a prompt. 	<ul style="list-style-type: none"> • Stickers are low cost and easy to implement. • Stickers are enduring and are still on the computer screens. • This approach may have been too subtle.
Provide natural laxative to patients	<ul style="list-style-type: none"> • Organise with kitchen staff to routinely provide products containing kiwifruit (Kiwi Crush⁵³ and Phloe⁵⁴) and prunes to patients as breakfast options, subject to special dietary requirements. • One option is to buy dry prunes and steam them before serving to make them more palatable. • Another option is to make Kiwi Crush in bulk and decant it into cups with caution labels immediately before serving. • Promote the use of Kiwi Crush or Phloe and prunes to staff and patients. • Discuss the use of Kiwi Crush or Phloe and prunes at ward handover meetings and education sessions. 	<ul style="list-style-type: none"> • These change ideas are easy to implement. • Patients responded positively to Kiwi Crush and prunes and liked having a natural alternative. • Supplies are easy to procure. • Placing Kiwi Crush and prunes on the breakfast tray removed an element of choice so uptake was very high. • The label worked well for those patients whose allergy had not

⁵³ www.kiwicrush.co.nz

⁵⁴ www.phloe.co.nz

What	How	Lessons learned
	<p>Resource produced during the collaborative:</p> <p>KIWICRUSH</p> <p>CAUTION:</p>  <p>Do not drink if you have any allergy to kiwifruit</p> <p>Lakes DHB Kiwi Crush Label</p>	<p>been disclosed. A picture on the label bypassed language barriers.</p> <ul style="list-style-type: none"> • Kitchen staff had to be educated on how to mix Kiwi Crush to provide a consistent mixture for all patients.

10.4.3. Measurement to support Element Three

Table 10.4.3 describes the process measure for use with Element Three in the emerging composite care bundle.

Table 10.4.3: Process measure for Element Three in the emerging composite care bundle

Measure	Formula	Operational definition	Exclusion	Population
Percentage of patients who are prescribed and/or administered an opioid and receive appropriate pharmacological and non-pharmacological approaches to anticipate,	Numerator: Total number of patients who were prescribed and/or administered opioids using a standard order or as per protocol that incorporates at least all the interventions	<p>Prescribing: In practice, authorising an order to supply or administer a substance used or capable of being used to prevent, treat or palliate a disease, or the symptoms or effects of a disease for the purpose of clinical treatment of a patient under the authorising person's care</p> <p>Administering: Giving a medicine to a patient; this includes self-administration by the patient</p>	Any relevant cautions or contraindications	Age 12 years and over admitted to a hospital inpatient area

<p>prevent and manage opioid-related harm</p>	<p>described in the element</p> <p>Denominator: All patients who were prescribed and/or administered an opioid</p>	<p>Opioid: All opioids (strong and weak, including but not limited to: morphine, oxycodone, fentanyl, pethidine, methadone, tramadol, dihydrocodeine, codeine); includes regular and/or PRN opioids</p> <p>Anticipate, prevent and manage harm: Use active guidelines represented in policy and standing orders that assure all three safety phases are represented</p> <p>Pharmacological and non-pharmacological approaches: The use of appropriate and evidence-based, pharmaceutical and non-pharmaceutical based approaches to preventing and managing opioid based harm</p> <p>Opioid-sparing analgesics and techniques: Non-opioid and opioid-reducing alternatives and techniques. Examples include use of non-opioids (eg, NSAIDS, paracetamol, topical agents, adjunct agents, antidepressants, anticonvulsant agents, local anaesthetics), use of techniques (eg, cognitive behavioural therapy, feedback, reassurance, motivational interviewing, resiliency training, acupuncture, massage, bio-feedback, transcutaneous electrical nerve stimulation, physical therapy, ice, heat, vibration, nerve blocks), activities (eg, yoga, Pilates, music therapy, art therapy, stretching, group and individual</p>
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pain education, therapeutic exercise) and opioid total dose minimising techniques (eg, use of sustained action opioids in tolerant patients, use of effective opioid extending techniques, use of lower potency opioids as first opioid option, optional or mandatory washout periods)

Dietary measures: Examples include prunes and Kiwi Crush (or other kiwifruit extract product); serving sizes decided by dietitian or based on hospital policy

Fluid: Use of fluids to prevent or treat dehydration, a known risk factor for constipation

Co-prescribed laxatives: Laxatives prescribed within one day of the opioid being prescribed and administered

Type/s of laxative: Stimulant, softener and osmotic

List of agreed laxatives: Lactulose, macrogol containing laxatives, bisacodyl, sennoside B with or without docusate sodium

10.4.4. Template

Refer to Appendix 4 for the measurement template to use with this care bundle.

10.4.5. Tips

- ✓ Assess patients for pre-existing allergies to dietary measures, before using those measures.
- ✓ Products containing kiwifruit may also contain high levels of potassium and sugar. Check the ingredients first. Use with caution in patients with diabetes/glucose intolerance, hyperkalaemia or pre-existing renal impairment.
- ✓ Consider using ice blocks to reduce the risk of PONV.

10.5. Element Four

Monitor and document to identify harm (sedation level and respiratory rate, bowel movements, nausea and vomiting, pain behaviours/indicators) and effectiveness of any related interventions, using evidence-based guidelines and methods.

10.5.1. Background

All patients must be monitored appropriately to identify harm so that it can be detected at an early stage and appropriate interventions triggered.^{55,56}

10.5.2. Monitor and document to identify harm

In an effort to reduce harm and improve patient experience, teams involved in the safe use of opioids national collaborative focused on improving routine monitoring and documentation (Table 10.5.2).

⁵⁵ C Pasero, M McCaffery. 2011. Chapter 12 – Key concepts in analgesic therapy; Chapter 19 – Management of opioid-induced adverse effects. In: *Pain Assessment and Pharmacologic Management*. St Louis: Mosby Elsevier.

⁵⁶ ML McPherson. 2008. Strategies for the management of opioid-induced adverse effects. *Advanced Studies in Pharmacy* 5(2):52–57.

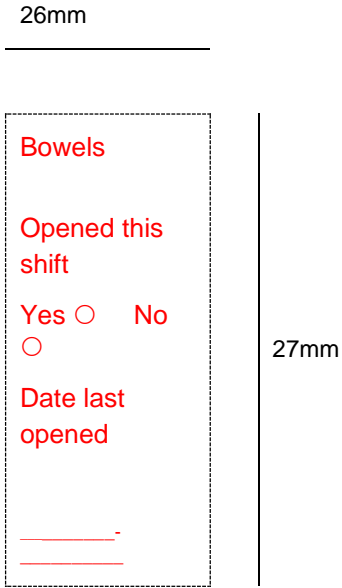
Table 10.5.2: Purpose, change ideas and lessons learned in relation to improving routine monitoring and documentation

What	How	Lessons learned
<p>Improve routine monitoring for pain and effectiveness of any treatment provided to reduce pain</p>	<ul style="list-style-type: none"> • Emphasise the importance of routine pain assessment and documentation by using a combination of approaches to increase awareness and provide reminders, such as through: <ul style="list-style-type: none"> ○ senior leaders, management staff, ward champions and pain team going on walk-a-rounds ○ actively asking ward staff about pain management and progress ○ providing dedicated ward space to show and regularly feed back audit results and ideas being tested. • Introduce nursing champions to help drive behaviour. • Identify senior nursing staff that champion the new process so that the change idea is sustainable. 	<ul style="list-style-type: none"> • By actively asking ward staff about pain management and progress, senior leadership and management staff showed interest and emphasised the project's importance. • Having dedicated ward space to show and regularly feed back audit results and ideas being tested helped ward staff to keep aware of what was being done and to recognise and appreciate the value of their work. • Anecdotal evidence suggests that, even though pain was being routinely monitored and care was not compromised, staff did not always document it. However, knowing that pain scores were being audited, staff retrospectively documented scores, some of which may not necessarily be the actual score. • Nursing champions can drive change in behaviour. • Good communication and awareness were necessary for the champions to work effectively. • Administration time was not allocated and should be considered in the future. • This change idea generated a lot of discussion among the nursing staff and consequently they became more engaged.
<p>Reassess and document pain</p>	<ul style="list-style-type: none"> • Use hourly rounding to introduce a structured and visible framework to support reassessment of pain. 	<ul style="list-style-type: none"> • Nurses surveyed agreed that intentional rounding helped with reassessment and documentation.

What	How	Lessons learned
scores at 60 minutes after administering opioids in patients with pain scores >3/5 (7/10)	<ul style="list-style-type: none"> Standardise documentation on the adult observation chart to show trending and visibility. Use an hourly rounding snapshot survey using a mix of validated questions, including observational and direct questions. 	
Improve sedation score monitoring	<ul style="list-style-type: none"> Reformat the adult observation chart to include sedation score and pain score on the same page as the rest of the observations. Develop a guideline on when to monitor patients on opioids according to route, with summary table on adult observation chart. Provide guidelines in one place for all routes of administration of opioids, which staff can refer to. Introduce sedation scoring using scale of zero to three. Position sedation score next to respiratory rate score on the adult observation chart. 	<ul style="list-style-type: none"> Documentation of these parameters increased as the observations required became more visible to nurses; observations on the back of documentation forms get missed. Even though the place for recording the scores was visible, some nurses still left these parameters blank despite filling in the other observations because they did not recognise the importance of monitoring or did not know the reason for it. Many health professionals do not understand the need to monitor sedation in relation to opioids. It was great to have the scores on adult observation chart for easy reference. Nurses gave positive feedback on the addition of the 'when to monitor' table to the Early Warning Score. Sensitive sedation score helped to identify patients starting to decline, particularly when combined with more frequent monitoring. Running small-group education sessions when a change is made would increase staff knowledge.

What	How	Lessons learned
<p>Improve monitoring and documentation of bowel movements</p>	<ul style="list-style-type: none"> • Ensure staff complete the bowel monitoring section on a patient's care plan. • Educate staff on the importance of monitoring and documentation. • Undertake regular audits and make the results visible to staff. • Create a bowel stamp for use in clinical notes that contains specific fields to improve documentation in the clinical notes. • Introduce the stamp at ward handover and staff meetings. • Provide multiple stamps on the ward so they are readily available. • Feed back to staff on audit results. <p>Resources produced during the collaborative:</p> <p><u>Counties Manukau DHB Bowel Stamp</u></p>	<ul style="list-style-type: none"> • Measures contributing to successful implementation included education of staff, regular auditing and making results visible. • The stamp is a useful reminder to document bowel activity. • This change idea is easy to implement when staff are engaged. • The stamp effectively communicates patient bowel status to the multidisciplinary team. • This stamp facilitates audit as entries on bowel activity are clearly visible. • The use of the stamp has increased levels of awareness of patient bowel status and has led to early intervention where indicated. • Challenges included that: <ul style="list-style-type: none"> ○ some staff would not use stamp regularly ○ some staff would only complete part of the stamp ○ staff did not always use the stamp on night shift if patients had not moved their bowels. • The staff did not document type of bowel motion, so the stamp was amended to include 'type number' as on the Bristol Stool Chart.⁵⁷

⁵⁷ Heaton KW, Lewis SJ. 1997. Stool form scale as a useful guide to intestinal transit time. *Scandinavian Journal of Gastroenterology* 32(9): 920–4.

What	How	Lessons learned
	 <p style="text-align: center;">Nelson Marlborough DHB Bowel Stamp</p>	<ul style="list-style-type: none"> Other clinical areas spontaneously adopted the stamp.
<p>Improve accuracy of nursing documentation for bowel activity</p>	<ul style="list-style-type: none"> Introduce a new format for nursing documentation for elimination as part of 'focus charting': <ul style="list-style-type: none"> Ensure staff document 'days since bowels last opened' in clinical notes Divide elimination into the subcategories of bladder and bowel 	<ul style="list-style-type: none"> Staff were involved in developing the cue card. Multiple communication methods are needed to educate all staff and make them aware of changes.


What

How

Lessons learned








- For bowel, every nursing shift writes if bowels opened and type from Bristol Stool Chart.
- Hold a project kick-off meeting with nursing staff to discuss OIC and new nursing documentation.
- Use a patient story to demonstrate issue with staff.
- Introduce nursing cue card to prompt nursing staff (nursing-led design of cue card).

Resources produced during the collaborative:

REPORT ON BOWELS IN THE CLINICAL NOTES USING FOCUS		
<i>Report on progress to the team using an evaluative statement</i>		
<i>Date Time</i>	<i>Focus/Problem</i>	<i>Clinical note entry</i>
	Bowels	E: Bowels open, type (according to Bristol stool chart) and the amount.
<i>Report on an identified patient problem to the team using A I E</i>		
<i>Date Time</i>	<i>Focus/Problem</i>	<i>Clinical note entry</i>
	Bowels	<p>A: BNO ?/7 (state the number of days bowels not open) <i>State any supporting subjective and objective assessment data, ie patient comments, usual bowel pattern, any discomfort, if abdomen distended, result of PR examination.</i></p> <p>I: State the action you took as a result of this concern. Include past, present and future plan. <i>ie: Discussion with medical team, plan for future management, food and fluids, the use of laxatives, suppositories, enemas.</i></p> <p>E: State how the patient responded to the actions taken. <i>ie: What effect did your actions have. Did the bowels open? How your patient feels now.</i></p>
C: 2219		

MidCentral DHB's Bristol Stool Chart Card

What	How	Lessons learned
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BRISTOL STOOL CHART			
	Type 1	Separate hard lumps	Very constipated
	Type 2	Lumpy and log like	Slightly constipated
	Type 3	A log shape with cracks in the surface	Normal
	Type 4	Like a smooth, soft log or snake	Normal
	Type 5	Soft blobs with clear-cut edges	Lacking fibre
	Type 6	Mushy consistency with ragged edges	Inflammation
	Type 7	Liquid consistency with no solid pieces	Inflammation

MidCentral DHB's Stool Chart

Increase the routine monitoring and documentation of PONV

- Develop a sticker to put in the clinical record.
- Include the sticker on the pre-operative checklist to ensure staff consider the patient's risk factors for PONV while transferring them to surgery.
 - Use the sticker during the first 24 hours post-operatively to document the patient experience of PONV. Its purpose is to:
 - prompt staff to remember to check the patient's risk factors
 - offer anti-emetics if the patient is at high risk of PONV.

- Staff were reliable in using the sticker but this did not always translate into administration of anti-emetics.
- Include the sticker in care pathways (if used) to make it visible and to prompt use.

What	How	Lessons learned
	<p>Resource produced during collaborative:</p>  <p>Southern DHB Pre-operative Nausea and Vomiting Sticker</p>	

10.5.3. Measurement to support Element Four

Table 10.5.3 describes the process measure for use with Element Four in the emerging composite care bundle.

Table 10.5.3: Process measure for Element Four in the emerging composite care bundle

Measure	Formula	Operational definition	Exclusion	Population
Percentage of patients for whom relevant documentation records: sedation level, respiratory rate, bowel function activity, pain behaviours/ indicators and	Numerator: Total number of patients where, at a minimum, sedation level and respiratory rate, bowel movements, nausea and vomiting, pain behaviours/ indicators are recorded	<p>Monitor: Assess or measure using evidence-based local guidelines to determine the type and frequency of this activity</p> <p>Document: Complete relevant documentation, which may include clinical notes, vital sign chart, Early Warning Score (EWS) or any other approved patient-related documentation. This may vary by clinical area:</p>	Nil	Age 12 years and over admitted to a hospital inpatient area

<p>nausea/vomiting status</p>	<p>consistent with the local guideline (eg, frequency and duration of monitoring)</p> <p>Denominator: Total number of patients where an opioid has been administered</p>	<ul style="list-style-type: none"> • sedation level and respiratory rate – assess or measure, and document sedation level and respiratory rate • bowel movements – in written or electronic form, document bowel movements (any passage of stool from the rectum or stoma) assessed at least daily; includes ‘days since bowel moved’; may include consistency, colour and volume of stool, and presence or absence of blood or mucus • nausea and vomiting – assess and document relevant signs and symptoms associated with post-operative nausea and vomiting and/or OINV • pain behaviours/indicators – assess or measure, and document pain behaviours and indicators; these may include: distorted ambulatory, affective distress, facial/audible expressions, seeking help; verbal feedback from patients (that inform a functional pain score or equivalent) or non-verbal cues <p>Monitor and document effectiveness of any actions taken: Monitor and document relevant clinical signs and symptoms that measure the impact of any therapeutic intervention used to prevent or alleviate any opioid-related harm listed in the element</p> <p>Evidence-based guidelines and methods: Includes the use of monitoring protocols with adequate reliability as well as electronic and</p>
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template-based methods of capturing opioid-related harms. A guideline or method (therapeutic intervention) that is supported by evidence could be based on local expert opinion (lower-grade evidence) or, ideally, published literature (higher-grade evidence)

Opioid: All opioids (strong and weak, including but not limited to: morphine, oxycodone, fentanyl, pethidine, methadone, tramadol, dihydrocodeine, codeine); includes regular and/or PRN opioids

Administered: Gave a medicine to a patient; this includes self-administration by the patient

10.5.4. Template

Refer to Appendix 4 for the measurement template to use with this care bundle.

10.5.5. Tip

✓ Automated vital signs monitoring system and clinical decision support algorithms may support and enhance clinical practices.

10.6. Element Five

Regularly educate staff about pain management and opioid use, opioid-related harms and risk reduction strategies. Education includes assessment of knowledge and skills, educational intervention/s and reassessment.

10.6.1. Background

Effective management of acute pain depends on close liaison with and education and training of all staff.⁵⁸ Appropriate education of medical and nursing staff is essential to managing more sophisticated forms of analgesia safely and effectively. Staff education may take several forms; the evidence for any benefit or the best educational technique is inconsistent.⁵⁹

10.6.2. Educate staff about pain management and opioid use

In an effort to reduce uncontrolled pain and improve patient experience, teams involved in the safe use of opioids national collaborative focused on increasing the knowledge of nurses and prescribers about opioid use (Table 10.6.2).

Table 10.6.2: Purpose, change ideas and lessons learned in relation to increasing knowledge of opioid use

What	How	Lessons learned
Improve staff knowledge of uncontrolled pain	<ul style="list-style-type: none">• Design a survey using Survey Monkey⁶⁰ to identify gaps in staff knowledge.• Provide short education sessions (15 minutes) at handover. Sessions can take the form of 'myth busters' with multi-choice questions to review commonly or	<ul style="list-style-type: none">• Staff were discussing analgesia more often on the ward.• People needed significant prompting before they completed the survey.• Staff understanding of naloxone use was poorer than expected. Other DHBs carrying out the same survey had

⁵⁸ Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists. 2013. *Guidelines on Acute Pain Management*. Melbourne: Australian and New Zealand College of Anaesthetists.

⁵⁹ SA Schug, GM Palmer, DA Scott, et al. 2015. *Acute Pain Management: Scientific Evidence, Fourth Edition 2015*. Melbourne: Australian and New Zealand College of Anaesthetists.

⁶⁰ www.surveymonkey.com

What	How	Lessons learned
	<p>easily misunderstood concepts. Discuss the answers with the group.</p> <ul style="list-style-type: none"> • Provide staff with education, guidance resources and documentation standards for pain management. • Provide ward education on pain monitoring and life-threatening complications related to the use of intravenous patient-controlled analgesia or patient-controlled epidural analgesia. <p>Resources produced during the collaborative:</p> <p><u>Waitemata DHB Agenda for Pain Study Day</u></p> <p><u>Waitemata DHB Pain Study Day Objectives</u></p> <p><u>Waitemata DHB e-Learning Module Introduction</u></p> <p><u>National Prescribing Service Pain Management Module</u></p> <p><u>Waitemata DHB Staff Education Booklet</u></p> <p><u>Canterbury DHB Nurse Survey</u></p>	<p>very similar results, suggesting this result is likely to be the same for many DHBs in New Zealand.</p> <ul style="list-style-type: none"> • Staff often learn from experience and other staff. • The majority of staff stated they would like more education. • Staff responded positively to short, targeted messages. • The sessions generated great discussions. • Student nurses on the wards also attended. • It was difficult to get everyone to attend. • The sessions needed to be repeated several times, which is labour intensive. • The education sessions were fun and interactive and clearly demonstrate the need for an integrated health system where different knowledge and skills come together to make improvements. • Through the process of developing the educational and guidance resource, clinicians from various disciplines had to critically reflect on existing practice and best practice and to recommend pragmatic guidelines (eg, time, resource, value added of suggested monitoring parameters). • The completed resource was particularly useful because, for the first time, the DHB had a single formal guidance resource that provided clear, standardised and practical instructions on pain management. • Developing the resource was complex and resource intensive.

What	How	Lessons learned
		<ul style="list-style-type: none"> • Distributing the completed resource was a challenge. It was published online and printed copies were available. A communication and dissemination plan plus a structured educational programme would have made it more visible and led to its wider distribution among staff. • Comparing current knowledge among staff with what ward educators thought they knew provided insight into existing knowledge gaps. • Providing education on routine pain assessment and documentation helped to address and draw attention to what is expected. • The education sessions spurred staff to learn more about general pain management. Subsequently more staff enrolled in the pre-existing pain management education programmes and online eLearning – pain management platform. • Evidence showed that routine pain monitoring and documentation practices improved significantly. • Some staff may not have received the education due to differing shifts. Because of staff rotation and changes, education needs to be provided regularly. • To sustain the change idea, repeated reminders may be required. • Education helped address and highlight what is expected.
Develop nursing leadership in ward	<ul style="list-style-type: none"> • Develop nurse champions. • Buddy experienced nursing staff with a nurse specialist to share learnings about effective pain management, 	<ul style="list-style-type: none"> • Nursing staff were very receptive to peer buddying. • This change idea to increase individuals’ knowledge and understanding was time consuming.

What	How	Lessons learned
	<p>promote the changes tested, raise the profile of pain management and provide support.</p>	
<p>Increase knowledge and awareness of OIVI</p>	<ul style="list-style-type: none"> • Run a poster-based educational campaign outlining: <ul style="list-style-type: none"> ○ naloxone use across the hospital ○ how to balance pain and sedation ○ sedation scores ○ new guideline about oral opioid monitoring ○ patient pain expectations ○ equivalent opioid doses. • Conduct small-group teaching and organisation-wide teaching that includes: <ul style="list-style-type: none"> ○ opioid education at an annual update organisation day ○ a pain study day. • Written education includes: <ul style="list-style-type: none"> ○ addition to adult observation chart of summary table on frequency of observations according to opioid prescribed ○ new policy on opioid clinical management ○ policy guidelines on management of sedation ○ communications through internal staff newsletter. • Prescriber education includes: <ul style="list-style-type: none"> ○ written guidance, in the internal anaesthetic specialist newsletter, from a pain specialist on safe and appropriate prescribing of opioids. 	<ul style="list-style-type: none"> • Staff in general gave positive feedback on the poster (with reservations as noted below). • Ward staff were having conversations about OIVI, particularly with the pain team • There were too many posters. • Whether staff read the posters was uncertain. • It was hard to educate about complex issues via posters. • Small-group teaching proved effective. Staff improved from pre- to post-education quizzes. • Not all staff received training. • Changes to adult observation chart increased monitoring. • Education increased awareness among staff. • Methadone prescribing on the ward reduced. • Prescribers began to write better parameters and guidance.

What	How	Lessons learned
	<p>Resources produced during the collaborative:</p> <p><u>MercyAscot Example of Written Communication to Nursing Staff</u></p> <p><u>MercyAscot Introduction to Campaign Poster</u></p> <p><u>MercyAscot Education Poster on Equivalent Opioid Doses</u></p> <p><u>MercyAscot Education Poster Balance Pain Management/Sedation</u></p> <p><u>MercyAscot Education Poster New Guideline Oral Opioids</u></p> <p><u>MercyAscot Education Poster Patient Expectations – Pain Goals</u></p> <p><u>MercyAscot Education Poster Sedation – Escalation Guide</u></p>	
<p>Raise awareness of OIVI</p>	<ul style="list-style-type: none"> • Identify patients who had received naloxone through duty manager reports and send forms to the resus committee. • Audit these patients to establish the events that led to naloxone administration and identify any trends. • Develop a poster campaign in staff areas to raise awareness of high-risk patients. 	<ul style="list-style-type: none"> • This change idea provided insight into events and a focus for education poster campaign. • Health professionals differ in their approach to auditing and in the level of importance they assign to harms. • There were too many posters. • Whether staff read the posters was uncertain. • It is hard to educate about complex issues via posters.

What	How	Lessons learned
	<ul style="list-style-type: none"> Conduct an anaesthetic review of cases of naloxone use and notify anaesthetic advisory group (or similar body). <p>Resource produced during the collaborative:</p> <p>MercyAscot Elderly High Risk Poster</p>	<ul style="list-style-type: none"> Audit with multi-professional review may have identified more trends. Staff had varying levels of understanding of patient harm.
Educate house officers about OIC	<ul style="list-style-type: none"> Invite a house officer to be part of the project team. Ask them to spend time with the other house officers to explain the rationale for prescribing laxatives with opioids Include the subject in the Post Graduate Year One orientation programme and medication safety. Promote prescribing 'like for like' – that is, prescribing: <ul style="list-style-type: none"> PRN laxatives if PRN opioids have been prescribed regular laxatives if regular opioid analgesia has been prescribed. 	<ul style="list-style-type: none"> Initial education was successful but not sustainable due to house officer rotations. Therefore education was included in orientation. House officers were receptive to and genuinely interested in this work.
Educate nurses about OIC	<ul style="list-style-type: none"> The clinical nurse manager spends time educating nurses on the ward. Give reminders at staff meeting about the need to monitor patients' bowel movements and administer laxatives proactively. <p>Resources produced during the collaborative:</p> <p>MidCentral DHB Opioid Quiz</p>	<ul style="list-style-type: none"> The rate of patients receiving laxatives increased. Improvement in practice was not universal across all staff.

What	How	Lessons learned
<u>MidCentral DHB PowerPoint Presentation</u>		
Educate staff about OIC	<ul style="list-style-type: none"> • Provide multiple approaches to target education on OIC to medical and nursing staff. These can include: <ul style="list-style-type: none"> ○ introducing a staff guideline on preventing and managing OIC ○ using case studies, real examples or patient stories to help inform staff ○ speaking at the Grand Round sessions ○ displaying posters in staff areas to promote the ‘reducing constipation harm from opioids’ project. Posters should remain in clinical areas throughout the project. • Formal staff education sessions can be held to explain: <ul style="list-style-type: none"> ○ the ‘reducing harm from opioids’ project ○ how the project developed ○ the methodology (process, balance and outcome measures) ○ interventions ○ future work. 	<ul style="list-style-type: none"> • It was difficult to provide education to all staff due to staff schedules. • Medical staff responded positively to Grand Round session. • Most nurses did not recognise tramadol as an opioid. • Most medical staff indicated they would prescribe ondansetron despite its constipating side effects. • Not all staff were able to be released from clinical areas to attend education session. • Eye-catching graphics are important in developing posters that get your message across.

10.6.3. Measurement to support Element Five

Table 10.6.3 describes the process measure for use with Element Five in the emerging composite care bundle.

Table 10.6.3: Process measure for Element Five in the emerging composite care bundle

Measure	Formula	Operational definition	Exclusion	Population
Percentage of staff who had assessment and education completed annually	<p>Numerator: Total number of staff on a ward/hospital assessed, provided with an educational intervention, and reassessed for opioid-related knowledge and skills (annually)</p> <p>Denominator: Total number of permanent staff, and non-permanent staff employed more than 30 days</p>	<p>Regularly: Annually at a minimum</p> <p>Staff: All prescribers, nurses, pharmacists and other allied health professionals who prescribe, dispense or administer opioids</p> <p>Opioid: All opioids (strong and weak, including but not limited to: morphine, oxycodone, fentanyl, pethidine, methadone, tramadol, dihydrocodeine, codeine); includes regular and/or PRN opioids</p> <p>Knowledge and skills: Includes knowledge of:</p> <ul style="list-style-type: none"> • opioid use and pain management • risks associated with opioid use (at a minimum, OIC, OIVI and OINV) • risk reduction strategies (including use of laxatives and non-pharmacological interventions for OIC; naloxone use for OIVI; anti-emetics for OINV) • monitoring and documentation requirements related to pain, and for detecting OIC, OIVI and OINV <p>Educational intervention/s: Electronic, paper-based or other teaching method</p>	Non-permanent staff employed 30 days or less	Permanent staff, and non-permanent staff employed more than 30 days

Assessment and reassessment:
Electronic or paper-based appraisal of
knowledge

10.6.4. Template

Refer to Appendix 4 for the measurement template to use with this care bundle.

10.6.5. Tip

✓ Annual updates are an opportunity to regularly update knowledge.

10.7. Balancing measures

The suggested balancing measure for this bundle is diarrhoea.

Note: OIC, OINV, OIVI and uncontrolled pain are also balancing measures; these are automatically covered because they are already outcome (harm) measures within the individual elements of this bundle.