



Third Party IHealth Review - Status Report

June 16, 2017

Background and Report Contents

A Third Party Review of IHealth was commissioned by the Ministry of Health and Island Health in July 2016 in response to concerns related to the safety of the advanced EHR tools, and end user confidence in using the new tools safely. The review was led by Dr. Doug Cochrane, BC Patient Safety and Quality Officer, and the IHealth Review report was published in November 2016.

The report concluded that the advanced EHR tools should continue to be used while refinements are made, and included 26 recommendations to guide re-engagement and improvement efforts. Through the report, Dr. Cochrane recommended that a functional revalidation of the advanced EHR toolset be completed as an initial step to confirm where the EHR is working as designed, and where priority improvements or changes are required.

The table below provides an 'at a glance' view of the 26 IHealth Review recommendations, by lead and primary category/type. This report provides a status summary on the Functional Revalidation efforts, and 19 other active recommendations.

Recommendation	Lead	Status % Complete	EHR Review/ Refinement	Monitoring, Quality Assurance	Policy, Practice, Education	Future Oriented	Page
23. Functional Revalidation	IH/MoH	17%	●				4
1. Limit maximum range doses	Island Health	100%	●				5
2. Dose checking for high risk medications	Island Health	45%	●				
9. Patient summary	Island Health	80%	●				6
10. Validate device association	Island Health	100%	●				7
14. Simplify user interface	Island Health	18%	●				8
15. Canadian terminology	Island Health	90%	●				9
3. Monitor high risk medications	Island Health	31%		●			10
7. Monitor results distribution	Island Health	100%		●			11
8. Monitor message center	Island Health	61%		●			12
11. Ensure system performance	Island Health	100%		●			13
22. Clarify/refine issue reporting	Island Health	100%		●			14
4. Medications at transfer	Island Health	84%			●		15
5. Multiple narcotics	Island Health	10%			●		16
6. MRP and copies to	Island Health	66%			●		17
12. Refresh downtime processes	Island Health	100%			●		18
17. CPOE in urgent situations	Island Health	100%			●		19
21. Refresh Training/education	Island Health	81%			●		20
25. Commit to working through conflict	Island Health	30%			●		21
26. Action Island Health policy as required	Island Health	100%			●		22

Future Reporting

16. Future activations - staffing	Island Health					●
18. Staffing for NRGH ED – CPOE Meds	Island Health					●
19. Meds ordering in the NRGH ED and ICU	Island Health					●
20. Workflow redesign	Island Health					●
24. Go-forward plan	Island Health					●

Ministry of Health Led

13. PharmaNet Redesign	MoH	
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The accountability structure for all of the recommendations is summarized in the Appendix.

June 2017 Reports – Status Summary and Report Highlights

Status Summary

To-date, the active IHealth Review recommendations are 60% complete, with 8 of the 20 recommendations being 100% complete. The majority of the outstanding recommendations are targeted for completion by the end of Q2 2017/18.

EHR Quality Council

The newly established EHR Quality Council is a critical decision making body that will support the advancement of the IHealth Review recommendations by providing direction, oversight and acceptance/sign-off on the completion of activities.

The EHR Quality Council held its first meeting in May 2017, and has now met four times. The EHR Quality Council is comprised of regional stakeholders, with a majority representation of NRGH medical staff. The EHR Quality Council has prioritized Recommendation 9: Patient Summary (i.e. the Nursing Narrative) for near term focus and oversight.

Revalidation

Activities related to Recommendation 23: Revalidation, were deferred in March 2017 when efforts were redirected to NRGH CPOE discussions and support. A focused Revalidation event for Residential Care was held recently at the end of May 2017. Plans to reinstate Revalidation activities more broadly are being defined in consultation with the Revalidation Oversight Committee Chairs (MoH Associate Deputy Minister Dr. Lynn Stevenson and Island Health HAMAC Chair Dr. Sam Williams). It is anticipated that the NRGH CPOE Surveillance, Audit and Quality Improvement processes will inform and/or contribute to the Revalidation approach.

Highlights

Key accomplishments in this period include:

- Computerized dose range checking using hard and soft stop alerts reduces prescribing errors at the time of order entry in order to prevent patient harm. Island Health has implemented these safety checks for the following medications: Hydromorphone, Fentanyl and Morphine.
- A successful mock “Code Grey (System Failure)” drill was held on May 5th to ensure all downtime procedures are accurate and working properly.
- During revalidation groups expressed concerns about computer-related issues. A focused review was completed and 126 computers at NRGH were upgraded in April and May. Dufferin and Oceanside are being upgraded now.
- Multiple new supports were put in place for providers including the “EASI” Support Button: short for “Error and System Issue Support”; a one click button within the application that launches a request for service or system feedback on a function. Also a custom (CPOE Communication Order) order was created that is monitored by Clinical Informatics with a defined response time for the purpose of assisting a provider with finding and placing an order if they are unable to find it in the orders catalogue.

Recommendation 23: Functional Revalidation

Third Party IHealth Review Recommendation	That the NRGH medical staff and Island Health join in a process to revalidate the order entry and clinical documentation capabilities of the IHealth system and test the ability and suitability of the implemented functionality to meet the clinical care needs of patients based on current clinical workflow. The revalidation process will be supervised by an oversight committee. This committee will receive the results of the clinical reviews and will develop options to address situation(s) where the functionality as provided, does not address the clinical needs in the Island Health context.	
Island Health Response and Action Plan Summary	<p>In collaboration with the Ministry of Health, Island Health will support the formation of the Revalidation Oversight Committee, and participate in the functional revalidation activities.</p> <p>Work teams for each specialty area will assess the current EHR toolset, and identify priorities for change and improvement. Physicians and staff from NRGH, Dufferin and Oceanside Health Centre will be invited to participate in the revalidation work teams through an invitation for expressions of interest. The first wave of revalidation efforts will focus on medication orders management. A detailed analysis of clinical documentation will follow.</p>	
Oversight and Accountabilities	Oversight	Island Health Board through President and CEO
	Accountable	Revalidation Oversight Committee
	Report Out	NRGH, Dufferin, OHC sites; Program Quality Councils as Required
	Responsible	Revalidation Work Teams

Progress and Plans

Activities Completed

- The first Revalidation (End to End for Medication Management) event was held on Monday, February 20th with over 70 participants in attendance.
- Subsequent events were held for the Emergency Department, Surgery and Anaesthesia, Hospitalists and Family Practice, with 30-40 participants in each session.
 - No surgeon was able to attend due to an urgent clinical requirement and therefore, another session with Surgery will be held.
- Technology and infrastructure concerns identified through the Emergency Department Revalidation session have been actioned and addressed.
- Revalidation Events were deferred to support NRGH CPOE related discussions and support (Feb 24-Mar29).
- The Residential Care revalidation event was completed on May 25, 2017.

Activities Planned

The Revalidation Oversight Committee will meet on June 21, 2017 to review discuss the go-forward plan and timelines.

Recommendation 1: Limit Maximum Dose Ranges

Recommendation 2: Dose Range Checking for High Risk Medications

Third Party IHealth Review Recommendation	<ol style="list-style-type: none"> 1. Island Health analyze and correct the medication ordering process that allows medication doses exceeding accepted dose ranges to be ordered. 2. Island Health implement a dose checking algorithm for high risk medication orders to ensure that prescribers are alerted to excessive doses or frequencies. Dispensing doses above recommended levels should require an explanation from the prescriber and be covered by a clinical care policy. 	
Island Health Response and Action Plan Summary	<p>Recommendations 1 and 2 relate to the prevention of medication errors due to incorrect and excessive dosing, and will be addressed by:</p> <ul style="list-style-type: none"> • Reducing risk of ordering medication doses exceeding acceptable ranges through expanded order sentence content, and reducing instances where doses can be changed. • Implementing dose range checking for select high risk medications. • Implementing a high risk medication flag in the EHR . • Implementing duplicate RN signature on administration of high risk medications where appropriate. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	Primary: Therapeutics Stewardship and Safety (TSS) Council
		Secondary: EHR Quality Council
	Report Out	Combined Quality Operations Committee, HAMAC
Responsible	Medication Safety, Pharmacy, Informatics	

Progress and Plans

Activities Completed

- Action plan reviewed and approved by EHR Quality Council.
- Dose range checking for hydromorphone (implemented March 27), fentanyl and morphine (implemented May 17) is being piloted by hospitalists at NRGH.
- High Risk Medication flag was reviewed by the Orders Management Clinical Decision Support committee and it was identified that there was little clinical value to enable this functionality for front-line staff. As such, a decision was made by this committee to not activate this functionality.
- Free Text Dose Warning has been updated to promote the use of standard prebuilt order sentences.
- Prebuilt order sentences have been increased ~50% since go-live to over 12,000 inpatient order sentences and 20,000 outpatient order sentences.

Activities Planned

- Dose range checking pilots for Heparin, Dalteparin, Enoxaparin and Digoxin are planned for the week of June 19th.
- Dose range checking functionality will be expanded to the remaining providers upon analysis and conclusion of pilots.
- Duplicate RN signature on administration of high risk medications to be reviewed by the TSS Council.

Recommendation 9: Patient Summary

Third Party IHealth Review Recommendation	Island Health implement a process that consolidates nursing and other observations and displays this information on the patient summary layouts for every type of user.	
Island Health Response and Action Plan Summary	Island Health will optimize views of nursing and allied health documentation through: <ul style="list-style-type: none"> • Review of Nursing documentation best practices/policies to clarify use of nursing progress notes and other forms of nursing textual documentation such as annotations. • Implementation of a 'Patient Summary' view in the EHR consolidating nursing documentation and other care provider observations. • Future engagement with peer organizations and Cerner architects on innovative and intuitive patient summary views. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	EHR Quality Council
	Report Out	Combined Quality Operations Committee, HAMAC, Practice and Operations Committee
	Responsible	Professional Practice Quality Systems - Clinical Informatics, Health Information Management, Clinical Applications

Progress and Plans

Activities Completed

- After dialog with the NRGH site, a new Nursing Handoff tool was being piloted on Floor 1 that consolidates nursing handoff information and allow for easier nursing shift transition. It was deployed to the entire site on May 24th.
- The new Patient Timeline tool has been reviewed and approved by the EHR Quality Council. This new one-page patient summary view has been implemented for nurse positions at NRGH. It will support nurses knowing what recent activities have been performed on their patient and support nursing shift transition.
- Communication and education on the above changes in practice to the NRGH site.

Activities Planned

- The new Nursing Handoff is deployed to the NRGH site and the Clinical Nurse Educators will continue to educate the nursing staff.
- Further customization of the Patient Timeline for other specialties will be operationalized through engagement and improvement cycles.

Recommendation 10: Validate Device Association

Third Party IHealth Review Recommendation	Island Health ensure that the ability to match a monitor and/or ventilator to a patient is restricted to designated users and that bar coding or other technology be used to ensure the integrity of the patient/monitor (ventilator)/location match.	
Island Health Response and Action Plan Summary	Island Health will ensure accurate association between ventilators, monitors and patients, and provide tools to support the integrity of the association.	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	Quality Systems (IM/IT)
	Report Out	EHR Quality Council
	Responsible	Quality Systems – Clinical Applications

Progress and Plans

Activities Completed

- Audit completed of Emergency, Critical Care and the Neonatal Intensive Care Unit devices/monitors to confirm no recurrence of mismatches.
- New processes implemented on April 4th for both deployment and education to ensure there is no repeat of this issue.
- Reported out to IHealth Executive Leadership as the EHR Quality Council had not begun meeting at the time this work was completed.

Activities Planned

- This response is now complete.

Recommendation 14: Simplify User Interface

Third Party IHealth Review Recommendation	Island Health simplify the user interface to include only the clinically required parts of a process or workflow and base these design changes on human factors, interface design principles and user co-design.	
Island Health Response and Action Plan Summary	<p>The EHR tools and associated workflow processes will be simplified where possible to improve usability. The action plan includes:</p> <ol style="list-style-type: none"> 1. Engage Canadian Cerner peer health systems to leverage any efforts undertaken to improve usability and incorporate learnings into plans. 2. Engage EHR Quality Council on approach for engaging end users in improvement process. <ul style="list-style-type: none"> • Anticipate need to align with Functional Revalidation process, where the requirements for usability-related changes will also be identified. • Recommend that priority be placed on changes that simplify the display of orders (e.g. order entry formats and quick orders) 3. Complete process as directed by EHR Quality Council, including implementation and evaluation of improvements. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	EHR Quality Council
	Report Out	Combined Quality Operations Committee, HAMAC, Practice and Operations Committee
	Responsible	IHealth, Local Work Teams

Progress and Plans

Activities Completed

- More than 60 user interface and workflow enhancements have been completed, including:
 - Simplification of bolus ordering process,
 - Change of user defaults to facilitate ease of navigation and user workflow,
 - Redesign of range dose medication build,
 - Decrease in non-essential alerts,
 - Improvements to the usability of the eMAR,
 - Creation of new tools such as the Transfusion Medicine Summary Page and Diabetic Flow Sheet,
 - Creation of a new orderable to provide physicians with in-the-moment order entry support for orders they may have difficulty finding, and
 - Improvements to Orders search so that search results return in alphabetical order
- Shared learnings from peer Canadian health systems and workflow analysis for select NRGH specialties with EHR Quality Council to inform plan for further improvements.
- For specific provider specialties, project and clinical informatics teams have met with areas to capture specifically requested optimizations to support improves to the user interface.

Activities Planned

- As directed by the EHR Quality Council, and as identified through Revalidation efforts, continue to refine and optimize the EHR with usability as a core principle

Recommendation 15: Canadian Terminology

Third Party IHealth Review Recommendation	Island Health correct errors in terminology and ensure Canadian context is reflected throughout the EHR (e.g. Celsius vs Fahrenheit).	
Island Health Response and Action Plan Summary	<p>Terminology will be corrected to ensure the Canadian context is reflected throughout the EHR. This action plan includes:</p> <ol style="list-style-type: none"> 1. Complete audit to determine what remaining non-Canadian terms exist in the EHR. 2. Address non-Canadian terms on a case by case basis (some instances support current practices, e.g. measurement of wheelchair dimensions in inches). 3. Document preventative maintenance and testing for when new software packages are uploaded to the EHR. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	Quality Systems (IM/IT)
	Report Out	EHR Quality Council
	Responsible	Quality Systems - Clinical Informatics, Clinical Applications

Progress and Plans

Activities Completed

- Follow up audit completed.
- Some imperial terms kept to align with clinical practice. Approval obtained from directors on exceptions where Canadian terminology will not be adopted (e.g.: wheelchairs are referred to in Canada by their depth, height, width in inches).
- Process created for ensuring future packages are reviewed and addressed prior to deployment.
- Process created to handle non-Canadian terms should they get missed prior to future deployments.
- Concerns related to non International System of Units (SI) units based on American content have been mitigated through their removal in Knowledge Driven Medication Ordering (KDMO).

Activities Planned

- Approval by EHR Quality Council that work completed to date addresses the concerns raised.

Recommendation 3: Monitor High Risk Medications

Third Party IHealth Review Recommendation	As part of the quality assurance measurement system for medication use, Island Health concurrently monitor high risk medication dosing, timing of administration, route of administration and duplicate orders for the same medication in a patient.	
Island Health Response and Action Plan Summary	Island Health will complete the following to support monitoring of high risk medications: <ol style="list-style-type: none"> 1. Evaluate existing reports and complete any changes required. 2. Share quality assurance reports and exceptions with clinical leaders to support local awareness and quality improvement efforts. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	Therapeutic Safety and Stewardship Quality Council
	Report Out	EHR Quality Council, Quality Operations Committee, HAMAC
	Responsible	Pharmacy

Progress and Plans

Activities Completed

- Review and monitoring of medication reports continues.
- High Risk medications have been prioritized for duplicate checking. Duplicate order alerts for medications such as heparin and warfarin have been enabled for one year. Duplicate order reports will be provided on a regular basis to the Orders Management and Clinical Decision Support (OMCDS) committee for evaluation and action.
- Alerts for medications not administered in a timely manner (two hours late and not rescheduled) have been enabled. Evaluation is under way to determine the efficacy of this alerting.

Activities Planned

- Duplicate order alerts for Narcotic analgesics (In Progress – See Recommendation 5)
- Duplicate order alert reports to be provided to oversight committee and reviewed by OMCDS committee.
- The OMCDS committee will continue to monitor medication reports.

Recommendation 7: Monitor Results Distribution

Third Party IHealth Review Recommendation	Island Health ensure that diagnostic imaging, laboratory and other test results, provided by NRGH or other Vancouver Island facilities are being received by the providers responsible to take action on them.	
Island Health Response and Action Plan Summary	<p>Monitoring and reconciliation processes are in place for both paper and electronic distribution of documents to external providers. Automated alerting mechanisms exist to identify any exceptions.</p> <p>Documentation that explains how, and under what circumstances, documents are distributed will be completed to support provider education and communications.</p>	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	EHR Quality Council
	Report Out	Quality Operations Committee, HAMAC
	Responsible	Quality Systems – Operations

Progress and Plans

Activities Completed

- Documentation updated/created that describes how report distribution works in both electronic and paper environments.
- Electronic/Paper distribution reconciliation mechanism reviewed and updated to track transactions from the source to the destination and alerts business areas when exceptions occur for follow up, exceptions are kept until resolved.
- Education and Communication materials were developed and transferred to the Provider Education team for final approval and deployment.

Activities Planned

- This response is now complete.

Recommendation 8: Monitor Message Center

Third Party IHealth Review Recommendation	Island Health monitor the EHR messaging system to ensure that the correct responsible individual(s) are receiving communications.	
Island Health Response and Action Plan Summary	<p>Messages within the EHR (via an application called Message Center) are monitored to ensure that messages are sent, received, acknowledged and actioned by the appropriate providers and/or other recipients. This includes the management of misdirected or refused messages. The action plan includes:</p> <ol style="list-style-type: none"> 1. Development of a Message Center policy. 2. Implementation of processes for monitoring and reporting against the policy. 3. Educate providers on use of Message Center, including use of pools and proxies. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	EHR Quality Council
	Report Out	Quality Operations Committee, HAMAC
	Responsible	Quality Systems – Health Information Management

Progress and Plans

Activities Completed

- Workflow review completed for Health Information Management (HIM) components. Policies and procedures have been put in place to notify physicians regarding deficient documents using message centre notification and automated letters.
- Administrative policy has been updated to ensure external notification in the event a provider does not sign off documentation.
- Operational procedures are in place for refused DI results, lab results including Lifelabs results, documents and deficiencies.
- Education and communication to all Message Centre users on updates to processes.

Activities Planned

- Engage EHR Quality Council on options to extend signoff timelines for certain areas such as Mental Health or to release multiple reports for provider documentation – one Preliminary report and another Final when signed by the Provider.
- Work continues with refused co-signed orders including development of a report listing orders that haven't been co-signed.
- Work continues to ensure refused orders are examined to assess reason for refusal and ensure that the order is routed to a correct provider for signature, or is otherwise dealt with in accordance to agreed policies of Island Health.
- Education of all Message Center users will be managed as a part of the response to MRP Copies to (see Recommendation 6).

Recommendation 11: Ensure System Performance

Third Party IHealth Review Recommendation	Recognizing the dependency of the all care processes on the IHealth system, Island Health provide an analysis of system failures (network outages, system and machine hang-ups, peripheral failures and peripheral mismatches) and upgrade hardware where the network and work stations are underpowered for the demands placed on them.	
Island Health Response and Action Plan Summary	<p>Processes and reporting to support analysis of system performance and system issues are in place. This action plan includes:</p> <ol style="list-style-type: none"> 1. Review and refresh operational reports as necessary for key system changes, planned and unplanned downtime/failures, hardware maintenance and turnover. 2. Publish reports on the Intranet to support transparency to end users and other stakeholders. 3. Proactive shadowing to validate system data and reports, and identify any preventative actions that can be taken. 4. Take action as necessary to ensure system performance. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	Quality Systems (IM/IT)
	Report Out	EHR Quality Council
	Responsible	Quality Systems - Operations

Progress and Plans

Activities Completed

- The IM/IT Department conducted extensive engagement onsite at NRGH to address the hardware/software issues falling outside of the standard support procedures as reported by the Emergency Department Revalidation Session.
- Outputs from the onsite engagement further improved standard support procedures to reduce the chance of a repeat occurrence from taking place.

Activities Planned

- The response to this recommendation is complete and has been operationalized, with ongoing proactive monitoring processes in place.

Recommendation 22: Clarify/Refine Issue Reporting

Third Party IHealth Review Recommendation	Island Health clarify for all users the reporting methods, processes and expectations for IHealth related events, both technical and sociocultural to ensure learning from the observations of users and to ensure that the review processes have the highest integrity. Feedback on the status of an issue should be provided directly to the reporter(s) if known, within a specified period of time known to the reporter.	
Island Health Response and Action Plan Summary	<ul style="list-style-type: none"> • Island Health will clarify reporting mechanisms and processes for IHealth related events, and ensure feedback is provided to the reporter on actions taken to address issues and concerns. • Methods to increase transparency and tracking on the status of reported issues will be pursued • New mechanisms to share information about issues identified and resolved will be established, with focus on clinical relevancy and consumability. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	IHealth, Operations, Quality and Safety
	Report Out	EHR Quality Council Quality Operations Committee, HAMAC
	Responsible	IHealth, Quality Systems – Clinical Applications, Clinical Informatics, Quality and Safety

Progress and Plans

Activities Completed

- Multiple new ways for Providers to provide feedback have been implemented since go-live. Each has been designed to better ‘close the loop’ on feedback provided. These reporting and feedback mechanisms include, but are not limited to:
 - EASI Support Button: short for “Error and System Issue Support”; a one click button within the application that launches a request for service or system feedback on a function.
 - CPOE Communication Order: a custom order within Cerner that is monitored by Clinical Informatics with a defined response time for the purpose of assisting a provider with finding and placing an order if they are unable to find it in the orders catalogue.
 - A new Clinical Support Desk: a specialized clinical support service desk that provides real-time feedback on application questions and/or dispatches nursing and physician informatics experts to quickly close the loop within the clinical shift that the concern or question was raised.
 - Specialty Stream regular meetings: a review of priorities from each specialty so that resources are focused on those items that matter most to each stream.
 - Regular communications on system changes: Communications targeted to physicians and nursing staff to close the loop on enhancements being introduced.

Activities Planned

- This response is complete for the NRGH activation, and further refinements will be made over time, and as part of future activations.

Recommendation 4: Medications at Transfer

Third Party IHealth Review Recommendation	To remove the risk of missed medication doses when patients are transferred, Island Health create an algorithm that alerts pharmacy and the ward that medications have not been given when a patient is transferred.	
Island Health Response and Action Plan Summary	<p>At the time of the review, an interim workflow to support patient transfers was in place; this involved the cancellation and re-ordering of medications. This workflow has since been changed and now involves a transfer reconciliation process.</p> <p>In addition to this updated workflow, further actions are planned to ensure staff are notified when medications have not been administered at the time of transfer, including:</p> <ol style="list-style-type: none"> 1. Ensure standardized nursing practice to include review of orders and previous documentation (included in the Medication Administration Record) during nurse handover. 2. Evaluate potential for new Nursing Handover and patient timeline view to support handover processes (see recommendation 9) 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	Nanaimo Local Quality Operations Council
	Report Out	EHR Quality Committee, Quality Operations Committee, HAMAC, Practice and Operations
	Responsible	Practice, Informatics

Progress and Plans

Activities Completed

- Handover processes continue to be reviewed and refined for gaps in education and support. This work is being led by local Quality and Medication Safety staff members supported by Clinical Informatics and the Nanaimo Local Quality Operations Council.
- Deployment of new Nursing Transfer IView Component.

Activities Planned

- The Nursing Transfer IView Component will be reviewed by the Nanaimo Local Quality Operations Council to ensure that it has addressed the concern adequately.

Recommendation 5: Multiple Narcotics

Third Party IHealth Review Recommendation	Island Health address the issue of medication orders persisting on the Medication Administration Record (MAR). In this context, Island Health review its policy permitting multiple narcotics and multiple routes to be ordered concurrently for any patient. A patient specific algorithm should be developed that allows for patients who require concurrently administered narcotics by different routes. Health care providers for all other patients should be alerted when multiple orders and routes are placed.	
Island Health Response and Action Plan Summary	<p>To address this complex issue with region-wide implications, a sub-committee of the TTS council will be formed to amend policies and procedures as required to support the new EHR enabled workflows. The subcommittee will:</p> <ol style="list-style-type: none"> 1. Review Canadian peer sites to gather information on policy, procedures and safety mechanisms for the ordering of multiple narcotics and multiple routes. 2. Review Clinical Decision Support (mCDS) functionality to support ordering of multiple concurrent narcotics and medications. 3. Develop guidelines on when mCDS functionality use is appropriate. 4. Implement a second check process for narcotics, where appropriate 5. Determine whether new policy is required for permitting multiple narcotics. 6. Complete any required on orders management. 	
Oversight and Accountabilities	Oversight	Quality Operations Committee
	Accountable (Decision Making)	Therapeutic Stewardship and Safety Quality Council
	Report Out	EHR Quality Council, HAMAC
	Responsible	Pharmacy, Medication Safety, Practice, Informatics

Progress and Plans

Activities Completed

- Work delayed due to CPOE related discussions at NRGH (Feb 17-Mar 29).
- Clinical Informatics and Medication Safety began working together on opiate ordering principles based on other Canadian peer review health systems.
- A review of the narcotic and controlled drug policy has been completed. Recommendations include a revision to the policy to support best practice when ordering multiple narcotics for any given patient and to include duplicate checking for narcotics – which expands duplicate checking beyond the anticoagulation group.

Activities Planned

- Continue to evaluate prescribing alerts to guide providers when ordering narcotics for patients who are already on narcotics.
- Create a new Opiate Safety Task Force to develop principles and guidelines for the ordering of opiates in acute and chronic pain management.
- Obtain endorsement from the medical governance structure (HMQC/HAMAC) prior to approval by Therapeutic Stewardship & Safety Quality Council.

Recommendation 6: MRP and Copies to

Third Party IHealth Review Recommendation	To ensure that reports are provided to the physicians who are responsible to take action upon them, Island Health review their education curriculum to ensure that users are aware of the processes to designate an individual as the most responsible physician for all or part of a patient’s care and how to flag other individuals for copies of results and information.	
Island Health Response and Action Plan Summary	<p>The education curriculum will be reviewed and updated to address this recommendation; and users will be trained on the relevant functionality. This action plan includes:</p> <ol style="list-style-type: none"> 1. Education of care providers on Message Center use (see Recommendation 8). 2. Review and update of all care provider education materials. 3. Clear differentiation between ‘Most Responsible Service,’ ‘Most Responsible Provider,’ and ‘Ordering Provider’. 4. Incorporation of education materials into Medical Affairs physician onboarding/orientation process. 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	HAMAC
	Report Out	EHR Quality Council
	Responsible	Quality Systems – Education

Progress and Plans

Activities Completed

- A briefing note has been drafted outlining the differences between Most Responsible Service, Most Responsible Provider, and Ordering Provider and will be taken to HAMAC for review.
- Tips and Tricks, and Rounding content regarding Message Center developed and distributed.

Activities Planned

- Education materials will be updated based on the feedback from the HAMAC discussion.

Recommendation 12: Refresh Downtime Processes

Third Party IHealth Review Recommendation	Island Health review down time procedures and the function of “down time computers,” and establish a preventative maintenance and testing schedule.	
Island Health Response and Action Plan Summary	<p>Downtime procedures and tools will be reviewed to ensure reliability of the processes, and maintenance of downtime computers. This action plan includes:</p> <ol style="list-style-type: none"> 1. Identification of deficiencies and gaps within existing downtime tools and procedures; implement updates to address identified issues/gaps. 2. Education regarding resource and process changes. 3. Documentation of preventative maintenance and testing (including hardware items). 	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	Operations – Quality Systems (IM/IT)
	Responsible	Quality Systems (IM/IT) – Clinical Informatics

Progress and Plans

Activities Completed

- Education materials for downtime procedures have been reviewed, validated and updated; education has been provided to responsible staff at NRGH.
- Created accessible inventory of clinical resources on the Island Health Intranet, available during both ‘uptime’ and ‘downtime’, and communicates to end users.
- Implemented checking of all Cerner "724" devices at least once a week by Nursing Unit Assistants to ensure downtime computers are working as intended.
- Mock Code Grey drill completed May 5 2017.

Activities Planned

- This response is now complete.

Recommendation 17: CPOE in Urgent Situations

Third Party IHealth Review Recommendation	Island Health review their current practices with respect to paper ordering and how that process uses the team (physicians, nurses, support personnel, pharmacy and other departments) and develop a policy and process for computerized order entry in urgent situations that optimizes the process by fully utilizing the team and the system.	
Island Health Response and Action Plan Summary	<p>Current ordering practices in urgent situations will be reviewed to ensure the policy and processes for Computerized Provider Order Entry (CPOE) are optimized, fully utilizing the team and the system.</p> <p>The Orders Management and Decision Support Committee (a sub-committee of the TSS Council) will engage stakeholders from Critical Care and ED to discuss practice requirements and options to optimize roles and/or the tools, and identify recommended changes to policy, process and/or the CPOE toolset. Recommendations will be shared with the respective Critical Care and ED Program Quality Councils, and across other Program Quality Councils as appropriate. Approved changes will be implemented.</p>	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable	Combined Quality Structure - TBD
	Report Out	EHR Quality Council, HAMAC, Quality Operations Committee
	Responsible	Critical Care, ED, Practice, Informatics

Progress and Plans

Activities Completed

- Reviewed with Critical Care and ED stakeholders the work completed to date on quick orders and order sets to simplify and improve content and workflow.
- Reviewed existing policy which is to use downtime processes as required in urgent situations.
- Completed six week monitoring period to determine if there are gaps with the existing policy framework identified. No reoccurrences of issues or safety incidents were identified.

Activities Planned

- This response is now complete.

Recommendation 21: Refresh Training/Education

<p>Third Party IHealth Review Recommendation</p>	<p>Island Health incorporate the following into the education plan being developed for NRGH and future implementations:</p> <ol style="list-style-type: none"> Provide clarification of the strategic goals of IHealth for users and reconcile differences in these goals with those of front-line care providers; Provide the rationale for workflow changes that will shift work between users (e.g., data collection, parameters for ordering or administrative tasks such as registration); Explain to every user, based on the work they do, how the system is organized, describe underlying assumptions, terminology, what background rules exist and how and when they are triggered and what they do to the data; Clarify the auditing functions that are operational in the background so that users are aware of when and how tracking of changes in data entry and orders is done and who has access to the audit trail; Develop a curriculum that provides individual training and knowledge for the trainee's role; Train teams so that members understand their roles and how the system will affect these roles and their interactions; Develop post-go live training for individuals and teams who want to optimize the system for their work (power users). 	
<p>Island Health Response and Action Plan Summary</p>	<p>Island Health will incorporate the recommendations into a revised training curriculum, including emphasis on the strategic aims and increasing understanding of the EHR at the individual and team level. Refresh training for providers, with a focus on medication orders management, will continue to be offered. Specialty-specific scripts will be developed to support Recommendation 23: Functional Revalidation, and future education activities. The curriculum will also be updated based on learnings from the revalidation process. It is anticipated that the timing and approach for any focused refresh training efforts will be informed through the revalidation efforts.</p>	
<p>Oversight and Accountabilities</p>	<p>Oversight</p>	<p>Island Health Executive Leadership Team</p>
	<p>Accountable (Decision Making)</p>	<p>IHealth</p>
	<p>Report Out</p>	<p>HAMAC, Practice and Operations Committee</p>
	<p>Responsible</p>	<p>Quality Systems – Education</p>

Progress and Plans

Activities Completed

- Continued to provide refresh training, including education on medication orders management.
- Revalidation supports delayed due to CPOE related discussions (Feb 17-Mar 29).

Activities Planned

- Support Recommendation 23: Functional Revalidation with development of additional specialty-specific scripts for CPOE.

Recommendation 25: Commit to Working Through Conflict

Third Party IHealth Review Recommendation	All parties re-commit to working through areas of conflict.	
Island Health Response and Action Plan Summary	<p>In support of this recommendation, the engagement of third party facilitation will be explored to support a healthy workplace culture across the NRGH site, and relationships and trust with medical staff.</p> <p>The Functional Revalidation process also provides an opportunity for all parties to come together with a shared purpose and to begin working together through areas of concern.</p>	
Oversight and Accountabilities	Oversight	Island Health Executive Leadership Team
	Accountable (Decision Making)	NRGH Clinical and Medical Leadership, others as required
	Responsible	NRGH Clinical and Medical Leadership, Organizational Development, Medical Affairs

Progress and Plans

Activities Completed

- The application period for the culture support Request for Proposal (RFP) is now closed.
- Learning and Organizational Development have launched a series of 2 hour sessions on generating a culture of self-awareness and empathy – "CARE from the Heart" with staff focused on communication practices to engage emotion and conflict effectively.
- 3 sessions on conflict engagement and critical communication skills have been completed with Clinical Improvement and Informatics team, and will continue on a monthly basis.

Activities Planned

- The culture support RFP proposals will be reviewed and a consultant chosen by a multi-disciplinary selection committee.
- Culture support activities planned to begin in September 2017.

Recommendation 26: Action Island Health Policy as Required

Third Party IHealth Review Recommendation	Where violations of Island Health organizational policies are revealed, actions should be taken as defined by the relevant policy.	
Island Health Response and Action Plan Summary	<p>Island Health is committed to ensuring a safe and respectful workplace, and the related organizational policies apply to all Island Health employees, physicians, contractors, students and volunteers.</p> <p>Island Health values the opinions of all of these stakeholders, and encourages direct and open communication. Stakeholders are encouraged to resolve concerns at an early opportunity and in an informal way to maintain positive work relationships, which in turn, allow us to provide the best patient care possible.</p> <p>Where policies are violated, appropriate actions will be taken as defined by the relevant policy.</p>	
Oversight and Accountabilities	Oversight	Island Health Executive
	Accountable (Decision Making)	All Island Health Leaders
	Report Out	N/A
	Responsible	All Island Health Leaders

Progress and Plans

Activities Completed

- This recommendation has been operationalized and Island Health’s leadership have been actively involved in supporting improvements at NRGH.

Activities Planned

- This response is now complete.

Appendix: Draft Accountability Structure for Recommendations¹

Island Health					MoH
Combined Quality Structure	IHealth	Operations	HAMAC	Revalidation Oversight	
1. Limit maximum range doses					
2. Dose checking for high risk medications					
3. Monitor high risk medications					
4. Medications at transfer					
5. Multiple narcotics					
7. Monitor results distribution				6. MRP and copies to	
8. Monitor Message Centre					
9. Patient summary		10. Validate device association			
		11. Ensure system performance			
		12. Refresh downtime processes			13. Redesign PharmaNet
14. Simplify user interface	15. Canadian Terminology	16. Future activations - staffing			
17. CPOE in urgent situations		18. Staffing for NRGH ED – CPOE meds			
19. Medication ordering in the NRGH ED and ICU					
20. Workflow Redesign	21. Refresh training/ education				
	22. Clarify/refine Issue reporting				23. Revalidation
24. Go-Forward Plan		25. Commit to working through conflict			
		26. Action Island Health policy as required			

¹ * Accountable Structure approves the action plans developed by responsible parties, and monitor progress against plan