NORTHUMBERLAND HILLS
HOSPITAL

Hospital Improvement Plan

January 5, 2016

Contents

A. Executive Summary

Northumberland Hills Hospital (NHH) is a medium-sized hospital delivering a broad range of acute, post-acute, outpatient and diagnostic services.

As set out in the hospital's Strategic Plan, NHH's mission is *Exceptional patient care. Every time.* and its shared vision is *Leaders and partners creating health care excellence*. NHH's core values are: integrity, quality, respect, collaboration and compassion.

An active member of the Central East Local Health Integration Network (Central East LHIN), NHH employs approximately 600 people and relies on the significant contributions of primary care physicians and specialists as well as a strong core of volunteers.

The hospital, located approximately 100 kilometres east of Toronto, serves a catchment area known as west Northumberland County. A mixed urban and rural population of approximately 60,000 residents, west Northumberland comprises the Town of Cobourg, the Municipality of Port Hope and the townships of Hamilton, Cramahe and Alnwick/Haldimand. It is located approximately 50 minutes (by car) from other major acute care centres.

The catchment area served by NHH represents approximately 71% of Northumberland County population and 4% of the total Central East LHIN population. This community is a much older population with 20.7% of its catchment being 65 years of age and older, compared to the Central East LHIN at 15% and Ontario at 14.6%. Looking ahead over the next 20 years, Northumberland County will see a more significant growth than the rest of the province among those 65 years of age and older which will double/triple from 2011 to 2031. An aging population with associated chronic conditions creates a higher demand for local health service needs.

It has been identified that, if patterns of hospital use do not change, the west Northumberland community will demand almost 14% more inpatient hospital care over the next five years. The increasing demand for health care is primarily attributable to the aging population. This increase in patient demand places significant pressure on the physical capacity and, potentially, the financial position, of NHH.

NHH has struggled to achieve and maintain a balanced financial position for a number of years. In the seven fiscal years since the Central East LHIN assumed funding responsibility for health service providers, NHH has incurred four deficits and three surpluses in its operations.

Subsequent to NHH's notification of its projected 2014/2015 deficit position, external advice was sought, first through an NHH-led Coaching Review and, secondly, through a Central East LHIN-led External Operational Review. The purpose of both was to provide NHH and the Central East LHIN with objective, external insight into the challenges facing NHH, and potential solutions to achieve sustainability. Both reviews concluded that the status quo is not an option for NHH. As well, both reviews identified that NHH is generally efficient—as also evidenced in the latest

HCM Benchmarking Report (see **Appendix 4**)—though there remains some further opportunities to reduce operational costs and an opportunity to reduce the cost of delivery of care through the exploration of further partnerships or integrations. A key finding was that NHH is providing services needed by the community and, given the anticipated growth and aging of the population served, no service reductions or reductions in service volumes were recommended.

Based on the findings of the extensive input received from these reviews, the stakeholder input gathered in the course of the External Operational Review's staff and public consultations (see **Appendix 3**), and the hospital's own continuous internal evaluation of efficiency opportunities, this NHH Hospital Improvement Plan (HIP) has been developed for implementation over the next four to five years.

The primary thrust of the HIP is on reducing costs while maintaining quality and safety. Two direct steps have been identified: clinical and operating efficiencies that NHH can achieve on its own; and, integration initiatives to achieve economies of scale and scope that will require collaboration with regional partners. The HIP includes immediate actions which will be implemented by the end of fiscal year 2015/2016. As well, it includes short-term actions to be implemented in 2016/2017 and medium-term actions in 2017/2018. The integration or partnership initiatives are considered longer-term actions and are therefore targeted for completion in 2018/2019 and 2019/2020.

The NHH HIP initiatives fall into five main categories. These five categories include:

- Board governance and management reporting
- Utilization
- Clinical efficiencies
- Operating efficiencies
- Integration/partnership initiatives

Within each of these categories are a number of initiatives, some of which can be implemented relatively simply, without significant impact or risk, while others will have a significant workforce impact and some carry potential risks to the quality of patient care. These potential risks will need to be closely monitored.

There are no projected cost savings associated with the first category of improvement initiatives set out in the HIP, Board governance and management reporting. Implementation of the initiatives within the next three categories (utilization, clinical efficiencies and operational efficiencies) will result in approximately $1.8 million in annualized savings in Year 1 of the HIP (of which $1.35 million can be realized in 2016/2017). Depending upon NHH's assessment of the initiatives proposed, a further $1.0 million in annualized savings are targeted for fiscal 2017/2018. As a result of the identified strategies in Year 1 and Year 2 of the HIP, NHH is projecting savings from utilization, clinical and operational efficiencies of $2.8 million over the next two years.

The following two tables list the various initiatives and the related targeted savings for 2016/2017 and 2017/2018, respectively.

Northumberland Hills Hospital
Utilization, Clinical and Operational Efficiencies - Financial Summary

Fiscal Year 2016/2017

Improvement Initiative	Page Reference	Savings Target Estimated by Operational Review	Annualized Savings (Investment) Estimated by NHH	2016/2017 Fiscal Year Savings (Investment) Estimated by NHH	Increase (Reduction) in FTEs	Estimated One-time Restructuring Costs
Formal delineation of roles, responsibilties and accountabilities of department chiefs	26	$ (80,000)	$ (80,000)	$ (80,000)	-	$ -
Maximize preferred accommodation revenue	31	$ 120,000	$ -	$ -	-	$ -
Achieve "break even" state in retail food services	32	$ 76,000	$ 10,000	$ 10,000	-	$ -
Reduce length of stay (LOS)	33	$ 150,000	$ 300,000	$ 300,000	-	$ -
Reduce excess Emergency Department (ED) admissions	37	$ 235,000	$ -	$ -	-	$ -
Reduce and realign Support Services management	40	$ 80,000	$ 40,000	$ 40,000	(0.57)	$ -
Reduce frequency of environmental cleaning in non-clinical areas	40	$ 95,000	$ 58,000	$ 41,000	(1.00)	$ 46,000
Explore and assess opportunities in clinical engineering maintenance contracts	41	$ -	$ 41,000	$ 41,000	-	$ -
Achieve median productivity performance in ED	42	$ 162,500	$ 450,000	$ 320,500	(3.45)	$ 77,000
Consolidate inpatient units	43	$ 320,000	$ 580,000	$ 411,000	(4.80)	$ 330,000
Reduce reliance on float pool	44	$ 178,500	$ 278,000	$ 197,000	(2.48)	$ 140,000
Achieve ICU productivity performance target	45	$ (150,000)	$ (189,000)	$ (189,000)	1.66	$ -
Combine small outpatient departments	46	$ -	$ 39,000	$ 27,500	(0.71)	$ 161,500
Restructure clinical administration	47	$ -	$ 12,000	$ 12,000	-	$ -
Review opportunity to alter approach to after-hours management	47	$ 35,000	$ 35,000	$ 35,000	(0.33)	$ -
Achieve best quartile performance in the Laboratory	49	$ -	$ 120,000	$ 85,000	(1.49)	$ 38,000
Introduce Point of Care Testing	49	$ 200,000	$ -	$ -	-	$ -
Introduce Voice Recognition Technology	50	$ 100,000	$ -	$ -	-	$ -
Review Hospitalist program model	51	$ 150,000	$ -	$ -	-	$ -
Reduce Non-Labour Costs in Diagnostic Imaging (note1)	n/a	$ 100,000	$ 100,000	$ 100,000	-	$ -
Total 2016/2017 Initiatives		$ 1,772,000	$ 1,794,000	$ 1,351,000	(13.17)	$ 792,500

(note 1: the savings in non-labour costs in Diagnostic Imaging were completed as part of the 2015/2016 Operating Plan)

Fiscal Year 2017/2018						
Improvement Initiative	Page Reference	Savings Target Estimated by Operational Review	Annualized Savings (Investment) Estimated by NHH	Fiscal Year Savings (Investment) Estimated by NHH	Increase (Reduction) in FTEs	Estimated One-time Restructuring Costs
Achieve "break even" state in retail food services (continued)	32	$ -	$ 24,000	$ 24,000		
Reduce length of stay (continued)	33	$ 450,000	$ 300,000	$ 300,000		
Reduce excess ED admissions (continued)	37	$ -	$ 235,000	$ 235,000		
Explore and assess opportunities in clinical engineering maintenance contracts (continued)	41	$ 175,000	Unknown at this time	Unknown at this time		
Achieve median productivity performance in ED (continued)	42	$ 487,500	$ 200,000	$ 200,000		
Review opportunity to alter approach to after-hours management (continued)	47	$ 190,000	Unknown at this time	Unknown at this time		
Introduce Point of Care Testing (continued)	49	$ -	$ 80,000	$ 80,000		
Outsource Microbiology	50	$ 50,000	$ 50,000	$ 50,000		
Introduce Voice Recognition Technology (continued)	50	$ -	$ 100,000	$ 100,000		
Review Hospitalist Program Model (continued)	51	$ -	$ 50,000	$ 50,000		
Total 2017/2018 Initiatives		$ 1,352,500	$ 1,039,000	$ 1,039,000	-	$ 519,500
Total Utilization, Clinical and Operational Efficiencies		**$ 3,124,500**	**$ 2,833,000**	**$ 2,390,000**	**(13.17)**	**$ 1,312,000**

NHH would be nearly balanced by Year 2 (2017/2018) of the HIP, assuming all savings targets identified through utilization, clinical and operational efficiencies are attainable. However, with escalating costs due to inflation in a flat funding environment, this operating position would be short-lived; once again, growing operating deficits would return to NHH in 2018/2019 and future years.

While significant, the $2.8 million in further efficiencies and potential savings identified in years 1 and 2 of the HIP will not be sufficient to build a sustainable financial future for NHH. Further work must be done to reduce operating costs through the development of collaborative partnerships and/or integrations. The specifics of this work—and the potential savings—are undetermined at this time. That said, NHH is committed to partnering with hospitals and other health care providers to reduce the cost of care delivery. This work will not be directed toward mergers or integration of governance. NHH has a history of developing successful partnerships to enhance patient care and provide care close to home for the residents of Northumberland. Recognizing its legal obligation to seek integration opportunities, the organization will build upon this track record and look to partner in the provision of corporate services, support services and some clinical services.

In addition to these potential partnerships, NHH will work to develop stronger linkages with other service providers in our community to enhance continuity of care and offer potential options of care in the community versus longer lengths of stay in hospital or care in hospital.

A savings estimate of $2.27 million related to further integration/partnership initiatives has been put forward within the Operational Review. Much work will need to be done to achieve these initiatives and the relevant (and possible) cost reductions.

Assuming the approximate $2.27 million savings targets through integration strategies as suggested by the Operational Review are achievable by the end of Year 4 (2019/2020), NHH could potentially return to a balanced position before restructuring costs for that fiscal year. Again, the inflationary pressures beyond NHH's control would reverse these gains in the following year, leading to an unsustainable financial position for NHH.

Assuming all savings targets are achieved, NHH is projecting its working capital deficit position, before factoring in one-time restructuring costs, will increase by March 2021; NHH is not able to eliminate its working capital deficit as required by the Working Deficit Funding Initiative agreement. It is important to note that the one-time restructuring and transitional costs of nearly $2.6 million are creating a significant financial burden for the hospital, increasing the projected adjusted working capital deficit to over $6 million at March 2021.

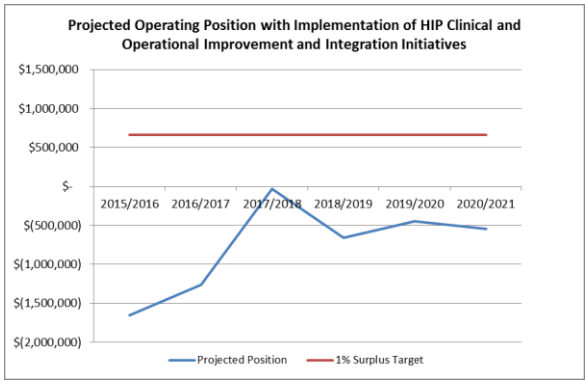
A key recommendation of the Operational Review was that NHH begin to budget, annually, a surplus of 1% of total revenue in order to support unforeseen expenses and capital needs (see **Section E**). This is certainly an objective of NHH. The NHH Board will require senior management to develop annual operating plans that include *a minimum* 1% surplus moving forward, however, to achieve this target, additional funding support is required. Assuming an annual increase of 1% base operating funding at the beginning of 2016/2017, NHH could potentially achieve a 1% surplus target beginning 2017/2018. Although any funding increase will be of significant benefit, a base adjustment of 1% of base operating funding beginning 2016/2017 would avoid negative impact to future HBAM allocation created by annual one-time funding.

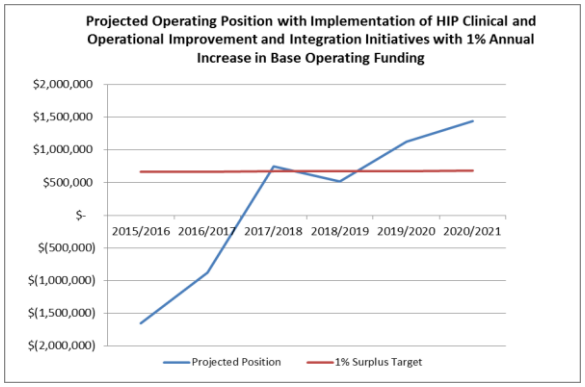
Both the Coaching Review and the Operational Review acknowledged that while further efficiencies were possible and that the relative savings would certainly help NHH address a portion of its financial pressures, efficiencies alone would not be enough to achieve the desired long-term sustainability. A key outcome of these external reviews was the specific conclusion that NHH requires support with:

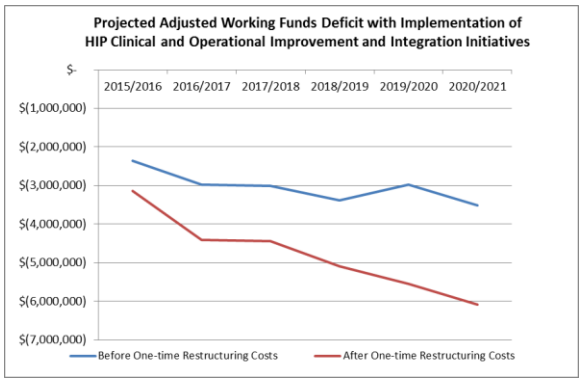
- additional annual funding;
- one-time restructuring assistance; and
- support to advance integration discussions with regional peers/community partners.

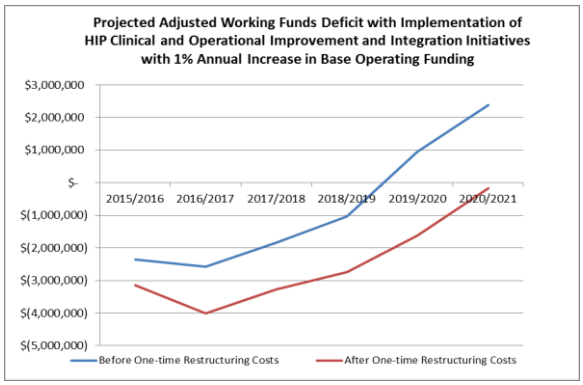
As well, the Operational Review identified the need for NHH to secure additional funding for the years *following* the HIP projection in order to preserve the availability of hospital services locally beyond 2020/2021.

The graphs below illustrate the projected financial position with implementation of the clinical and operational improvement and integration initiatives without and with additional base funding.









Monitoring of the NHH HIP implementation will rest primarily with the NHH Board of Directors, through various Board committees as well as the Board Improvement and Sustainability sub-committee that has been established specifically to monitor progress on the HIP. Particular indicators have been identified to monitor progress as well as to actively monitor areas of risk. For detail, please see **Appendix 1**.

Communication and stakeholder engagement has been a critical part of the development and ongoing implementation of the NHH HIP.

Stakeholder engagement played a central role in the External Operational Review process. A range of opportunities were provided by the Hay Group to *inform* and *consult* with internal and external stakeholders (see **Appendix 3**). In addition to the Hay Group activities, both NHH and the Central East LHIN, via web, media and Board updates, shared regular information throughout the process.

Moving forward, the NHH HIP Communication and Stakeholder Engagement Plan (see **Appendix 2**) will continue to *inform* about the key findings in the external reviews as well as how these findings relate to the NHH Board-approved HIP. The Plan will *consult* with key stakeholders (gather feedback), for the purpose of mitigating any risks, and managing quality and safety, from the time the initiatives are announced to the date when full implementation is complete.

It will be NHH's responsibility to carry forward the communication and stakeholder engagement tactics related to the NHH HIP while keeping the LHIN informed of progress.

This is a time of great change within Ontario's health-care system. None of the efficiencies proposed in this HIP were decided easily. NHH recognizes it has a responsibility to its community as well as the health care system to make necessary change as outlined in the Hospital Improvement Plan in order to continue to provide strong acute care services. This Plan outlines how NHH intends to fulfill its role to maintain the community's hospital services close to home, and the Board values the continued collaborative support of the Central East LHIN and the Ministry of Health in creating a sustainable future for Northumberland Hills Hospital.

B. Context

Summary of NHH Financial Position

Projected 2014/2015 operating deficit leads to performance factor notification

The HIP represents the latest step in a lengthy process that began in August 2014 when, as part of the Hospital Service Accountability Agreement (HSAA) performance monitoring process, NHH alerted the Central East LHIN to an actual 2014/2015 first quarter deficit of $189,000. It should be noted that, in the seven fiscal years since the Central East LHIN assumed funding responsibility for health service providers, NHH has incurred four deficits and three surpluses in its operations.

By the fall of November 2014 the projected NHH deficit for the fiscal year was estimated at approximately $1.45 million against a budget of $65 million (approximately 2%). The pressures identified by NHH as driving the 2014/2015 shortfall were:

- an increase in service activity and acuity;
- an increase in Alternative Level of Care cases and patient days due to lack of resources in the community;
- an increase in surge;
- an increase in patient transportation costs; and
- labour increases and inflationary pressures beyond NHH's control, which alone account for close to $1 million annually in new costs.

Also believed to be a factor in NHH's ongoing financial challenges is the fact that hospital funding has shifted in recent years, in the context of Health System Funding Reform (HSFR), from a global, centralized budget, to three distinct funding envelopes: global base funding; funding for what are called Quality Based Procedures (QBPs); and, HBAM (Health Based Allocation Model) funding. A complex set of models informs how funds are applied in each, but in short, hospitals no longer receive an automatic inflationary increase. Instead, hospitals receive funds within the available funding envelopes, based on the profile of patients served.

Subsequent to NHH's notification of its projected 2014/2015 deficit position and performance factor, NHH and the Central East LHIN engaged in numerous discussions to outline and consider an approach to mitigate the pressures. Among the Central East LHIN's concerns was the implication the deficit would have on NHH's ability to qualify for the second of three planned annual installments of Working Funds Deficit Initiative funding.

One-time funding results in 2014/15 operating surplus

NHH achieved an operating surplus of $896,151 in fiscal year 2014/2015, which met the requirements to receive the second funding installment of $422,900 under the Working Funds Deficit Initiative and brought the total operating surplus to $1,319,051. As explained in NHH's 2015 Annual Report to the Community (June 2015), the operating surplus was the result of over

$2 million in one-time non-recurring funding and revenue confirmed in the last quarter of the fiscal year. This one-time revenue included both funding from the Central East LHIN for eligible operating pressures such as surge and non-urgent patient transportation, as well as unexpected revenue related to prior years for NHH's renal satellite program. Without this one-time revenue, NHH would have incurred an operating deficit of $771,024.

Another operating deficit forecast for 2015/2016

With inflationary pressures driving increases of one to two percent in salaries, wages, benefits, and other non-labour expenses in a flat funding environment, NHH predicted an operating deficit of $1.1 to $1.3 million for 2015/2016. Based on second quarter results, NHH modified its forecasted operating deficit to $857,100 for the fiscal year. This modest improvement is in large part due to additional HSFR and other one-time funding. Factoring in one-time restructuring costs related to the 2016/2017 mitigation strategies identified, NHH is facing a net operating deficit of over $1.6 million and an adjusted working capital funds deficit of over $3.1 million. NHH continues to face growing financial challenges that, without mitigation strategies, will not allow the hospital to attain financial stability.

Seeking External Advice

NHH and the Central East LHIN worked together on first an NHH-led Coaching Review and second a Central East LHIN-led External Operational Review. The purpose of both was to provide NHH and the Central East LHIN with objective, external insight into the challenges facing NHH, and potential solutions to achieve sustainability.

NHH-led coaching review

The results of the Coaching Review, conducted between November and December, 2014 by JD & Associates, and overseen by a Steering Committee made up of NHH Board directors, senior management, physician representatives as well as representation from the Central East LHIN, were shared with the NHH Board, the LHIN Board and the community in January, 2015.

The Coaching Review concluded that the status quo was not an option for NHH.

It found that the hospital was generally efficient. While there was some capacity for further efficiencies and cost reductions within NHH, the opportunity was relatively small (in the Coaching Review team's estimate, $1 to $2 million). One-time costs to achieve these efficiencies would need to be taken into consideration. Even with these efficiencies, JD & Associates predicted that the projected cumulative operating deficit for NHH for the next three years would be $3 to $5 million. As well, the Coaching Review found that NHH has a greater-than-average reliance on one-time funding, thus affecting its HBAM funding and its ability to budget for the long-term. See the full Coaching Review report published **on the nhh.ca website, here**.

On receipt of the Coaching Review report in January 2015, the LHIN Board directed NHH to present an Improvement Plan at the next Central East LHIN Board meeting on Wednesday,

February 25th, 2015. The timeframe (approximately one month) was considerably shorter than expected.

Numerous iterations of a "Proposed Short-Term Improvement Plan" were brought forward by the NHH senior management team to the NHH Board of Directors for consideration. The proposed Plan was also discussed with the Central East LHIN Senior Team, NHH medical leaders and union leadership.

In keeping with the Coaching Review recommendations, proposed strategies identified in the draft Plan included opportunities to address unit size and staff skill mix while achieving other savings through efficiencies for a total of $1.4 million in proposed savings, before restructuring costs.

The savings, combined with savings already realized by the hospital through efficiencies in 2014/2015, would achieve over $2.2 million in annual operating savings for NHH, exceeding the opportunities identified in the Coaching Review.

Though the proposed Short-Term Improvement Plan contained no reduction in services, the NHH Board concluded that it was not in a position to approve it within the timeframe allotted by the Central East LHIN. Among the concerns at the time was the issue of the substantial one-time restructuring cost burden related to the potential changes and the need for further staff/physician/community engagement.

In light of the NHH Board's decision, rather than present the requested Improvement Plan to the Central East LHIN at their February 25th, 2015 Board meeting, NHH instead requested additional time (to the end of September, 2015) to further engage key stakeholders and minimize the risks identified with a plan of this scope. To support the hospital's operations through this process, NHH also requested one-time funding from the Central East LHIN.

LHIN-led External Operational Review

A Central East LHIN-led External Operational Review was directed at the February 25th meeting of the Central East LHIN Board and, following a call for interest, the Hay Group was selected as the successful vendor to complete NHH's External Operational Review and a related proposed "Hospital Improvement Plan" (HIP).

Hay Group's Final Report on their review—a 14-week process which examined NHH's financial management practices, clinical services and operations, clinical quality, integration opportunities and governance oversight—was presented, in camera, to the NHH Board on October 15th, 2015.

The External Operational Review investigation, supported by internal and external stakeholder engagement, as well as an independent environmental scan of the west Northumberland community (see **Appendix 5**), and an *HCM Benchmarking Report* (see **Appendix 4**) both commissioned earlier by NHH, also found NHH to be, by and large, **an efficient hospital**. Further, **no service reductions or net reductions in service volumes were identified** by Hay

Group as appropriate steps to balance the budget, as the environmental data predict the hospital will experience a >10% increase in inpatient service demand over the next five years.

Like the Coaching Review team before it, the External Operational Review found that while the hospital has continued to pursue and find efficiencies despite its pressures, some further efficiencies are still possible at NHH, without reducing the services offered or creating potential risks to quality care.

In total, the External Operational Review contained 54 recommendations, involving five areas:

- Board governance and financial management;
- utilization efficiencies;
- clinical efficiencies;
- operational efficiencies; and
- integration.

These recommendations total $5.4 million in potential efficiencies NHH could be expected to find by doing things differently, and pursuing integration opportunities. It should be noted that the majority of the External Operational Review recommendations were considered previously by NHH, in the Proposed Short-Term Improvement Plan, referenced above. Due in large part to the burden of restructuring costs, NHH was not in the position to pursue those initiatives at that time. It should also be noted that the Operational Review recommended a number of investments, some of which are directly related to recent increases in patient acuity.

Stakeholder consultation

Stakeholder engagement played a central role in the External Operational Review process. A range of opportunities were provided by the Hay Group to *inform* and *consult* with internal and external stakeholders. Below is a summary of the stakeholder types and the level of participation achieved. Further detail on the engagement that informed the Hay Group's Final Report and—by extension—NHH's proposed HIP is included in **Appendix 3**. In addition to the Hay Group activities, both NHH and the Central East LHIN, via web, media and Board updates, shared information updates throughout the process.

Stakeholder Type	Participation
Elected representatives	6 individual telephone interviews with mayors/deputy mayors/warden
Community partners	5 phone interviews with representatives from each of the Central East CCAC, Northumberland Family Health Team, Port Hope Community Health Centre, Community Care Northumberland, one long-term care home

Other LHIN hospitals	5 phone interviews with leaders from each of Peterborough Regional, Lakeridge, Ross Memorial, Campbellford Memorial and Ontario Shores
General public	51 (approx.) participants at Cobourg Town Hall Meeting 37 (approx.) participants at Port Hope Town Hall Meeting 4 comment sheets completed and returned at Town Hall Meetings 6 participants in Telephone Town Hall #1 5 participants in Telephone Town Hall #2 3 inquiries received on the toll-free message line 59 surveys completed on line 17 surveys received in hard copy 1 letter from public received
Hospital Auxiliary/Foundation volunteers	8 participants in the information forum
Hospital Staff	200 (approx.) staff participants at 5 hospital orientation sessions 80 (approx.) staff participants at 5 front-line staff focus group sessions 15 1:1 front-line staff interviews completed

The Hay Group presented the Final Report of its External Operational Review to the NHH Board at an in-camera meeting October 15th. At its open meeting on Wednesday, October 28th, the LHIN Board received the report and passed a motion directing NHH to return to their December meeting with an NHH-Board Approved HIP.

Upon deliberation, and following consultation with LHIN senior staff, the NHH Board agreed to "actively pursue" all of the recommendations in the proposed improvement plan put forward by the Hay Report. Highlights of the Hay Group's key findings and recommendations were shared by NHH with internal stakeholders the week of October 22nd with an aim to move forward with notice of near-term efficiency opportunities as quickly as possible to position the hospital to achieve some efficiencies with the commencement of the 2016/2017 fiscal year (April 1st, 2016).

Discussions between NHH management and LHIN management continued through the two weeks of October 26th and November 2nd, with NHH stating its intention to proceed immediately with 2016/2017 efficiencies as "Phase 1" of the full Hospital Improvement Plan. NHH Board approval to proceed immediately with 2016/2017 was confirmed at an in-camera meeting

November 5th and union representatives (CUPE, ONA and OPSEU) were alerted to the proposed changes and expected timeline.

On November 9th, 2015, the LHIN senior team directed NHH to "defer the internal and external stakeholder engagement activities," pending the presentation of a full NHH-Board approval HIP to the LHIN Board on December 16th, 2015. NHH complied with this directive.

Long-term stability requires additional funding support

Like the Coaching Review before it, NHH's External Operational Review acknowledged that, while the proposed efficiencies will certainly help the hospital address a portion of its financial pressures, it will still not be enough to achieve the desired long-term sustainability. The Hay Group review concluded that NHH requires Central East LHIN support with:

- additional annual funding;
- one-time restructuring assistance; and
- support to advance integration discussions with regional peers/community partners.

In terms of implementation, it was also recognized, by both Hay Group and the Central East LHIN, that the recommendations stemming from the External Operational Review cannot be implemented immediately or, in some cases, without further analysis. An iterative, well-planned approach was recommended, spread over four to five years, including immediate, short-term, medium-term and longer-term initiatives.

NHH's Board-approved Hospital Improvement Plan

NHH was directed by the Central East LHIN Board, at its October 28th, 2015 Board meeting, to return to the LHIN Board in December with an NHH Board-approved HIP.

The LHIN's expectations for the HIP were outlined as follows:

a. *Mitigation strategies/initiatives and any other remedial actions, including those related specifically to operational and clinical efficiency improvements, service sustainability, integration, and the management in the short- and medium-term of changes in clinical volume, pricing, and funding due to Health System Funding Reform (HSFR).*
b. *A monitoring plan to track implementation; and*
c. *A communications and stakeholder engagement plan.*

Based on the findings of the extensive input received to date, including, most recently, the stakeholder engagement consultation conducted as part of the External Operational Review (see **Appendix 3**), and the hospital's own continuous internal evaluation of efficiency opportunities, the proposed HIP demonstrates that NHH is willing and able to push further for efficiencies while maintaining its mission of *Exceptional patient care. Every time.* No service reductions and no reductions in service volumes are proposed.

The External Operational Review identified that NHH must reduce its operating costs to balance its operating position, provide for retirement of its working capital deficit and support renewal

of its equipment and services. The Review noted that, without an increase in Ministry of Health and Long-Term Care (MOHLTC) funding, NHH would be required to identify reductions in annual expenditures and/or increases in revenues of approximately $6.5 million over the next five years to fully retire its working capital deficit and maintain a 1% surplus for investment in capital renewal.

The primary thrust of the HIP is on reducing the hospital's costs while maintaining quality and safety. Two direct steps have been identified: clinical and operating efficiencies that NHH can achieve on its own; and, integration initiatives to achieve economies of scale and scope that will require collaboration with willing and appropriate partners. The HIP includes immediate actions which will be implemented by the end of fiscal year 2015/2016. As well, it includes short-term actions to be implemented in 2016/2017 and medium-term actions in 2017/2018. The integration or partnership initiatives are considered longer-term actions and are therefore targeted for completion in 2018/2019 and 2019/2020.

In addition to the actions identified to reduce costs, a number of other areas of focus related to enhancing Board governance and management functioning have been included as part of the Hospital Improvement Plan. As well, several initiatives aimed at quality improvement have also been addressed.

In keeping with the Central East LHIN Board's directive, the HIP speaks to methods to monitor progress related to these initiatives (see **Appendix 1**) as well as a Communication and Stakeholder Engagement Plan (see **Appendix 2**).

As noted, the majority of the initiatives outlined in the HIP flow directly from the External Operational Review. As such, the initiatives have been cross-referenced to the recommendation within the Review report (e.g. Recommendation #X) and are presented in the same five areas outlined in the Operational Review: Board governance and financial management; utilization efficiencies; clinical efficiencies; operational efficiencies; and, integration.

A summary of all initiatives is listed under Financial Summary (**section E**), with a chart showing the savings related to clinical and operational efficiencies targeted for each year and estimated associated one-time restructuring costs.

Given the scope of change proposed, the impact to staff is significant. NHH will work closely with its union partners to minimize the amount of staff positions affected. Anticipating the need for staffing adjustments, NHH has made a conscious effort to hold recruitment of selected vacant positions. Through these vacancies, offers of early retirement and early exit opportunities, NHH will aim to minimize impact on staff while also meeting its financial obligations. This process needs to run its course. NHH expects to have greater visibility to the positions/people affected as initiatives progress.

This is a time of great change within Ontario's health-care system. None of the efficiencies proposed in this HIP were decided easily. NHH recognizes it has a responsibility to its community as well as the health care system to make necessary change as outlined in the

Hospital Improvement Plan in order to continue to provide strong acute care services. This Plan outlines how NHH intends to fulfill its role to maintain the community's hospital services close to home, and the Board looks forward to the continued collaborative support of the Central East LHIN and the Ministry of Health in creating a sustainable future for NHH.

C. Hospital and Community Profile

Northumberland Hills Hospital Profile

Northumberland Hills Hospital is a medium-sized hospital delivering a broad range of acute, post-acute, outpatient and diagnostic services. Acute services include emergency and intensive care, medical/surgical care, palliative care, and obstetrical care. Post-acute services include restorative care and inpatient rehabilitation care. Mental health care, chemotherapy, dialysis and 16 other ambulatory care clinics are offered at NHH on an outpatient basis through partnerships with regional centres and nearby specialists. NHH offers a full range of diagnostic services, including magnetic resonance imaging (MRI), computed tomography (CT) and mammography.

As set out in the hospital's Strategic Plan, NHH's mission is *Exceptional patient care. Every time.* and its shared vision is *Leaders and partners creating health care excellence*. NHH's core values are: integrity, quality, respect, collaboration and compassion.

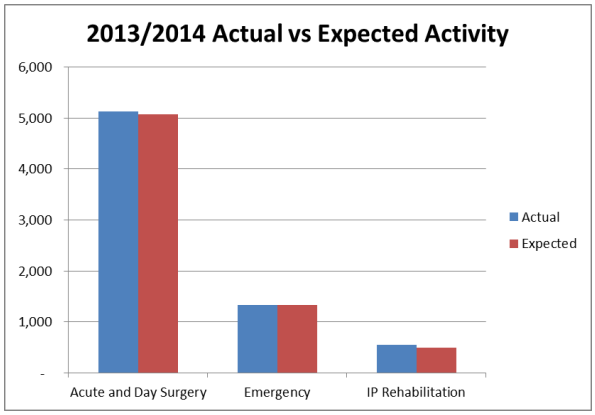
An active member of the Central East LHIN, NHH employs approximately 600 people and relies on the additional support provided by physicians and volunteers. With built capacity for 137 beds, the hospital currently has 92 beds staffed and in operation, with occupancy in 2014/2015 sometimes exceeding 100% due to surge activity, as follows:

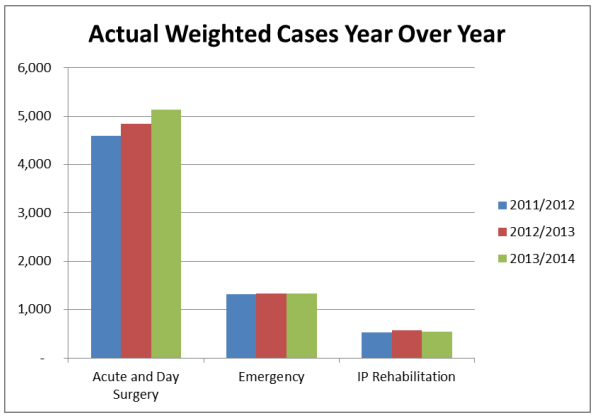
	Number of Beds	Occupancy
Medical / Surgical	46	105.5%
ICU	6	72.5%
Obstetrics	6	70.1%
Total Acute	**58**	**98.4%**
Rehabilitation	34	95.2%
Total	**92**	**97.2%**

West Northumberland County Profile

The hospital, located approximately 100 kilometres east of Toronto, serves a catchment area known as west Northumberland County. A mixed urban and rural population of approximately 60,000 residents, west Northumberland comprises the Town of Cobourg, the Municipality of Port Hope and the townships of Hamilton, Cramahe and Alnwick/Haldimand.

Based on preliminary 2013/2014 Health-Based Allocation Model (HBAM) results (the most recent data available), service activity levels are comparable to expected levels. Acute and day surgery activity is 1.22% higher than expected, emergency activity is -0.23% less than expected and inpatient rehabilitation activity is 10.63% (52 cases) more than expected. What is more relevant in reviewing this information is the steady increase over the past three fiscal years in acute and day surgery activity experienced by NHH.





Committed to meeting the acute care needs of the community it serves, NHH conducts regular environmental scans, the most recent of which was completed in September 2015. Conducted by HCM Group Inc. using relevant data sources (Statistics Canada, Canadian Institute for Health Information, etc.), the 2015 scan demonstrates the uniqueness of the community served by NHH and the growing need for acute care services in west Northumberland.

The catchment area served by NHH represents approximately 71% of Northumberland County population and 4% of the total Central East LHIN population. This community is a much older population with 20.7% of its catchment being 65 years of age and older, compared to the Central East LHIN at 15% and Ontario at 14.6%. Looking ahead over the next 20 years, Northumberland County will see a more significant growth than the rest of the province among those 65 years of age and older which will double/triple from 2011 to 2031. An aging population with associated chronic conditions creates a higher demand for local health service needs.

Northumberland has a notable Aboriginal population, with distinct needs and health status characteristics. In Cobourg, there is also a lower income and higher percentage of lone parent families. NHH must understand these population characteristics to ensure equitable access to care.

Collectively, west Northumberland County has the following notable health behaviors and health status indicators:

- Significantly higher overweight / obese rates
- Higher rates of smoking
- Higher rates of heavy drinking
- Higher prevalence for non-age-adjusted health conditions
- Lower life expectancy and higher age-adjusted total and premature mortality rates

NHH must be responsive to all of these needs.

Utilization trends over the last three years show that while total inpatient case market share has been stable, there has been an increase in total inpatient cases consistent with the findings of the HBAM results above. The Operational Review noted that west Northumberland is dependent on NHH for over 60% of its inpatient hospital care.

With regard to Emergency Department (ED) visits, while there has been a decrease in total ED visits, there has been a notable increase in emergent, urgent and semi-urgent visits. NHH has also experienced an increase in total day surgery cases.

For further details from HCM Group's September 2015 Environmental Scan, please refer to **Appendix 5**.

As noted in the Operational Review, if patterns of hospital use do not change, the west Northumberland community will demand almost 14% more inpatient hospital care over the next five years, as illustrated in the table below. While population growth is slow, the increasing demand for health care is primarily attributable to the aging population. This increase in patient demand places significant pressure on the physical capacity and, potentially, the financial position, of NHH.

Broad Program	Actual 2014/2015		Projected 2019/2020		Projected Change		Projected % Change	
	IP Cases	IP Days	IP Cases	IP Days	IP Cases	IP Days	IP Cases	IP Days
Birthing	992	1,903	1,040	1,993	48	90	4.8%	4.8%
Medicine	2,936	17,936	3,445	21,414	509	3,478	17.3%	19.4%
Mental Health	72	435	76	468	4	33	5.3%	7.6%
Surgery	553	2,391	606	2,713	53	322	9.6%	13.5%
Grand Total	4,553	22,665	5,166	26,588	613	3,923	13.5%	17.3%

To offset the anticipated capacity pressures, some of the cost-reduction strategies put forward in the HIP will reduce patient activity. For example, planned initiatives to reduce length of stay will result in lower patient days and improvement by lowering excessive admissions will yield less inpatient cases. Therefore, the HIP assumes patient activity will remain unchanged as illustrated in the following table summarizing the H-SAA service volume targets; NHH is planning no service reductions or net reductions in services volumes.

	2014/2015 Actual	2015/2016 H-SAA Target	2016/2017 H-SAA Target	2016/2017 Performance Standard
Total Acute Inpatient Weighted Cases	4,306	4,000	4,000	Between 3,600 and 4,400
Day Surgery Weighted Cases	873	890	890	Between 757 and 1,023
Rehabilitation Inpatient Weighted Cases	519	540	540	Between 486 and 594
Emergency Department Visits	32,944	32,290	32,290	Greater than 25,832
Emergency Department Weighted Cases	1,826	1,600	1,600	Between 1,440 and 1,760
Ambulatory Care Visits	26,909	27,500	27,500	Greater than 20,625

D. Improvement Initiatives

Enhancing Board Governance and Management

As noted in the Operational Review Final Report, "NHH has a high functioning governing Board." That said, opportunities to further enhance Board governance and management were recommended and are planned as part of the HIP. These initiatives, detailed below, will be implemented immediately (prior to March 31st 2016). There are no direct cost savings related to these initiatives, however, there may be some indirect cost avoidance over time. The enhancements include an investment to support engagement of medical chiefs as recommended by the Operational Review.

Board Governance

A number of changes have been made in the past five years to the Board structures and processes used by NHH. To broaden community participation, non-director community members (Community Committee members) were added to the Board in 2010. These volunteers are full voting members of Board committees and may move into a Board director role when a vacancy occurs. More recently, the role of "Expert Resource" was introduced to the Board to better facilitate input from those with expert knowledge in a particular field to the various Board committees. In keeping with best practice, and in preparation for Not-for-Profit Corporations Act amendments, the Board moved to a closed corporate membership structure in 2014 and, over the past few years, has more clearly articulated overall Board and individual directors' responsibilities.

Enhancements related to Board governance in the HIP include the following initiatives:

- ***Articulate roles and responsibilities for Community Committee members and those in the role of Expert Resource***. The NHH Board will revise the current Board policy on Community Committee members and Expert Resources to clarify their roles and participation at in-camera meetings as well as their requirement to sign an annual declaration of adherence to responsibilities of their position and to the Board's Code of Conduct. The benefit of this work will be the provision of clear expectations of those in these roles and a better understanding of how they can best contribute to the work of the Board. This work will be the responsibility of the Board Governance Committee and will be added to its work plan. The work will be completed by March 31st, 2016. (Recommendations #1 and #2)

- ***Clarify the distinction for "in-camera" meetings***. The NHH Board will revise the current Board policy on Meetings of the Board (II-001) to provide additional information on items for in-camera discussion and provide clearer direction on the distinction between in-camera sessions of actual Board meetings and informal sessions of the elected Directors, with and without the CEO following the completion of Board meetings. The benefit of this work is to ensure that dialogue is encouraged and to provide additional opportunities for appropriate confidential discussions. This work will be the responsibility of the Board Governance

Committee and will be added to its work plan for completion by March 31st, 2016. (Recommendation #3)

- ***Enhance documentation to capture fulsome Board discussion***. The practice of fully capturing material points of Board discussions in minutes provides an account for future reference. The Board Chair and CEO will ensure that the minutes of NHH Board and Standing Committee meetings are more fully reflective of the discussion, decisions and directions to management. . Actions will be taken by March 31st, 2016 to revise the Standing Committee meeting evaluation forms to include a question on completeness of the minutes. The NHH Board currently utilizes the OHA Governance Centre of Excellence self-evaluation tool which also contains a question regarding satisfaction with minutes of meetings. The work will be monitored on an ongoing basis by the Governance Committee through the results of Committee and Board evaluations. (Recommendation #4)

- ***Reflect industry best practice in Chief Executive Officer (CEO) and Chief of Staff (COS) Evaluation and Compensation policy.*** The Operational Review confirmed that recent NHH practice related to performance reviews of both the CEO and the COS (setting of objectives and performance evaluation) is reflective of industry standards, however, the Review identified that there is a need to update the Board policies to reflect the enhanced practices. To this end, the Board Chair will ensure that the Board policy I-009 on CEO and COS Evaluation and Compensation will be revised so that it aligns with industry best practices. The Board Chair will also ensure that the Board as a whole approves the annual CEO objectives and receives an in-camera report at least annually on the assessment of the CEO performance in relation to these objectives. This work has been added to the work plan of the Board CEO/COS Compensation and Evaluation Committee and will be completed by March 31st, 2016. (Recommendation #11)

Management Reporting

The Board of Directors currently receives a number of monitoring reports from senior management on a monthly and/or quarterly basis. These reports include, but are not limited to, quality indicator reports, integrated risk management reports, financial reports, volume and activity reports and progress reports regarding implementation of the Strategic Plan.
The External Operational Review recommended a number of actions related to management reporting. NHH accepts these recommendations and will proceed with the following initiatives to enhance evidence-based decision making by the NHH Board:

- ***Introduce three-year financial forecasts.*** Through the work of the regional Hospital / CCAC Financial Leadership Group (HCFLG), NHH has prepared and annually updated a three-year financial forecast for review by the Central East Executive Committee (CEEC). The purpose of the forecast is to estimate the order of magnitude of the impact of funding and cost pressures and provide a high level estimate of mitigation strategies identified or under development. Past practice has been to, on occasion, share this three-year financial forecast with the Finance and Audit Committee. As part of the ongoing monitoring of the HIP, a three-year forecast consistent with the HCFLG forecast document will be provided annually

to the NHH Board's Finance and Audit Committee in order to provide a longer-term view of the financial health of NHH. This work will be added to the Finance and Audit Committee work plan and will be the responsibility of the Chief Executive Officer (CEO) through the Chief Financial Officer (CFO). This will be implemented by March 31st, 2016 and occur annually. (Recommendation #5)

- ***Enhance reporting to the Board regarding patient activity volumes as they relate to Health System Funding Reform (HSFR).*** Monitoring NHH activity volumes as they relate to HSFR will provide the Board with an understanding of current performance on Quality Based Procedures (QBPs) and Health Based Allocation Model (HBAM) indicators. This work is already underway and the Finance and Audit Committee of the Board reviewed a draft report in September 2015. This report was finalized and is now in place as a quarterly report to the Finance and Audit committee as of November 2015. This addition will be incorporated into the work plan of the Finance and Audit Committee. (Recommendation #6)

- ***Establish new progress reports regarding the implementation of the NHH HIP***. On approval, the NHH Board will charge hospital management and medical leadership with responsibility to work collaboratively to implement the NHH HIP. The existing Improvement Plan Steering Committee (established in spring 2015 and involving five medical chiefs, the COS and the senior management team) will be expanded to include the development of key working groups (inclusive of the relevant medical chief and program directors) to address specific clinical and operating initiatives. Broader input from clinical and administrative leaders will help support implementation of the initiatives. The CEO and COS, as co-chairs of the Improvement Plan Steering Committee, will be the agents of change, responsible for ensuring that these working groups implement the relevant recommendations of the NHH HIP. The CEO and COS will report progress on implementation via the metrics and/or targets set for the initiatives. In the event initiatives are not advancing, the CEO and COS will be responsible for the development of additional actions. Progress on the full HIP will be monitored through the Board's Improvement and Sustainability Sub-Committee. Reporting to the Board Sub-Committee will continue to occur at least once every two months and the Board Sub-Committee will, in turn, provide these updates to the full NHH Board. (Recommendation #7)

- ***Include a modest surplus in future operating budgets.*** Budgeting for an operating surplus, while always the goal, has been difficult to incorporate into financial planning at NHH given the recent fiscal challenges. The benefit of doing so is recognized in order to deal with unexpected variances due to operating pressures or unforeseen events, to reduce the need for debt, and to address infrastructure and capital renewal. The recommendation of the Operational Review Report was that the Board should require hospital management to develop annual operating plans that will result in budgeted surpluses for the hospital. NHH supports this recommendation. Commencing with its 2016/2017 Operating Plan, the NHH Board of Directors will require senior management to develop annual operating plans that include a surplus of a minimum of 1% of total revenue. However, it is recognized, as per the Operational Review Report, that NHH will be unable to achieve this goal in the near- and

long-term without additional funding. This initiative will be reported to and monitored by the Board's Finance and Audit Committee on an ongoing basis. (Recommendation #8)

- ***Investigate and pursue viable and implementable integration opportunities.*** Proactively seeking opportunities for collaborative partnerships is an ongoing focus for NHH, reflected in the hospital's core values and strategic directions. Many patient care benefits have been achieved through successful partnerships, including such services as chemotherapy, mental health and dialysis. The NHH Board recognizes its legal obligation to continually seek opportunities for further integration to improve patient care as well as efficiency and effectiveness of care delivery. Further, NHH is unable to achieve a sustainable future without securing efficiencies through further integration, hence the NHH Board will challenge management to intensify this work. A process plan for new, viable and implementable integration activities, in keeping with the recommendations of the Operational Review, will be developed by June 2016 for implementation of all integration opportunities as quickly as possible with a focus on programmatic- and support service-level integration opportunities that will reduce costs related to corporate services, support services, clinical engineering and/or clinical support services. This work will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis. Further information is provided in the **Integration** section, below. (Recommendation #9)

- ***Establish and monitor key indicators related to integration, finance and quality of care.*** Key indicators for finance and quality are currently reported quarterly to the NHH Board via the Finance and Audit Committee and the Quality and Safety Committee respectively. Indicators to track progress related to integration will be added to the work plan of the Board Improvement and Sustainability Sub-Committee in order to keep the Board of Directors fully apprised and engaged in the work underway. Although exploratory discussions will begin immediately, time will be needed to identify and prioritize potential opportunities and partnerships. Progress indicators regarding exploratory discussions will be developed by June, 2016 as part of the process plan. Further information is provided in the **Integration** section, below. (Recommendation #10)

- ***Formal delineation of roles, responsibilities and accountabilities of department chiefs.*** Department chiefs are appointed for each major service at NHH. Role descriptions are documented in the Hospital Bylaws and those in the role are compensated (on an hourly basis) for time spent on administrative duties. NHH recognizes that, in moving forward with the HIP, the department chiefs will play a key role in implementing much of the change. As such, consistent with recommendations in the Operational Review, the COS will develop and introduce formal role descriptions including responsibilities and accountabilities for department chiefs at NHH and establish annual stipends which reflect the complexity of the role related to each of the hospital's medical departments. This work will be completed by March 31st, 2016 and will be monitored by the Improvement and Sustainability Sub-Committee of the Board.

An annual investment of $80,000 was recommended by the Operational Review team to support this engagement and has been included in the HIP, effective beginning fiscal 2016/2017. (Recommendations #12 and #13)

- ***Enhance cost reporting to better align with Ontario Hospital Reporting Standards***
  Opportunities were identified in the Operational Review to more clearly align NHH's reporting of costs to those outlined within the Ontario Hospital Reporting Standards. By making these minor adjustments in reporting, NHH will be better able to compare to its peers through its regular benchmarking exercise, which is used to identify potential opportunities for further efficiencies. This work will be carried out by the Chief Financial Officer and will be completed by December 31st, 2015. (Recommendations #31, #32, #49 and #52)

Utilization Efficiencies

The HIP initiatives captured within this section relate to the utilization of hospital services and the maximization of funding. As in the **Enhancing Board Governance and Management** section above, many initiatives flow directly from the Operational Review. They also reflect insight gained from the *HCM Benchmarking Report* and Ministry of Health and Long-Term Care data.

These initiatives fall within both short- and medium-term time frames. Where tied to a particular Operational Review recommendation, that recommendation is referenced. Monitoring the progress related to the various initiatives focused on utilization efficiencies will be carried out by one of the Board standing committees and/or the Board Improvement and Sustainability Sub-Committee. A full listing of the timeline and monitoring body for each is described in **Appendix 1**.

Review clinical documentation and coding/abstracting

Health System Funding Reform (HSFR) funding is highly reliant on the quality of the patient activity data provided by the hospital through the Canadian Institute of Health Information (CIHI). To ensure the hospital is accurately reflecting the complexity of the patient care delivered, and maximizing revenue, NHH CFO will undertake a review of its clinical documentation, coding and abstracting processes. One area of focus for this review will be on the coding of co-morbidities, and the coding of selected Quality-Based Procedure patient groups (e.g. Chronic Obstructive Pulmonary Disorder [COPD], ischemic stroke, pneumonia, etc.) as the Operational Review identified that NHH appears to be very different from its peer hospitals in this regard. This review will require an expert resource, at an estimated one-time cost of $10,000 to $20,000 in 2015/2016, and an invitational request for proposal is now underway to secure the required expertise. This review is targeted to be completed by March 31st, 2016. Any additional revenue resulting from identified improvements in documentation and coding practices will occur in future years, as it generally takes two years for changes to affect Health-Based Allocation Model (HBAM) funding. (Recommendation #14)

Build palliative care capacity in the community

As highlighted in the recent NHH Environmental Scan (**Appendix 5**), NHH has recognized that a large number of inpatient days are attributed to palliative care. It was identified by the Coaching Review and confirmed by the External Operational Review that NHH provides a disproportionately higher amount of Palliative Care than peer hospitals and that this may be attributed to a lack of supports in the community.

Work was undertaken in the spring of 2015 to engage community partners in a LEAN process to determine potential gaps in local service and what was needed to better support palliative care patients in the community. This work is now complete and, with the November 25th Central East LHIN Board approval of $350,000 in base operating funding for a palliative care team in

Northumberland County, a joint proposal to the LHIN is in development by the NHH CEO and relevant community partners. The proposal is targeted to be completed early in 2016 with the goal of having funding to support a community palliative care team in the community early into the 2016/2017 fiscal year. It is recognized that the reduction of a significant number of palliative care patient days could negatively impact NHH's HBAM funding in future (two to three) years. (Recommendation #17)

Reduce rate of hysterectomy for non-malignant diagnoses

Benchmarking information indicates that the rate of hysterectomy for non-malignant diagnoses is higher in Northumberland County than the provincial rate at 15 cases per 10,000 population. In an effort to better align with the provincial rate of 10 cases per 10,000 population referenced in the Operational Review Report, the Maternal Child and Surgical Chiefs will review current practice and develop a plan to reduce the rate of hysterectomies for non-malignant diagnoses by March 31st, 2016 with the goal of implementing the plan and meeting the target by March 31st, 2017. Progress on reducing this rate will be monitored as part of the Hospital's 2016 Quality Indicator Report, facilitated by the VP Human Resources and Quality, with reports going to the Medical Advisory Committee and the Board Quality and Safety Committee on a quarterly basis. (Recommendation # 18)

Standardize physician practice in the Emergency Department (ED)

Although NHH has made great strides in recent years in stabilizing ED physician coverage and reducing dependence on locum support, the department continues to require the support of a number of locum physicians each month. The Operational Review identified potential benefit, from a resource utilization perspective, of enhanced education for locum ED physicians and to this end, the Chief of Emergency will conduct orientation sessions for all locums to ensure that they understand the hospital's expected clinical practices, patterns of resource utilization as well as treatment models and resource availability. Work has commenced and a revised orientation process/information package for locum physicians will be in place by March 31st, 2016. As well, the Chief of Surgery will conduct an education session for all physicians focused, per the Operational Review Report, on the management of "abdominal pain, not yet diagnosed". This work will also be completed by March 31st, 2016. (Recommendations #20 and #21)

Review opportunities to reduce CTs in Emergency Department

The Operational Review Report recommended a review of Computed Tomography (CT) orders for NHH ED patients and additional instruction for ED physicians on most appropriate imaging procedures in light of a relatively high use of CT scans versus ultrasound. In order to progressively reduce NHH ED CT utilization in line with expected utilization rates, the Chief of Radiology and the Chief of Emergency will review the current ordering patterns of CTs for NHH ED patients and educate ED physicians on appropriate imaging for different presenting

problems. NHH will achieve a minimum 10% reduction by March 31st, 2017 and a further 10% reduction by March 31st, 2018 . Progress will be monitored on an ongoing basis through the NHH Medical Advisory Committee. (Recommendation #22)

Ensure a timely, comprehensive plan of care for newly admitted patients

The Operational Review suggested that NHH hospitalists should see all patients they admit via the ED before midnight in order to commence earlier care planning and shortened length of stay. In fact, the current practice in the NHH ED is that ED physicians, not hospitalists, write admitting orders at time of admission to avoid delays in care. Order sets are in place to support comprehensive admission orders. Care is begun immediately and the patient is transferred to an inpatient bed as quickly as one is available. The Most Responsible Physician (MRP) caring for the patient while admitted—either a family physician, hospitalist, or specialist—reviews and revises these orders within 24 hours of the patient's admission. To ensure comprehensive care is consistently performed as quickly as possible, NHH will monitor compliance with current practice as noted above under the leadership of the departmental chiefs with regular reports to NHH Quality Practice Councils, Medical Advisory Committee (MAC) and the Board Quality and Safety Committee. (Recommendation #23)

Maximize utilization of Operating Room/Recovery Room

NHH's Operating Room (OR)/Recovery Room was found to operate at better than best quartile performance of the peer hospitals analyzed, and under current patient scheduling practices does not have any opportunities to reduce staffing. While the Operational Review did not identify a target for savings, it did suggest that NHH could realize some further operating efficiencies in the OR by minimizing out-of-hours surgery and standardizing supplies such as sutures.

A number of strategies have been implemented to reduce out-of-hours surgery over the last number of years. To ensure ongoing minimization of out-of-hours surgery, the Chief of Surgery and the Program Director will review current out-of-hour utilization, develop a plan to reduce utilization by March 31st, 2016, and subsequently implement the plan with the goal of achieving a 5% decrease in out-of-hour cases by March 31st 2017. .

In 2014/2015, the Surgical Program team proactively identified and implemented a number of changes in the use of medical / surgical supplies that reduced the OR budget by $28,700. These savings were incorporated into the 2015/2016 Operating Plan. Committed to continuously seeking operating efficiencies, the Chief of Surgery, the Program Director and the OR/Recovery Room team will conduct a further review of the medical / surgical supplies with the goal of identifying further opportunities to standardize items used (i.e. sutures). Specifically, the Chief of Surgery, in collaboration with the relevant surgeons, will review current utilization of sutures and come to agreement on a plan to ensure the use of similar materials for similar cases by March 31st, 2016. This plan will be implemented by September 30th, 2017 and monitored

through the Surgical Services Quality and Practice Committee and the Surgical Services Scorecard as well as the Board Quality and Safety Committee and the Board Improvement and Sustainability Sub-Committee. (Recommendations #45 and #46)

Maximize preferred accommodation revenue

In an effort to increase preferred accommodation revenue, effective March 1st, 2014 NHH increased semi-private and private accommodation rates to align with the highest rates of Central East LHIN hospitals. This increase in rates resulted in a 17.5% increase in preferred accommodation revenue from 2013/2014 to 2014/2015. Based on this result, NHH incorporated an additional 3% or $44,500 increase in preferred accommodation revenue in its 2015/2016 Operating Plan. However, NHH has since experienced a decline of 22.7% in preferred accommodation revenue through the second quarter of the current fiscal year due to changes in insurance coverage and decreasing uptake by patients to request semi-private accommodation. As noted in the Environmental Scan, there is a lower income and higher percentage of lone parent families living in Cobourg, thus affordability for many is a factor contributing to the decline in requests and signed authorization for preferred accommodation.

Current practice at NHH is to obtain the patient's signature authorizing the billing of preferred accommodation charges to their insurance companies. Any difference not covered by insurance is then billed to the patient, as clearly articulated on the signed authorization form. NHH has a very low bad debt rate of about 1% on preferred accommodation based on the past two fiscal years. Beginning November 2015, NHH commenced tracking potential "missed" billings. To date, only two patients refused to sign the authorization form due to the lack of full coverage by their insurance company. Without this authorization, it is unethical for NHH to bill the insurance companies.

The Chief Financial Officer will review NHH's preferred accommodation policy to ensure that all patients or their insurance carriers are appropriately billed for preferred accommodation. Other options for generating additional preferred accommodation revenue will also be explored, including obtaining credit card information in advance; however, increasing rates are expected to result in less patient uptake and more bad debts effectively negating any potential increased revenue.

Given the current climate, and recent experience of declining revenues, it is unlikely that NHH will be able to generate significant incremental revenue ($120,000) as suggested by the Operational Review. Clarification of the NHH process and concern regarding the ability to achieve an additional $120,000 in revenue through preferred accommodation was clarified with the Operational Review Team several times verbally and through an email exchange; however the recommended savings target was not altered.

NHH is anticipating that its further review may assist with retaining revenues at 2015/2016 budget levels. It is important to note that the differential and co-payment revenue incorporated

into the hospital's 2015/2016 and 2016/2017 Operating Plans are $20,000 higher than the amount assumed in the External Operational Review. In addition, NHH is projecting to hold this revenue line whereas the Operational Review financial projection assumed an annual 2% decrease commencing in the 2017/2018 fiscal year. (Recommendation #16)

Achieve "break even" state in retail food services

Multiple changes at NHH over the past five years have helped reduce the deficit in the hospital's retail food service operation, the Main Street Bistro. Actions taken to date have included the exploration of outsourcing the service, a reduction in operating hours (including elimination of evening and weekend hours of operation and shifting hours of operation), a reduction in full-time equivalent positions, and an increase in revenue through steady price adjustments. In addition, menus were enhanced based on customer focus groups and feedback, and improved vending was implemented. As a result of these initiatives and current experience, NHH has identified $10,000 in annual savings commencing 2016/2017. While the long-term goal for the Bistro remains to break even financially and eliminate subsidizing by the hospital, additional strategies will now be explored in the context of the HIP as, despite the many past efforts, the Bistro remains in a deficit position.

While there is currently a cost associated with NHH's retail food service, eliminating this subsidy will be a challenge without eliminating the service. NHH is reluctant to take this action as it would directly impact families who purchase meals while waiting/visiting with a family member, remove what is viewed as a key service for employees, physicians and volunteers, and eliminate on-site catering options for meetings/functions held on site.

Another consideration is the fact that NHH's retail food service currently helps off-set some of the patient food services costs such as dishwashing and time spent between staff working in both patient and non-patient food service areas.

The VP, Human Resources and Quality will implement further changes in retail food services with the goal of further reducing the amount of subsidization of this operation by the hospital. A preliminary review has identified potential for further annual savings of $24,000 effective fiscal 2017/2018 through reduced hours of operation. This work will be monitored by the Board Improvement and Sustainability Sub-Committee. (Recommendation #15)

Clinical Efficiencies

The initiatives captured within this section relate to the enhancement of clinical efficiencies. Again, many initiatives flow directly from the Operational Review. They also reflect insight gained from the *HCM Benchmarking Report* and Ministry of Health and Long-Term Care data. Clinical efficiency initiatives fall within both short- and medium-term time frames. Where tied to a particular Operational Review recommendation, that recommendation is referenced. Monitoring the progress related to the various initiatives focused on clinical efficiencies will be carried out by the Board Improvement and Sustainability Sub-Committee. For more information on timelines and monitoring, see **Appendix 1**.

Reduce length of stay (LOS)

As noted in the NHH Environmental Scan (**Appendix 5**), NHH serves a much older population with 20.7% of its catchment being 65 years of age and older compared to the Central East LHIN at 15% and Ontario at 14.6%. Within the west Northumberland catchment Cobourg currently has the highest population 65 years of age and older with the rate at 26.5%.

Today's mounting health care challenge stems from the growing number of seniors living with chronic conditions who have complex care needs, functional limitations, and lower mobility levels. Seniors living with chronic conditions experience the healthcare system the most and utilize the majority of the healthcare dollars.

Recognizing the unique needs of its senior patient population, NHH has been committed to seeking innovative strategies to drive system level change as it sought ways to improve care while achieving the necessary efficiencies such as reduced lengths of stay and low readmission rates.

As a result of this commitment to seeking innovative practices, NHH is pleased to highlight two key initiatives which, in addition to improving quality of care and promoting best practice, also play a critical role in reducing length of stay and readmission rates.

The first of these innovative initiatives is the Central East LHIN-funded Assess and Restore Intervention pilot. Now into the second year of a three-year pilot, the NHH Assess and Restore Intervention model of care provides comprehensive gerontological assessment—the identification of geriatric syndromes and interventions for those older persons who are frail at-risk seniors and, as such, the most at risk both in hospital and in the community. The focus is known within gerontology **to prevent** the cascading effects of health decline that often result in more complex health needs or failure of the person to live at home. Recognized by the province as a leading practice, this model is unique in that it also diverts patients from the NHH ED directly into Assess and Restore, bypassing acute care where the frail senior is at higher risk for increased iatrogenesis.

Evaluation measures in the first Assess and Restore pilot demonstrated a decreased length of stay, an increased number of patients discharged home with fewer being institutionalized in

long-term care settings. Early indications of the second pilot are showing similar positive outcomes.

The second innovation, grounded in person-centred care principles, is the award-winning Partners Advancing Transitions in Healthcare (PATH) project, a partnership of patients, caregivers and cross-sector providers working together using experience based co-design methodology to make system-wide changes that will better meet the needs and improve the experience of seniors living with chronic conditions as they transition through the local healthcare system.

Critical to the success of PATH, patients, caregivers, and providers together co-designed the *PATHway to Aging Well Portal* (for patients and providers), and The *PATHway to Aging Well Mobile App* (for patients).

These intuitive e-solutions allow seniors, caregivers and providers to securely connect via a computer, tablet or mobile device to:

- access and share personal health information from their EMR including lab and diagnostic test results;
- share their health and life story with providers;
- easily communicate their physical and emotional needs with their healthcare team;
- monitor and self-manage their health conditions from home; and
- provide real time feedback about their healthcare experience after every healthcare encounter.

As part of the PATH project, the data collected through the PATH e-solution provided the PATH team with a new understanding of patients' self-identified needs, providers' responses to those needs, barriers in the current system to meeting those needs, patient experiences, patient engagement in self-care and related trends. While The Change Foundation evaluation has been completed, the formal quantitative results of the PATH project are still pending.

Preliminary anecdotal information from PATH patients tells us that because they feel better able to self-manage their conditions and have improved access to enhanced care coordination, they are better equipped to be engaged and empowered in the management of their own care.

In fact, many PATH patients told us they have witnessed a reduction in physician office, emergency and hospital visits. This effectively shifts the locus of control from the provider to the patient and caregiver.

One key element of PATH was the development and introduction of the Volunteer Transition Coach (VTC) role. A new service for our community, VTCs provide seniors or their caregivers with "transition partners" or coaches who act as "warm hands" during transitions.

The service provides:

- formally trained volunteers matched with seniors/caregivers;
- support and encouragement during transitions;
- formal recruitment and screening process; and
- education modules.

Early outcomes include the following:

- improved communication between seniors/caregivers/providers;
- seniors and caregivers report feeling supported in having their questions answered and their needs met;
- seniors and caregivers noted reduced anxiety and stress by having a real person help them maneuver through the complex healthcare system;
- decrease in caregiver burden; and
- reports with regard to reduced primary care visits, and unnecessary hospital visits.

Through these and other initiatives, NHH has made great strides in maintaining or reducing length of stay over the past two years. Average length of stay (ALOS) is better than that of the Central East LHIN and the Province as illustrated in the table below.

Broad Program	NHH 2013/2014	NHH 2014/2015	NHH 2015/2016 Q1	CE LHIN 2014/2015	Province 2014/2015
Acute	5.0	5.0	4.1	5.5	5.84
ALC (included in acute)	7.8	7.3	7.6	20.79	14.76
Rehabilitation	22.8	26	24.7	25.1	26.6

A number of strategies have been identified to achieve even further improvement in NHH's length of stay. They have been incorporated into the HIP, as detailed below, and are reflected in the Operational Review in Recommendations #24 through #30, inclusive.

Introduce the use of care maps, discharge unless protocols and documentation of expected date of discharge at time of admission to the hospital. A number of care maps have been developed at NHH for the medical Quality Based Procedures (QBPs), including Chronic Obstructive Pulmonary Disorder (COPD), Congestive Heart Failure (CHF), and Pneumonia. The relevant department chiefs, in collaboration with the Program Director and clinical teams, will develop and implement up to six care maps per year, with a focus on the most common in-patient conditions, and a total of up to 25 care maps completed within four years, i.e. March 31st, 2020. The COS and the VP, Patient Services and Chief Nursing Executive, in collaboration with Access and Patient Flow and the relevant team members, will review and develop formal protocols regarding 'discharge unless' and 'expected date of discharge'. This action plan will be completed by March 31st, 2016 and implemented by September 30th, 2016. Committed to

integrating Quality Based Procedure (QBP) best practices into the organization, NHH actively participated in a recent pilot funded by the Central East LHIN that supported the introduction of electronic QBP order sets into the ICU. The goal was to increase physician utilization of the QBP order sets as a way to drive best practice into the care provided at NHH with the goal of improving patient outcomes and reducing length of stay, while also creating an electronic means of monitoring and auditing best practice uptake. While still too early to measure direct impact on length of stay, in the first month the pilot demonstrated a 44% increase in the utilization of the QBP order sets in the ICU. Responsibility for these initiatives will rest with NHH's clinical teams and be monitored by NHH Quality Practice Councils, MAC, Board Quality and Safety Committee and, ultimately, the NHH Board Improvement and Sustainability Committee. (Recommendations #24, #25 and #26)

Work in collaboration with the CCAC to ensure patients are assessed in a timely manner and a comprehensive plan is implemented to support patients when discharged. Several CCAC case managers are embedded into the hospital team and work closely with staff and physicians to support timely and successful discharge. The existing risk screening tools (i.e. Blaylock and LACE risk assessment tools) and processes to support timely and coordinated discharges will be reviewed by March 31st, 2016 and a plan will be developed to implement identified opportunities by the end of the second quarter in 2016/2017 (September 30th, 2016) . The NHH CEO and COS will meet with the CEO of the Central East CCAC prior to March 31st, 2016 and develop a comprehensive plan, including metrics, to better support hospital patients after discharge into the community. The goal is to have all admitted patients seen by CCAC case managers within 48 hours of admission and a comprehensive discharge plan proactively designed to expedite safe discharge and prevent readmission. Progress on reducing length of stay will be monitored and reported to the senior management team, Medical Advisory Committee and the Board through the Quality Indicator Report. (Recommendations #27 and #28)

Ensure best practice in regard to laparoscopic hysterectomies and early Caesarian sections. Work is underway to address both of these opportunities identified by the Operational Review team on review of benchmarking and MOHLTC data. Per the Operational Review, the Chief of Obstetrics is currently recruiting an additional Obstetrician with expertise in laparoscopic surgery, including hysterectomies. The rate of Caesarian-sections (C-sections) has been monitored closely for the past several years, with each NHH C-section now reviewed to confirm that it met the Society of Obstetricians and Gynaecologists of Canada clinical practice guidelines. By March 31st, 2016, the Chief of Obstetrics and Chief of Surgery will review the current indications for early C-sections to ensure the appropriateness of these interventions. The Chief of Obstetrics will develop and implement a plan that will reduce the current C-section rate to 27.9% by March 31st, 2017. The rate of C-sections is currently an indicator monitored by senior management, the Medical Advisory Committee and the Board's Quality and Safety Committee via the Quality Indicator Report, which is facilitated by the VP, Human Resources and Quality. (Recommendations #29 and #30)

By implementing these strategies to reduce length of stay, it is anticipated that NHH will, by extension, be able to reduce the number of unfunded surge beds that are opened throughout the year saving approximately $300,000 in fiscal year 2016/2017.

Ongoing strategies to further reduce length of stay, to shift inpatient care to ambulatory care, and to ensure comprehensive transitions of care will be developed in 2016/2017 so that NHH is positioned to achieve a further reduction of $300,000 in fiscal year 2017/2018 for a combined cost savings of $600,000 over two years. As noted by the Operational Review, NHH has little opportunity to reduce the use of inpatient days for surgery via further shift to day surgery in light of work completed by NHH in previous years.

Reduce excess Emergency Department (ED) admissions

Based on provincial admission benchmarks, there are relatively few 'excess admissions' from the NHH ED. In total, in 2014/2015 the NHH ED admitted only 183 more patients than would be expected based on the practices of other EDs in the province. That said, any unnecessary admission should be avoided. Upon investigation it was noted that the admission rates from the ED were different when locum physicians were serving. As noted in the *Standardize physician practice in the Emergency Department* initiative, above , although NHH has made great strides in stabilizing ED physician coverage, the department continues to require the support of a number of locum physicians each month. The assumption is that the excess admissions may be related to a lack of sufficient orientation to and/or education for locums about NHH's usual and expected clinical practices, processes, treatment models and resource availability. The Chief of the ED will therefore develop a new ED physician orientation program for all locum physicians and other physicians as relevant by March 31st, 2016 . Implementation of the new orientation program will be completed in 2016/2017.

The Operational Review recommended that NHH could realize a savings of $235,000 by reducing the number of excess admissions that would achieve cost savings for two years only with savings off set by revenue loss in the third year. As time will be required to shift practice, it is anticipated that these savings will be realized beginning in 2017/2018. This work will be monitored by the Medical Advisory Committee, the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis. (Recommendations #20 and #21)

Operational Efficiencies

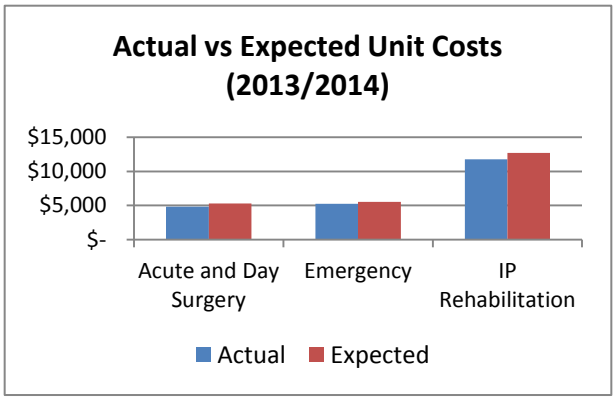
In July 2015, NHH commissioned an independent operational efficiency benchmarking exercise, *HCM Benchmarking Report*, to identify potential opportunities for improved efficiencies. This exercise compared NHH operating performance over the last four fiscal years (2011/2012 to 2014/2015) to that of thirteen comparable peer hospitals, similar in size and clinical complexity to NHH. The findings of this benchmarking exercise, which were supported by the Operational Review, indicated that NHH is an efficient hospital that has demonstrated continued improvement since 2012/2013:

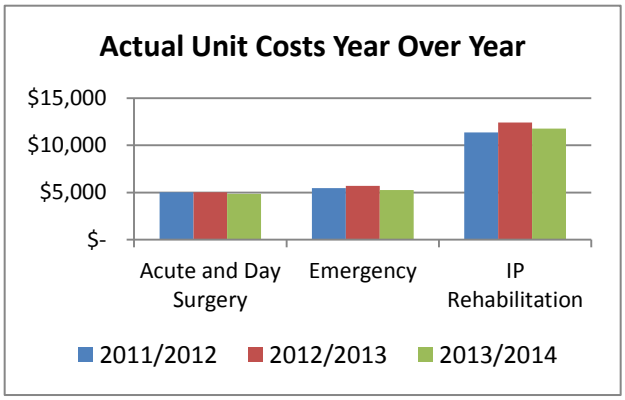
"NHH's 2014/2015 theoretical screening percentage has improved 19.2% from 2013/14 and 29.5% from 2012/13 screening percentages. Relative to the initial screening results (based on best quartile screening) of all HCM benchmarking clients, NHH's 2014/2015 screening percentage is better than 75% of all HCM benchmarking clients.

In comparison with the single-site clients (the majority of which are smaller community hospitals), NHH's 2014/2015 screening percentage is better than 85% of all HCM single-site clients." – Source: HCM Benchmarking Report Letter, July 20, 2015 (see **Appendix 4** for further information regarding the *HCM Benchmarking Report)*.

Another measure of NHH's efficiency is its HBAM (Hospital Based Allocation Model) performance. 2013/2014 HBAM results were used to inform the 2015/2016 HBAM funding under HSFR. The preliminary 2013/2014 HBAM results indicate that NHH has improved in all categories with respect to actual versus expected cost per unit. NHH was better than expected unit cost by 8.63% in acute and day surgery, 4.75% in emergency and 7.48% in inpatient rehabilitation.

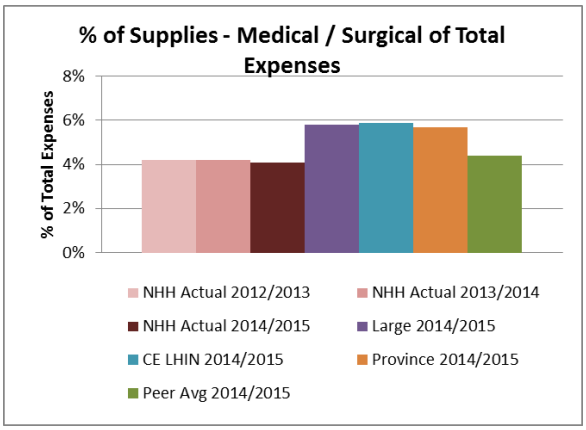
In addition, unit costs have declined over the past three measured fiscal years in acute and day surgery as well as emergency. This efficiency led to an overall cost-based variance of -5.87% and an overall variance of -5.22% resulting in an increase in HBAM funding of $2.2% or $297,748 for fiscal 2015/2016.

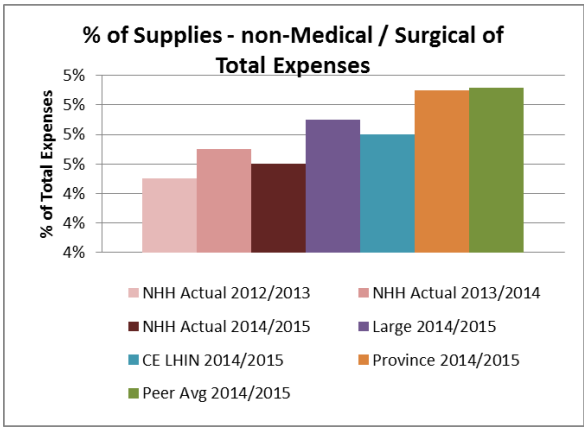


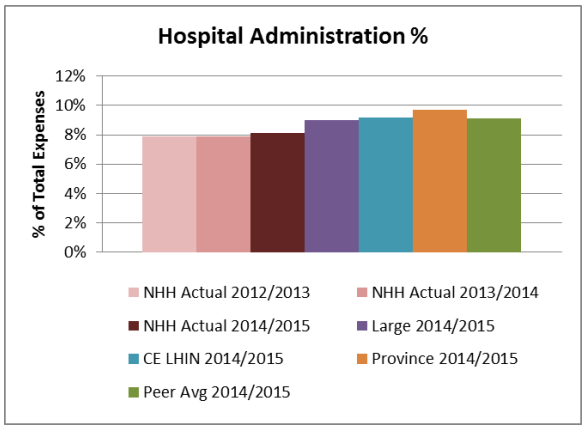


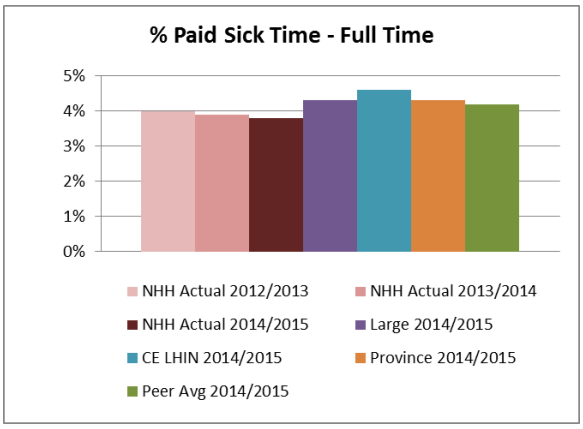
NHH also regularly compares its efficiency to peer hospitals using the Healthcare Indicator Tools available to Ontario hospitals. As demonstrated in the graphs below, NHH performs consistently better than Large Community hospitals, Central East LHIN hospitals, Provincial hospitals and peer hospital averages in many categories, including:

- percent of medical/surgical supplies of total expenses;
- percent of non-medical/surgical supplies of total expenses;
- percent hospital administration of total expenses; and
- percent paid sick time for full-time employees.









Despite the fact that most NHH functional centres are operating at better than the median performance of peer hospitals and many are operating at or better than the best quartile, the benchmarking exercise did identify further opportunities for efficiency in a number of areas, together with targets for savings in these areas. NHH has explored the majority of these opportunities resulting in the development of a number of cost-saving strategies for inclusion in the HIP over the coming two years (2016/2017 and 2017/2018). Progress related to this work will be monitored by the Improvement Plan Steering Committee and the Board Improvement and Sustainability Sub-Committee. Many of these initiatives were supported by recommendations of the Coaching Review, January 2015, and the Operational Review, October

2015. The initiatives fall within both short- and medium-term time frames. Where tied to a particular Operational Review recommendation, that recommendation is referenced. For more information on timelines and monitoring, see **Appendix 1**.

Reduce and realign Support Services management

The VP, Human Resources and Quality will reduce the Supervisor of Housekeeping and the Central Sterilization Room (CSR) by 0.57 of a full-time-equivalent (FTE). The realignment of supervisory responsibilities for CSR, within existing FTEs, will require the appropriate manager to have additional education and hence will not be implemented until late 2016/2017.

Due to the infection control complexities and the nature and scope of work required to ensure patient flow, part-time supervision is required in the Environmental Service department, therefore a full FTE reduction is not achievable. Although information was shared with the Operational Review team during the development of the report regarding the need for some Support Service management, the recommendation remained unchanged. The annual savings estimated in relationship to this initiative is $40,000, versus the projected $80,000 in the Operational Review report, and no one-time costs are expected related to the implementation of this initiative. This change was initiated prior to the Operational Review and was an identified efficiency by NHH management. (Recommendation #34)

Reduce frequency of environmental cleaning in non-clinical areas

Both the *HCM Benchmarking Report* and the External Operational Review identified that NHH Environmental Services Department costs are higher than the best quartile in comparison to peers. The VP, Human Resources and Quality, will ensure that cleaning frequencies in selected non-clinical areas will be reduced resulting in a reduction in Housekeeping staffing of 1.0 FTE. Although this change will reduce the amount of cleaning conducted within the hospital, mitigation strategies will be developed to ensure appropriate infection control principles are maintained. This change may result in decreased maintenance of flooring and reduced cleaning in specified areas, such as office spaces (administrative).

When implemented in 2016/2017, this initiative will result in annual savings of $58,000. These savings reflect the actual wages paid for one FTE in this classification at NHH and are lower than those identified within the External Operational Review. Although information was shared with the Operational Review team during the development of the report regarding the NHH salary rates for Housekeeping staff, the recommended savings target remained unchanged.

In compliance with notice periods associated with collective bargaining agreements, these savings will not commence until mid-July, 2016, and one-time costs related to workforce restructuring will be required. This work will be monitored by the Board Improvement and

Sustainability Sub-Committee and reported to the Board on an ongoing basis. (Recommendation #35)

Explore and assess opportunities in clinical engineering maintenance contracts

NHH has a number of equipment maintenance and biomedical contracts in place to maintain its vital clinical equipment in proper working condition.

Over the last two to three years, NHH has entered into a master service agreement for most of its diagnostic imaging equipment and is progressively adding additional contracts to its agreement with Canadian Medical Equipment Protection Plan (CMEPP), a participant owned, not-for-profit national program focused on procuring medical equipment maintenance services using a cost effective approach. As service contracts end, NHH will continue to add eligible contracts to CMEPP. In addition, NHH leverages group buying power by procuring new equipment and related new or existing service agreements through group purchasing organizations (St. Joseph's Health System Group Purchasing Organization [SJHS-GPO], Central Ontario Healthcare Procurement Alliance (COHPA), and HealthPRO).

NHH currently outsources its biomedical clinical engineering support similar to arrangements that exist with the majority of hospitals in the Central East LHIN. Moving NHH's current biomedical engineering contract to a group purchasing organization has been explored; this investigation confirmed that such a move would increase current costs by approximately 7.2% and is therefore not logical at this time.

The CFO and VP, Human Resources and Quality will pursue further opportunities for shared services through CMEPP and other hospitals in the Central East LHIN. NHH's clinical engineering and equipment maintenance costs remain higher than peer hospitals as identified in the *HCM Benchmarking Report*. Some of this difference is attributable to the maintenance of NHH's Magnetic Resonance Imaging (MRI) unit. MRI is not common to all peer hospitals. The Operational Review recommended that achievement of the peer median performance would result in a reduction of about 15% or $175,000 in clinical engineering and contract costs. (Recommendation #36)

A review to date of existing agreements has identified savings of $41,000 to be realized beginning in 2016/2017. Other existing contracts will be reviewed to determine if early exit without prohibitive cost is possible. As well, time will be required to explore what other opportunities exist and to ensure proper procurement processes under the Broader Public Sector Procurement Directive are followed. As such, although NHH is committed to continuing to actively pursue opportunities to reduce costs related to biomedical and clinical engineering maintenance contracts, there is a heightened concern whether the full target of $175,000 can

be achieved. Further savings are unknown at this time. Progress will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis.

Achieve median productivity performance in Emergency Department (ED)

While the NHH Emergency Department has seen a notable increase in CTAS 2 (emergent), CTAS 3 (urgent) and CTAS 4 (non-urgent) visits, it was noted that the ED benchmarks high in comparison to its peers (see **Appendix 4**). To achieve median productivity performance, the Operational Review recommended staffing mix changes in the ED while also reducing the staffing complement by approximately 6.0 FTE over the next two years with targeted savings of $650,000. (Recommendation #37)

The reduction in staff and the introduction of skill mix changes will require comprehensive work flow re-design to gain the significant work flow efficiencies to support safe patient care. NHH is committed to closely monitoring implementation of these changes, to ensure no negative impact to the ongoing delivery of quality care. To further support this change process, NHH will invest in one-time education for front-line staff.

By working in partnership with all members of the ED health-care team, NHH is committed to leading this change initiative using the LEAN methodology that has resulted in other successful change processes at the hospital while supporting the delivery of safe patient care.

Throughout this change process, the VP, Patient Services and CNE, ED Program Director and ED Chief will develop and actively implement strategies to mitigate any potential risks, including:

- increased ED wait times;
- inability to meet Pay for Results performance wait time targets, (potentially jeopardizing ongoing Pay for Results funding, which supports key NHH ED positions);
- increased wait times in ED as patients may wait for longer periods of time for diagnostic testing (with the loss of the ED Porter position);
- delays transferring admitted patients out of the ED to the inpatient unit (with the loss of the ED flow nurse);
- potential workflow challenges in situations where there is an off-hour trauma or motor vehicle accident that the ED team must respond to where it could be challenging to access sufficient ED staff quickly;
- potential workflow challenges in situations where ED staff must respond to in-house Code Blue situations;
- increased overtime costs;
- decreased staff satisfaction resulting in retention and recruitment challenges;

- increased orientation costs; and
- increased patient complaints.

The VP, Patient Services and CNE, ED Program Director and ED Chief will develop and implement a plan to achieve median productivity performance of 1.43 worked hours per equivalent visit for fiscal year 2016/2017. This plan will include a change in skill mix with the introduction of the RPN role into the NHH ED. Work is underway to implement a large portion of this recommendation in early 2016/2017 with estimated annualized savings of $450,000 and a net reduction of 3.45 FTEs. In compliance with notice requirements set out in collective bargaining agreements, these savings will not commence until mid-July, 2016. Some costs have been mitigated through a reduction of staff via attrition but one-time costs related to workforce restructuring will be incurred. In addition, as noted above, one-time education expenditures of $23,000 will be required. Progress will be monitored through the overall financial performance of the ED as reported through the monthly and quarterly variance analysis provided to the Finance and Audit Committee of the Board. The quality indicators will be monitored by the ED Quality Practice Council, MAC and the Quality and Safety Committee of the Board.

In total, it is expected that the recommended changes in clinical processes and reductions in staffing will provide for a total annual savings of $650,000 over two years.

Consolidate inpatient units

By combining smaller units to create larger patient care units, NHH will be able to attain the best quartile operating efficiency target of 5.95 worked hours per patient day as recommended in the Operational Review. In addition, by maximizing skill mix changes and staffing patterns, NHH is confident that savings will exceed those identified in the Operational Review. (Recommendations #38, #39, #41, #42 and #43). The VP, Patient Services and CNE and the relevant Program Director/Chief will implement the following consolidations/combinations in 2016/2017:

- consolidate the Medical / Surgical units (2A and 2B are both 20-bed units each) on the second floor to create one 36-bed unit and implement a change in skill mix (RN to RPN);
- combine the Restorative Care (16 beds) and Palliative Care (6 beds) units on the first floor into one unit to create a larger 24-bed unit with the addition of the two (2) acute care beds from the second floor;
- move the remaining two acute care beds from the second floor to the Inpatient Rehabilitation unit (18 beds) to create a more cost-effective 20-bed unit;
- achieve a productivity at best quartile performance of 5.95 hours per patient day for all acute care beds, including Palliative Care; and

- achieve a productivity performance of 4.5 hours per patient day for all Rehabilitation and Restorative Care beds.

Note: The physical capacity of either unit on the second floor will not accommodate 40 beds; hence, four (4) acute beds must be moved to the first floor.

Throughout the change process, the VP Patient Services and CNE will develop and actively implement strategies to mitigate any potential challenges, some of which might include:

- a restricted ability to readily accommodate surge capacity and maximize patient flow;
- less than optimal patient flow due to restricted physical space;
- loss of synergies forged between the current 2A and Maternal Child patient care units;
- increased orientation costs due to loss of trained staff as a result of staff bumping; and
- potential for increased patient complaints.

The savings estimated for this initiative in the Operational Review report was $320,000. Upon review of skill mix changes and scheduling changes that are made possible through combining the units, NHH is projecting an annualized savings of $580,000 and a net reduction of 4.80 FTEs. There will be significant workforce restructuring costs associated with implementing these changes. In compliance with collective bargaining agreements, these savings will not commence until mid-July, 2016.

To mitigate the identified challenges associated with accommodating surge capacity and NHH's ability to maximize patient flow, as noted above, one-time construction costs of approximately $60,000 are being estimated which will support the placement of a fire barrier door between 2A and 2B. This will provide the new larger unit with access to additional rooms in which surge patients could be admitted. Additionally, to support changes on Restorative Care and Palliative Care, one-time education costs of $37,500 have been identified.

Progress will be monitored through the overall financial performance of the relevant programs as reported through the monthly and quarterly variance analysis, as facilitated by the NHH CFO and provided to the Finance and Audit Committee of the Board. The quality indicators will be monitored by the relevant Quality Practice Councils, MAC and the Quality and Safety Committee of the Board.

Reduce reliance on float pool

NHH recognizes the need to develop a sustainable approach to part-time staffing for nursing across the organization. As NHH moves towards larger patient care units, there will be better opportunities to create wholesome part-time positions that were not possible with the smaller unit sizes, thereby reducing NHH's reliance on the float pool. This will assist in improving the organization's ability to be more flexible when an increase in staffing is required. This initiative is

contingent on completion of the *Consolidate inpatient units* initiative noted above. (Recommendation #40)

Float pool staffing is not considered incremental to the operating budget; only the benefit hours associated with the full-time staff represent additional costs. With the elimination of the medical float pool, the RPN float pool and a reduction of staff in the critical care float pool, NHH will be positioned to meet this recommendation in 2016/2017. The remaining four (4) RNs in the critical care float pool will be essential in light of the significant staffing reductions planned in the NHH ED.

There is a potential risk that part-time staff may not be willing or able to pick up the volume of shifts that may be required as many work in other organizations and therefore cannot flex their schedules.

There may, as well, be challenges in recruiting the high number of part-time positions required which will result in increased use of overtime to cover sick calls, maternity leaves of absence, vacations, etc. In the past, nurses were not responding to part-time openings primarily due to larger centers offering full-time positions with benefits.

The NHH float pools were initially implemented as a measure to avoid additional costs including overtime costs that were resulting from a lack of available health human resources (HHR) in some specialty areas. This shortage of HHR was because of competition with other organizations and a provincial skill shortage (e.g. Critical Care).

The Operational Review identified the potential for $178,500 in savings with this initiative; it is unclear how these savings were calculated. Based on current wage rates and the reduction to four (4) critical care float nurses, the NHH VP Patient Services and CNE is confident in targeting annualized savings of $278,000 and an overall reduction of 2.48 FTEs. Due to notice periods required in compliance with collective bargaining agreements, these savings will not commence until mid-July, 2016. The reduction of staff will result in significant workforce restructuring costs. Some of the labour relations challenges have been mitigated through a reduction of staff via attrition. Work on this initiative will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis.

Achieve ICU productivity performance target

Over the last number of years with the successful recruitment of additional Medical Internists, the NHH Level II ICU has shifted from an open ICU model where all physicians including family practice could admit their patients to a closed model where only Internal Medicine, Anesthesiologist and Surgeons can admit patients into the ICU.

Prior to the recruitment of the additional Medical Internists, NHH relied heavily on its regional partners to accept the more complex Level II ICU patients due to limited Internal Medicine expertise, placing a strain on the overall critical care capacity within the Central East LHIN.

With the successful recruitment of additional Medical Internists that supports 24 / 7 Medical Internist coverage NHH is now positioned to provide this much needed Level II ICU service to its local community thereby reducing the strain on our regional partners for critical care services while allowing our community to receive care close to home. Additionally, the NHH Environmental Scan (Appendix 5) also highlights the fact that over the past 3 years NHH's ED has seen a notable increase in CTAS 2 (emergent), and CTAS 3 (urgent) visits, which has increased the demand for ICU admissions.

As a result of these changes, the NHH ICU has been increasing its capacity and capability to retain and care for patients who had previously been sent to regional centres, especially patients who required ventilation. Since this time, NHH has seen an increase in patient acuity, the number of ventilated patients and overall ICU patient volumes. Important to note is the fact that the ICU had an average of 45% ventilated patient occupancy over the last six months, higher than its comparator hospitals.

In order to accommodate the overall increase in ICU patient acuity, a large number of ventilated patients and a higher volume of ICU patients than previously budgeted for, the Operational Review recommended that the ICU's performance target be set at 17 worked hours / patient day. As such, the VP, Patient Services, Program Director, ICU, and Chief, ICU, will develop and implement a plan to operate the ICU at a performance target of 17 hours per patient day for 2016/2017.

This recommendation supports an increase of approximately 2,200 worked hours annually to increase RN and RT resources to meet the increase in ICU volumes and patient acuity. The investment of $189,000 effective April 1st, 2016 has been built into the Hospital Improvement Plan to accommodate this initiative. Progress will be monitored through the overall financial performance of the ICU as reported through the monthly and quarterly variance analysis, facilitated by the NHH CFO and provided to the Finance and Audit Committee of the Board. The quality indicators will be monitored by the ICU Quality Practice Council, MAC and the Quality and Safety Committee of the Board. (Recommendation #44)

Combine small outpatient departments

To support quality of care and provide best practice, NHH will implement a Nurse Navigator role for the Pre-Operative Assessment Clinic to support complex surgical procedures, acuity of surgical patients, Enhanced Recovery After Surgery (ERAS) standards, in-depth assessment and health teaching components. The goal of this change is to support improved patient experience through the patients' surgical journey. In other organizations, the implementation of ERAS standards—now considered a best practice—has demonstrated decrease in length of stay, decreased surgical complications, and improved recovery and patient experience. This change requires an annual gross investment of $42,000.

To offset this investment and in an effort to gain operating efficiencies, support best practice, and better meet the changing needs of the patients being cared for in Ambulatory Care and Pre-Operative Assessment Clinic, these two departments will be combined into one. Both departments are currently co-located and staff members currently cross-cover as needed. The combination will result in a change in skill mix and a change in the ratio of full-time to part-time staff, which together will provide increased flexibility and allow for overlaps in coverage, when needed, to better support the clinics and services provided. Gross annual savings from this initiative are $81,000.

Together, this initiative, overseen by the VP Patient Services and CNE, will result in net annualized savings of $39,000 and net reduction of 0.71 FTEs. Due to notice periods required in compliance with collective bargaining agreements, these savings will not commence until mid-July, 2016. The reduction of staff will result in significant workforce restructuring costs. This work will be monitored by the Quality and Practice Committee and Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis.

Restructure clinical administration

Managers at NHH have broad spans of control with most having responsibility for multiple departments. The Operational Review recommended the need to provide greater managerial support at the clinical unit level, namely, a reduction in a director position and an increase in a manager position. NHH has accepted this recommendation and the VP, Patient Services and CNE will implement a plan to decrease by one Program Director and increase by one Patient Care Manager effective April 1st, 2016.

The change may result in a loss of expertise from the organization. Implementation of this recommendation will have minimal financial impact. Net annual savings are expected to be $12,000, due to wage variation between the Program Director and Patient Care Manager roles, which was not taken into consideration by the Operational Review team. There is no change in FTEs; no restructuring costs are associated with this initiative. This work will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis. (Recommendation #48)

Review opportunity to alter approach to after-hours management

NHH currently employs a Clinical Operation Manager (COM) role that is present through the evening (Monday through Friday) and weekend (days) as the only management position in the hospital. Support is provided to both clinical and non-clinical areas.

Consistent with the Operational Review's recommendation that NHH increase front-line managers to support staff as the organization transitions through significant change, this front-line management role has been very beneficial to NHH, particularly on weekends, holidays and

after normal business hours, supporting the flow of patients, reducing overtime, supporting front-line staff and contributing to the smooth and efficient functioning of the hospital.

COMs are key management representatives who assist with change management initiatives. They play a central role in supporting positive public relations by addressing patient/family concerns or complaints in a timely manner. As well, the role has supported the work of the management team by resolving issues in the off-hours and maximizing uninterrupted time off in the evenings for clinical leaders who are already carrying significant workloads.

Because the COMs work throughout the hospital, they often identify trends that could not be identified by others who do not work across the hospital. They also play an integral part in ensuring positive employee and public relations.

Notwithstanding these benefits, the Operational Review recommended the modification of the hospital's current approach to after-hours management support within the next two years with a suggested cost savings potential of $225,000. (Recommendation #47)

With revisions to the scheduling that took place in 2015/2016, NHH has been able to achieve some of these estimated cost savings by reducing the cost of the COM structure by $35,000 with a reduction of 0.33 FTEs, leaving further estimated savings of $187,000 to be achieved. NHH will continue to explore alternative after-hour models, considering strategies that support the following needs, namely:

- decreased overtime;
- sustained patient safety;
- 'just in time' after hours management of critical situations;
- leadership presence in the off hours while the hospital operates 24 / 7;
- ability to support change management on weekend and evenings;
- management visibility / presence on weekends and evenings;
- increased patient flow throughout the organization supporting decreased lengths of stay, decreased wait times in ED, etc.;
- decreased number of calls to the Program Director/Patient Care Manager on call, increasing quality of work life and supporting staff retention;
- ability to effectively pull change through the organization; and
- availability of resources to coach and mentor the development of clinical leadership in the off hours for front line staff.

NHH is committed to continuing to actively pursue this initiative and the CEO and VP, Patient Services and CNE, in collaboration with the Program Directors, will explore opportunities to modify the hospital's approach to after-hours management over the next year (2016/2017). That said, there is heightened concern with the ability to achieve the full savings of $187,000. Further savings are unknown at this time as care must be taken to avoid changes to after-hours management that could be detrimental to the success of the overall HIP and the ongoing efficiency of the hospital.

Achieve best quartile performance in the Laboratory

On review of benchmarking data for the NHH Laboratory, it was noted that NHH benchmarked high in its labour costs compared to peer hospitals. To achieve efficiency in the Laboratory Department, one position on the night shift will be eliminated. Nursing staff in the ED and in the ICU will perform ECGs and phlebotomies as necessary. This is within their scope of practice and is common practice in other facilities. In addition, this initiative will lay the necessary groundwork for the potential introduction of Point of Care Testing (see below).

The VP, Human Resources and Quality will provide oversight for this initiative. The annual savings from implementing this initiative will be $120,000 with a net reduction of 1.49 FTEs. In compliance with the notice periods set out in collective bargaining agreements, these savings will not commence until mid-July, 2016. The reduction of staff will result in workforce restructuring costs. This work will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis.

Introduce Point of Care Testing (POCT)

Point of Care Testing (POCT) is being conducted in many hospitals and, on the recommendation of the External Operational Review (Recommendation #50), the COS, Chief of Emergency Medicine, VP, Human Resources and Quality and Laboratory Director will collaborate to explore the feasibility of introducing POCT on the night shift in both the NHH ED and ICU.

The External Operational Review recommended NHH seek savings of $200,000 through eliminating Laboratory staffing on nights and implementing POCT within the ED and ICU on nights. The first step toward achieving these savings will be taken by reducing night staff within the Laboratory for implementation in mid-July 2016 with annualized savings of $120,000 (see above). The remaining targeted savings of $80,000 are expected to be realized with implementation of POCT effective 2017/2018.

Successful implementation of POCT requires physician support, acquisition of a new set of skills for critical care nurses including knowledge of the laboratory regulatory issues, a commitment to training, annual recertification and a robust quality improvement program related specifically to POCT. Among the risks identified by the NHH physicians in preliminary consultation is the

challenge to NHH's ability to continue to provide consistent acute care services. Clarity is needed on how lab testing would be conducted in a POCT environment to support urgent/emergent trauma management, labour and delivery and emergency surgery. As well, a thorough review and cost analysis is required prior to implementation to ensure patient safety and savings. The experience of other peer hospitals in successfully incorporating POCT into their operation will guide NHH's research into the risk mitigating strategies.

The VP, Human Resources and Quality will prepare a full report on POCT to be presented to the Medical Advisory Committee (MAC) and the Board by the end of March 2016. On satisfaction of risk mitigation strategies, procurement following the Broader Public Sector Procurement Directive will be conducted with a targeted implementation in 2017/2018. Consideration of potential integration opportunities within the NHH Laboratory must also be taken into account as this initiative is explored. This work will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis.

Outsource microbiology

Microbiology services are being outsourced in many organizations due in part to the increase in specialization in this area. Per the Operational Review's recommendation, NHH's VP, Human Resources and Quality, will develop an action plan to refer out microbiology services to an external party and implement no later than fiscal 2017/2018.

In keeping with relevant legislation, a procurement process to identify a viable partner is now underway. Factors that will be considered in the development of the supporting action plan will include the cost of providing a courier service, which is required twice a day, seven days a week, and connectivity to NHH's clinical information system.

A suggested annualized savings of $50,000, per the Operational Review, will be NHH's goal. One-time information technology costs and restructuring costs associated with this initiative will be identified as the action plan is developed. This work will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis. (Recommendation #51)

Introduce Voice Recognition Technology (VRT)

Further to the recommendation of the External Operational Review, the VP, Human Resources and Quality and CFO will introduce Voice Recognition Technology (VRT) for use in a number of departments at NHH, specifically: Diagnostic Imaging, Health Records and Community Mental Health. VRT will change the manner that transcription of medical reports is currently performed and comprehensive editing of reporting will be required to ensure accuracy.

Among the risks that must be mitigated are:

- ability of the technology to understand accents;
- accuracy of transcription;
- quality of the report; and
- a tendency to truncate reports.

There will also be significant one-time costs and ongoing costs (for example, equipment purchase, training, equipment maintenance, and restructuring costs). A formal procurement process will be required under the Broader Public Sector Procurement Directive. Following that process, this initiative will be implemented no later than fiscal 2017/2018. The Operational Review suggested savings of $100,000 were possible with this initiative and this is NHH's goal. This work will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis. (Recommendation #33)

Review Hospitalist program model

NHH has had a Hospitalist program for the past four years. This program was implemented to support the rapidly growing number of patients whose family physician does not hold privileges at the hospital. Implementing the Hospitalist program reduced the cost of the "town call" program which paid family physicians to take on extra patients and stabilized coverage for a large number of hospital patients. At present, approximately 60% of NHH's in-patient case load is managed by the Hospitalists. Since implementation, the program has continually enhanced the continuity of care and standardization of practices, however, the Operational Review suggested that the NHH model is more costly than similar programs in other hospitals.

As such, work has begun to review other potential models to support most responsible care of unaffiliated patients and review the potential to reduce the total costs of the current NHH Hospitalist program. Discussions to date have identified the opportunity for better alignment between the role of the Hospitalists and their support for key hospital-wide initiatives related to quality and efficiency. The Operational Review identified an alternative compensation model for the Hospitalists which has since been found unacceptable to the current Hospitalists. One of the four individuals providing Hospitalist support subsequently withdrew from the program, effective January 2016. At this time the potential to capture the estimated savings of $150,000, as suggested in the Operational Review, does not appear feasible. However, $50,000 in annual savings are projected commencing in 2017/2018. NHH is committed to achieving this portion of the proposed saving by increasing the accountability of those in the role to support reductions in length of stay and other utilization efficiency efforts.

It should be noted that, prior to the finalization of the Operational Review report, the NHH CEO, on several occasions, including the last Steering Committee meeting, identified significant concern that the savings target of $150,000 was not realistic. The recommendation remained unchanged.

To offset some of the $100,000 shortfall, NHH will reduce its reliance on locums by filling vacant positions within the medical human resource plan, thus avoiding the cost of the stipends currently paid to support this work. That said, there is heightened concern that the targeted savings totaling $150,000 will not be achieved. Performance related to this initiative will be monitored by the CEO, COS and MAC and reported to the Board Improvement and Sustainability Sub-Committee. (Recommendation #53)

Integration

Though both external reviews of NHH predicted modest efficiency opportunities still available ($1 to $2 million, in the Coaching Review team's analysis, $3 million in the Operational Review team's estimate), efficiencies alone are not sufficient for NHH to attain nor sustain a balanced budget. The biggest challenge to NHH's sustainability and autonomy is its ability to remain financially viable within the context of health system funding reform and system transformation. NHH must actively pursue opportunities to further reduce costs by partnering or integrating services in order to maintain services that meet the rising needs of the community.

Recognizing its legal obligation to pursue integrations, the NHH Board will challenge management to intensify its work to identify viable and implementable programmatic- and support service-level integration opportunities. This work will focus on opportunities to partner with hospitals and other health care providers to reduce the cost of care delivery. A number of areas of potential partnerships were specifically identified by the Operational Review. These include corporate services (e.g. finance, human resources, and information systems), support services (e.g. communications, materials management, laundry/linen, health records), clinical engineering and clinical laboratories. NHH's CEO, in collaboration with the Senior Management Team, will take a leadership role in actively pursuing these and other potential opportunities.

The Operational Review identified the following potential integration savings:

- Corporate Services $827,234
- Support Services $527,723
- Clinical Engineering $249,832
- Clinical Laboratories $666,613

The total potential HIP integration savings were estimated at: $2,271,402

NHH currently has a number of successful partnerships with hospitals within the Central East LHIN. These include a partnership with Ontario Shores for administrative leadership of the Community Mental Health Program; a partnership with the Central East Regional Cancer Centre (via Lakeridge Health) supporting cancer care close to home for Northumberland residents; a partnership with Peterborough Regional Health Centre supporting satellite dialysis services at NHH; and, a shared Information Technology (IT) system with Peterborough Regional Health Centre and Campbellford Memorial Hospital.

Discussions are also ongoing with four other Central East LHIN hospitals regarding opportunities related to the integration of information systems. NHH has agreed to participate in a joint RFP for a new Clinical Information System with these hospitals and would look to integrate IT supports should this initiative move forward in the future. NHH has been and continues to be

very supportive of a Central East LHIN-wide Clinical Information System and is hopeful this goal will be reached. A common Clinical Information System could potentially provide a foundation for further partnerships for back office activities, including decision support and health records.

Building on its strong track record for successful partnerships, preliminary discussions have already been held with a number of the Central East LHIN hospitals to explore mutual interests to further investigate partnerships within corporate and support services as well as clinical laboratories.

NHH will take advantage of all integration opportunities as quickly as possible. This work will be undertaken in the coming months and will continue over a number of years. An NHH process plan for moving forward specific opportunities will be completed by June 2016 and will become part of NHH's next four-year strategic plan, soon to be developed. This work will be monitored by the Board Improvement and Sustainability Sub-Committee and reported to the Board on an ongoing basis. Several Board education sessions are planned in the coming months which will feature guest speakers from organizations who have successfully completed various integrations and partnerships. NHH appreciates the initiative the Central East LHIN has taken to organize a recent discussion among Board chairs and CEOs in the North East Cluster of the LHIN regarding current and future integration opportunities.

There is little ability to presently quantify potential savings related to such initiatives. The Operational Review has identified these as "potential integration savings" and work must now be done to determine if the potential estimates are realistic. That said, NHH is fully prepared to engage in this work with the goal to reach the $2.27 million dollars estimated savings through partnering with others. NHH values the ongoing support of the Central East LHIN and regional health care partners in moving these discussions forward.

E. Financial Summary

Summary of Utilization, Clinical and Operational Efficiency Initiatives

The following two tables (*Fiscal Year 2016/2017* and *Fiscal Year 2017/2018*) summarize the utilization, clinical and operational efficiencies described in Section D, highlighting the estimated annualized and fiscal year net savings, net full-time equivalent (FTE) reduction and identified one-time restructuring costs. It is important to note that the summaries show the financial impact if 100% of the savings are achieved as outlined.

Fiscal Year 2016/2017

Improvement Initiative	Page Reference	Savings Target Estimated by Operational Review	Annualized Savings (Investment) Estimated by NHH	2016/2017 Fiscal Year Savings (Investment) Estimated by NHH	Increase (Reduction) in FTEs	Estimated One-time Restructuring Costs
Formal delineation of roles, responsibilties and accountabilities of department chiefs	26	$ (80,000)	$ (80,000)	$ (80,000)	-	$ -
Maximize preferred accommodation revenue	31	$ 120,000	$ -	$ -	-	$ -
Achieve "break even" state in retail food services	32	$ 76,000	$ 10,000	$ 10,000	-	$ -
Reduce length of stay (LOS)	33	$ 150,000	$ 300,000	$ 300,000	-	$ -
Reduce excess Emergency Department (ED) admissions	37	$ 235,000	$ -	$ -	-	$ -
Reduce and realign Support Services management	40	$ 80,000	$ 40,000	$ 40,000	(0.57)	$ -
Reduce frequency of environmental cleaning in non-clinical areas	40	$ 95,000	$ 58,000	$ 41,000	(1.00)	$ 46,000
Explore and assess opportunities in clinical engineering maintenance contracts	41	$ -	$ 41,000	$ 41,000	-	$ -
Achieve median productivity performance in ED	42	$ 162,500	$ 450,000	$ 320,500	(3.45)	$ 77,000
Consolidate inpatient units	43	$ 320,000	$ 580,000	$ 411,000	(4.80)	$ 330,000
Reduce reliance on float pool	44	$ 178,500	$ 278,000	$ 197,000	(2.48)	$ 140,000
Achieve ICU productivity performance target	45	$ (150,000)	$ (189,000)	$ (189,000)	1.66	$ -
Combine small outpatient departments	46	$ -	$ 39,000	$ 27,500	(0.71)	$ 161,500
Restructure clinical administration	47	$ -	$ 12,000	$ 12,000	-	$ -
Review opportunity to alter approach to after-hours management	47	$ 35,000	$ 35,000	$ 35,000	(0.33)	$ -
Achieve best quartile performance in the Laboratory	49	$ -	$ 120,000	$ 85,000	(1.49)	$ 38,000
Introduce Point of Care Testing	49	$ 200,000	$ -	$ -	-	$ -
Introduce Voice Recognition Technology	50	$ 100,000	$ -	$ -	-	$ -
Review Hospitalist program model	51	$ 150,000	$ -	$ -	-	$ -
Reduce Non-Labour Costs in Diagnostic Imaging (note1)	n/a	$ 100,000	$ 100,000	$ 100,000	-	$ -
Total 2016/2017 Initiatives		$ 1,772,000	$ 1,794,000	$ 1,351,000	(13.17)	$ 792,500

(note 1: the savings in non-labour costs in Diagnostic Imaging were completed as part of the 2015/2016 Operating Plan)

Fiscal Year 2017/2018						
Improvement Initiative	Page Reference	Savings Target Estimated by Operational Review	Annualized Savings (Investment) Estimated by NHH	Fiscal Year Savings (Investment) Estimated by NHH	Increase (Reduction) in FTEs	Estimated One-time Restructuring Costs
Achieve "break even" state in retail food services (continued)	32	$ -	$ 24,000	$ 24,000		
Reduce length of stay (continued)	33	$ 450,000	$ 300,000	$ 300,000		
Reduce excess ED admissions (continued)	37	$ -	$ 235,000	$ 235,000		
Explore and assess opportunities in clinical engineering maintenance contracts (continued)	41	$ 175,000	Unknown at this time	Unknown at this time		
Achieve median productivity performance in ED (continued)	42	$ 487,500	$ 200,000	$ 200,000		
Review opportunity to alter approach to after-hours management (continued)	47	$ 190,000	Unknown at this time	Unknown at this time		
Introduce Point of Care Testing (continued)	49	$ -	$ 80,000	$ 80,000		
Outsource Microbiology	50	$ 50,000	$ 50,000	$ 50,000		
Introduce Voice Recognition Technology (continued)	50	$ -	$ 100,000	$ 100,000		
Review Hospitalist Program Model (continued)	51	$ -	$ 50,000	$ 50,000		
Total 2017/2018 Initiatives		$ 1,352,500	$ 1,039,000	$ 1,039,000	-	$ 519,500
Total Utilization, Clinical and Operational Efficiencies		**$ 3,124,500**	**$ 2,833,000**	**$ 2,390,000**	**(13.17)**	**$ 1,312,000**

Approximately $1.8 million in annualized savings are projected for Year 1 of the HIP, of which $1.35 million can be realized in fiscal 2016/2017. These initiatives result in a net reduction of 13.17 FTEs in the first year, 2016/2017. Consistent with accounting standards, the related estimated one-time restructuring costs of $792,500 will be accrued in the 2015/2016 fiscal year as the initiatives were Board-approved by March 31st, 2016. Further one-time transitional costs of $120,500 for renovations and education have been estimated to implement year 1 initiatives; these costs will be incurred in fiscal 2016/2017.

It is estimated that a further $1.0 million in annualized savings are achievable in fiscal 2017/2018. The specific details of FTE reductions and associated one-time restructuring costs cannot be known until the action plans for these strategies are fully developed. For purposes of financial modeling below, it is assumed that one-time restructuring costs will be approximately 50% of the identified annualized savings, or $519,500, and will be accrued in the 2016/2017 fiscal year assuming the initiatives are Board-approved by March 31st, 2017.

As a result of identified strategies, if all fully achievable, NHH is projecting total savings from utilization, clinical and operational efficiencies of over $2.8 million over two years. Total one-time restructuring costs related to these initiatives have been estimated at over $1.3 million over two years. Combined with the identified one-time transitional costs, the total financial burden of one-time costs to implement these initiatives is estimated at $1,432,500.

Impact on Health Human Resources

The total net impact on full-time equivalents (FTEs) resulting from the utilization, clinical and operational efficiencies initiatives for fiscal 2016/2017 is a decrease of 13.17 FTEs, as noted in the table above. This decrease translates to a reduction of approximately 25,565 hours. With other minor changes in hours (for example, changes in vacation entitlement, scheduling changes, etc.) the total net decrease in FTEs from 2015/2016 budget is 15.58 as shown in the table below.

	2015/2016 Budget	2016/2017 Budget	Increase (Decrease)
Nursing Inpatient Services	154.97	148.72	(6.25)
Ambulatory Care Services	59.20	51.66	(7.54)
Diagnostic and Therapeutic Services	74.76	73.41	(1.35)
Administration and Support Services	102.70	101.28	(1.42)
Other Vote Services	27.54	28.52	0.98
Total Full-Time Equivalents	**419.17**	**403.59**	**(15.58)**

Given the scope of change proposed, the impact to staff is significant. NHH currently has 287 full-time, 275 part-time and 32 casual employees for a total of 594 of which the majority are represented by Ontario Nurses Association (ONA), Ontario Public Service Employee Union (OPSEU), Canadian Union of Public Employees (CUPE). The hospital initiatives outlined for 2016/2017 will result initially in 51 layoff notices. There will be subsequent displacement of employees based on the terms of the collective agreements. It is estimated that 50% of those issued layoffs will exercise their right to displace another employee who has lesser bargaining unit seniority, and then a further 50% of those will do the same under the domino bumping provisions. Therefore, the estimated total number of affected individuals is 85 to 90 in the first year of the HIP, which represents approximately 15% of the hospital's total current workforce. The collective agreements between the Hospital and Unions clearly prescribe the process for reducing and/or changing a workforce and the corresponding formulae for offers of early retirement and early exit opportunities. NHH respects the integrity of the collective agreements, and as such, estimates $792,500 for one-time restructuring costs to implement the 2016/2017 initiatives. This amount represents approximately 44% of the total annualized savings for these initiatives, which is less than the 50% estimated by the External Operational Review.

NHH will work closely with its union partners to minimize the amount of staff positions affected. With skill mix and other changes proposed, NHH is able to create 24 new positions, leaving a net reduction of 27 positions. Anticipating the need for staffing adjustments, NHH has made a conscious effort to hold recruitment of selected vacant positions. There are currently six vacant positions, one full-time and five part-time. Forty-eight (48) employees are currently eligible for

early retirement in the affected classifications / areas. Through these vacancies and offers of early retirement and early exit opportunities, NHH will aim to minimize the impact on staff while also meeting its financial obligations.

Financial Modeling Without Additional Funding

The following financial modeling presents the best case scenario, assuming all of the identified savings targets, including the estimates related to yet-to-be defined partnership and integration opportunities, are realistic and achievable within the timelines established. Furthermore, the financial summary assumes no change in service volumes, despite the anticipated growth in patient demand which can place additional pressure on NHH physical and financial capacity.

The financial projections below include the following assumptions:

- no funding increases or net change in HSFR funding as a result of the introduction of new QBPs or pricing changes for existing QBPs;
- NHH will not receive the third installment of the Working Funds Deficit Initiative funding given its projected operating deficit for 2015/2016;
- 2% annual inflationary increases for salaries, wages, and benefits;
- 1% to 2% annual inflationary increases for relevant non-labour expenses;
- potential savings from yet-to-be identified integration opportunities are estimated at $2.27 million, consistent with the estimates provided by the Operational Review, of which 25% will be realized in Year 3 and the remaining 75% will be achieved in Year 4 of the HIP; and
- restructuring costs associated with the potential integration opportunities are estimated at 50% of the savings, or $1,135,000, and recognized in the same year of the savings assuming that is the same year Board decisions are made.

Northumberland Hills Hospital						
Summary of Financial Projections						
For Fiscal 2015/2016 to 2020/2021						
		HIP Year 1	HIP Year 2	HIP Year 3	HIP Year 4	HIP Year 5
	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
	Forecast	Budget	Projections	Projections	Projections	Projections
Base Operating Funding	$ 38,883,100	$ 38,861,000	$ 38,861,000	$ 38,861,000	$ 38,861,000	$ 38,861,000
Other Ministry/LHIN/CCO Funding	$ 4,999,600	$ 5,058,600	$ 5,058,600	$ 5,058,600	$ 5,058,600	$ 5,058,600
Patient & Other Revenue	$ 15,411,400	$ 14,708,900	$ 14,708,900	$ 14,708,900	$ 14,708,900	$ 14,708,900
Other Votes Programs	$ 3,152,900	$ 3,725,900	$ 3,725,900	$ 3,725,900	$ 3,725,900	$ 3,725,900
Amortization of Deferred Capital Contributions	$ 3,923,000	$ 3,923,000	$ 3,923,000	$ 3,923,000	$ 3,923,000	$ 3,923,000
Total Operating Revenue	$ 66,370,000	$ 66,277,400	$ 66,277,400	$ 66,277,400	$ 66,277,400	$ 66,277,400
Salaries, Wages and Benefits	$ 36,543,700	$ 36,246,700	$ 35,511,000	$ 36,221,200	$ 36,945,600	$ 37,684,500
Medical Remuneration	$ 8,974,600	$ 8,604,600	$ 8,554,600	$ 8,554,600	$ 8,554,600	$ 8,554,600
Drugs and Medical Supplies	$ 5,827,100	$ 5,378,200	$ 5,485,700	$ 5,595,400	$ 5,707,300	$ 5,821,500
General Supplies and Other	$ 8,656,500	$ 8,873,100	$ 8,961,800	$ 9,051,500	$ 9,142,000	$ 9,233,400
Other Votes Programs	$ 3,155,200	$ 3,725,900	$ 3,725,900	$ 3,725,900	$ 3,725,900	$ 3,725,900
Amortization of Capital Assets	$ 4,070,000	$ 4,070,000	$ 4,070,000	$ 4,070,000	$ 4,070,000	$ 4,070,000
Total Operating Expenses	$ 67,227,100	$ 66,898,500	$ 66,309,000	$ 67,218,600	$ 68,145,400	$ 69,089,900
Net Operating Surplus (Deficit)	**$ (857,100)**	**$ (621,100)**	**$ (31,600)**	**$ (941,200)**	**$ (1,868,000)**	**$ (2,812,500)**
Savings from Integration Initiatives	$ -	$ -	$ -	$ 567,500	$ 2,270,000	$ 2,270,000
Net Operating Surplus (Deficit) with Integration Savings	**$ (857,100)**	**$ (621,100)**	**$ (31,600)**	**$ (373,700)**	**$ 402,000**	**$ (542,500)**
One-time Transitional Costs	$ -	$ (120,500)	$ -	$ -	$ -	$ -
One-time Restructuring costs	$ (792,500)	$ (519,500)	$ -	$ (283,750)	$ (851,250)	$ -
Net Surplus (Deficit)	**$ (1,649,600)**	**$ (1,261,100)**	**$ (31,600)**	**$ (657,450)**	**$ (449,250)**	**$ (542,500)**
Target Surplus of 1% of Revenues	$ 663,700	$ 662,800	$ 662,800	$ 662,800	$ 662,800	$ 662,800
Remaining Amount Required to Achieve 1% Surplus Target	$ 2,313,300	$ 1,923,900	$ 694,400	$ 1,320,250	$ 1,112,050	$ 1,205,300

As illustrated in the financial modeling above, NHH would nearly balance by Year 2 (2017/2018) of the HIP, assuming all savings targets identified through utilization, clinical and operational efficiencies are attainable. However, with escalating costs due to inflation in a flat funding environment, this operating position would be short-lived; once again, growing operating deficits would result in 2018/2019 and future years.

Assuming savings targets through integration strategies as suggested by the Operational Review are realistic and achieved by the end of Year 4 (2019/2020), NHH could potentially return to a balanced position before restructuring costs for that fiscal year. Again, inflationary pressures which are beyond NHH's control would reverse these gains in the following year, leading to an unsustainable financial position for NHH.

The table below summarizes the projected adjusted working capital funds deficit position. Based on the 2015/2016 second quarter results, NHH projected an adjusted working capital deficit of just over $2.3 million at March 31st, 2016. Despite assuming all savings targets are achieved, NHH is projecting its working capital deficit before factoring in one-time restructuring costs will increase by March 2021; NHH is not able to eliminate its working capital deficit as required by the Working Deficit Funding Initiative agreement. It is important to note that the one-time restructuring and transitional costs of $2,567,500 are creating a significant financial burden for the hospital, increasing the projected adjusted working capital deficit to over $6 million at March 2021.

Northumberland Hills Hospital						
Summary of Adjusted Working Funds Deficit						
For Fiscal 2015/2016 to 2020/2021						
		HIP Year 1	HIP Year 2	HIP Year 3	HIP Year 4	HIP Year 5
	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
	Forecast	Budget	Projections	Projections	Projections	Projections
Adjusted Working Funds Deficit before Restructuring Costs	$ (2,351,600)	$ (2,972,700)	$ (3,004,300)	$ (3,378,000)	$ (2,976,000)	$ (3,518,500)
Adjusted Working Funds Deficit after Restructuring Costs	$ (3,144,100)	$ (4,405,200)	$ (4,436,800)	$ (5,094,250)	$ (5,543,500)	$ (6,086,000)
Requirement per Working Funds Deficit Initiatitive Agreement	$ (1,297,731)	$ (648,864)	$ -	$ -	$ -	$ -
Shortfall	$ (1,846,369)	$ (3,756,336)	$ (4,436,800)	$ (5,094,250)	$ (5,543,500)	$ (6,086,000)

Financial Modeling With Additional Funding

The objective of NHH, consistent with the recommendation of the Operational Review, is to achieve a minimum surplus of 1% of total revenue to deal with unexpected operating pressures or unforeseen events, and to address debt, infrastructure and capital renewal. If this targeted surplus is to be achieved additional financial support is required. The financial model below assumes an annual increase of 1% of base operating funding beginning in fiscal 2016/2017 as follows:

2016/2017	$388,610
2017/2018	$392,490
2018/2019	$396,400
2019/2020	$400,400
2020/2021	$404,400

Although any funding increase will be of significant benefit, a base adjustment of 1% of base operating funding beginning 2016/2017 would avoid the negative impact to future HBAM allocation created by annual one-time funding. With this additional funding, NHH could achieve its 1% surplus target beginning 2017/2018.

It should be noted that the Operational Review suggested "…a 1% annual increase in Ministry / LHIN / CCO revenues over the projection period". However, the 1% annual increase included in the calculations is 1% of base operating funding, which does not include other Ministry, LHIN or CCO funding.

In addition, the Operational Review identified the need for NHH to secure additional funding for the years *following* the HIP projection in order to preserve the availability of hospital services locally beyond 2020/2021.

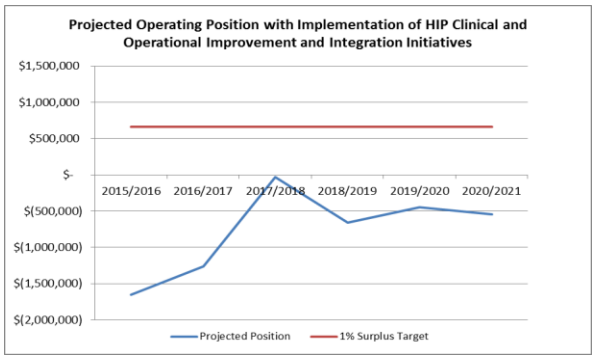
Northumberland Hills Hospital						
Summary of Financial Projections - Assuming Increase of 1% of Base Operating Funding						
For Fiscal 2015/2016 to 2020/2021						
		HIP Year 1	HIP Year 2	HIP Year 3	HIP Year 4	HIP Year 5
	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
	Forecast	Budget	Projections	Projections	Projections	Projections
Base Operating Funding	$ 38,883,100	$ 39,249,600	$ 39,642,100	$ 40,038,500	$ 40,438,900	$ 40,843,300
Other Ministry/LHIN/CCO Funding	$ 4,999,600	$ 5,058,600	$ 5,058,600	$ 5,058,600	$ 5,058,600	$ 5,058,600
Patient & Other Revenue	$ 15,411,400	$ 14,708,900	$ 14,708,900	$ 14,708,900	$ 14,708,900	$ 14,708,900
Other Votes Programs	$ 3,152,900	$ 3,725,900	$ 3,725,900	$ 3,725,900	$ 3,725,900	$ 3,725,900
Amortization of Deferred Capital Contributions	$ 3,923,000	$ 3,923,000	$ 3,923,000	$ 3,923,000	$ 3,923,000	$ 3,923,000
Total Operating Revenue	$ 66,370,000	$ 66,666,000	$ 67,058,500	$ 67,454,900	$ 67,855,300	$ 68,259,700
Salaries, Wages and Benefits	$ 36,543,700	$ 36,246,700	$ 35,511,000	$ 36,221,200	$ 36,945,600	$ 37,684,500
Medical Remuneration	$ 8,974,600	$ 8,604,600	$ 8,554,600	$ 8,554,600	$ 8,554,600	$ 8,554,600
Drugs and Medical Supplies	$ 5,827,100	$ 5,378,200	$ 5,485,700	$ 5,595,400	$ 5,707,300	$ 5,821,500
General Supplies and Other	$ 8,656,500	$ 8,873,100	$ 8,961,800	$ 9,051,500	$ 9,142,000	$ 9,233,400
Other Votes Programs	$ 3,155,200	$ 3,725,900	$ 3,725,900	$ 3,725,900	$ 3,725,900	$ 3,725,900
Amortization of Capital Assets	$ 4,070,000	$ 4,070,000	$ 4,070,000	$ 4,070,000	$ 4,070,000	$ 4,070,000
Total Operating Expenses	$ 67,227,100	$ 66,898,500	$ 66,309,000	$ 67,218,600	$ 68,145,400	$ 69,089,900
Net Operating Surplus (Deficit)	**$ (857,100)**	**$ (232,500)**	**$ 749,500**	**$ 236,300**	**$ (290,100)**	**$ (830,200)**
Savings from Integration Initiatives	$ -	$ -	$ -	$ 567,500	$ 2,270,000	$ 2,270,000
Net Operating Surplus (Deficit) with Integration Savings	**$ (857,100)**	**$ (232,500)**	**$ 749,500**	**$ 803,800**	**$ 1,979,900**	**$ 1,439,800**
One-time Transitional Costs	$ -	$ (120,500)	$ -	$ -	$ -	$ -
One-time Restructuring costs	$ (792,500)	$ (519,500)	$ -	$ (283,750)	$ (851,250)	$ -
Net Surplus (Deficit)	**$ (1,649,600)**	**$ (872,500)**	**$ 749,500**	**$ 520,050**	**$ 1,128,650**	**$ 1,439,800**
Target Surplus of 1% of Revenues	$ 663,700	$ 666,700	$ 670,600	$ 674,500	$ 678,600	$ 682,600
Remaining Amount Required to Achieve 1% Surplus Target	$ 2,313,300	$ 1,539,200	$ (78,900)	$ 154,450	$ (450,050)	$ (757,200)

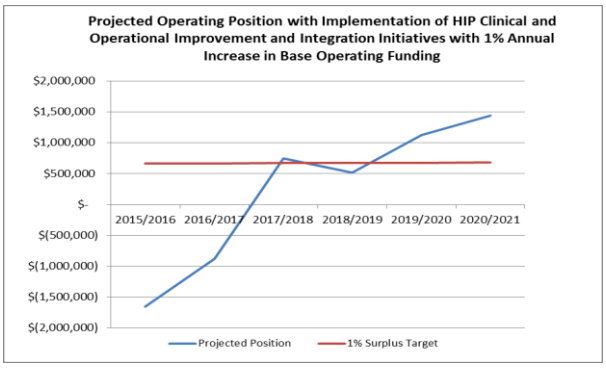
With an annual increase of 1% of base operating funding effective fiscal 2016/2017, NHH's adjusted working funds deficit position is also markedly improved. As the table below illustrates, adjusted working capital would return to a positive position beginning in Year 4 (2019/2020) before one-time restructuring and transitional costs. Again, the table

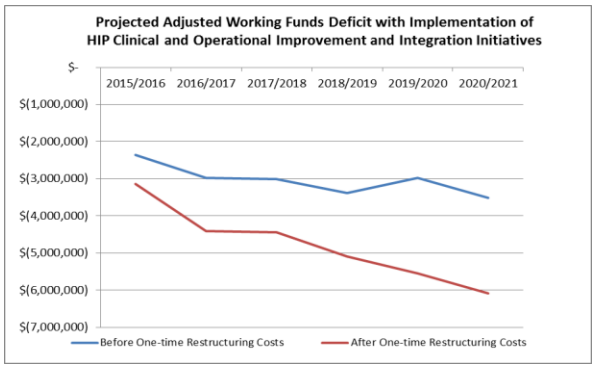
demonstrates the significant financial burden created by the restructuring costs as the adjusted working capital deficit would not be positive by the end of Year 5 (2020/2021) with their inclusion. A positive position is necessary to help fund the hospital's significant capital needs, including a new Clinical Information System.

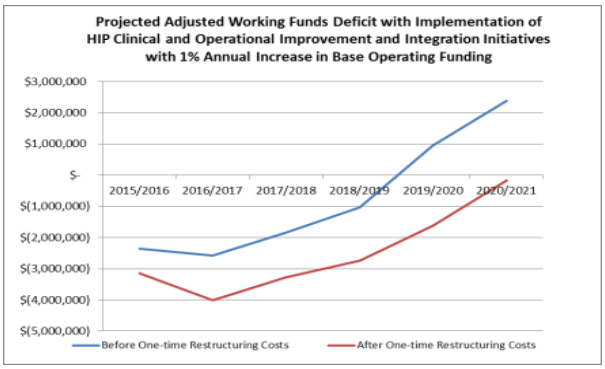
Northumberland Hills Hospital						
Summary of Adjusted Working Funds Deficit - Assuming Increase of 1% of Base Operating Funding						
For Fiscal 2015/2016 to 2020/2021						
		HIP Year 1	HIP Year 2	HIP Year 3	HIP Year 4	HIP Year 5
	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
	Forecast	Budget	Projections	Projections	Projections	Projections
Adjusted Working Funds Deficit before Restructuring Costs	$ (2,351,600)	$ (2,584,100)	$ (1,834,600)	$ (1,030,800)	$ 949,100	$ 2,388,900
Adjusted Working Funds Deficit after Restructuring Costs	$ (3,144,100)	$ (4,016,600)	$ (3,267,100)	$ (2,747,050)	$ (1,618,400)	$ (178,600)
Requirement per Working Funds Deficit Initiatitive Agreement	$ (1,297,731)	$ (648,864)	$ -	$ -	$ -	$ -
Shortfall	$ (1,846,369)	$ (3,367,736)	$ (3,267,100)	$ (2,747,050)	$ (1,618,400)	$ (178,600)

The graphs below illustrate the projected financial position with implementation of the clinical and operational improvement and integration initiatives without and with additional funding.









Appendix 1: Timelines and Monitoring Plan

The initiatives included within the HIP will be implemented over the next four to five years. The majority of the clinical and operational efficiency initiatives will occur in the first two fiscal years. Although discussions regarding the integration initiatives have already begun, this work will take a longer period of time to implement.

Monitoring the implementation progress of the HIP will rest primarily with committees of the NHH Board. The Governance, Finance and Audit, Quality and Safety and CEO & COS Compensation and Evaluation Committees will each play a role in monitoring the initiatives relative to governance, management reporting, utilization and clinical efficiencies. Monitoring of the operational efficiencies and integration initiatives will rest with the Board Improvement and Sustainability Sub-Committee.

The following charts identify the timelines and monitoring for immediate, short-term, medium-term and long-term implementation.

HOSPITAL IMPROVEMENT PLAN – IMPLEMENTATION CHART

Timeframe	Topic/Area	External Operational Review Report Recommendation Number (if applicable)	Responsibility	Timeline (to be completed by)	Monitoring
Board Governance and Management Reporting					
Immediate	Articulate roles and responsibilities for Community Committee members and those in the role of Expert Resource.	#1 – 2	Board Governance Committee	March 2016	Board Governance Committee
Immediate	Policy review - clear distinction re in-camera sessions	#3	Board Governance Committee	March 2016	Board Governance Committee
Immediate	Enhance Board minutes	#4	Board committee chairs/Chief Executive Officer (CEO)	March 2016	Board Governance Committee
Immediate	Reflect industry best practice in Chief Executive Officer (CEO) and Chief of Staff (COS) Evaluation and Compensation policy	#11	Board Chair, Board CEO/Chief of Staff (COS) Compensation and Evaluation Committee	March 2016	Board Compensation and Evaluation Committee
Immediate	Management reporting (3-year forecast, HSFR activity volumes) and budgeting	# 5, 6 and 8	CEO/Chief Financial Officer (CFO)	Completion of three-year forecast by January 2016 Complete incorporation of 1% surplus into budget planning for 2016/2017 by March 2016, carry forward	Board Finance and Audit Committee

Timeframe	Topic/Area	External Operational Review Report Recommendation Number (if applicable)	Responsibility	Timeline (to be completed by)	Monitoring
Immediate	Management reporting progress of HIP implementation	# 7	CEO/COS	March 2016	Board Improvement and Sustainability Sub-Committee
Long-term	Investigate and pursue viable and implementable integration opportunities and establish and monitor key indicators related to integration, finance and quality of care	# 9 & 10	CEO and Senior Management Team (SMT)	Process plan and indicators developed by June 2016	Board Improvement and Sustainability Sub-Committee
Immediate	Formal delineation of roles, responsibilities and accountabilities of Department Chiefs	#12, 13	COS	March 2016	Board Improvement and Sustainability Sub-Committee
Short-term	Reporting as per Ontario Hospital Reporting Standards (OHRS)	#31 – 32, #49, #52	CEO/CFO	December 2015	Board Improvement and Sustainability Sub-Committee
Utilization Efficiencies					
Immediate	Review clinical documentation/coding	#14	CEO/CFO	March 2016	Board Improvement and Sustainability Sub-Committee
Short-term	Build Palliative Care capacity in the community	#17	CEO	Proposal to the Central East LHIN completed early 2016 (goal to have increased supports in place by April 2016)	Board Improvement and Sustainability Sub-Committee
Immediate	Reduce rate of hysterectomy for non-malignant diagnoses	#18	COS, Surgical Chief and Maternal Childcare Chief	Action plan completed by March 2016 Action plan implemented by March 2017	Quality and Practice Committee/s, MAC, Board Quality and Safety Committee, Board Improvement and Sustainability Sub-Committee
Immediate	Standardize physician practice in the Emergency Department (ED)	#20 and 21	COS, Surgical Chief, ED Chief	ED physician orientation program to be developed by March 2016, implementation by March 2017	MAC, Board Improvement and Sustainability Sub-Committee
Immediate	Review opportunities to reduce CTs in Emergency Department	#22	COS, ED Chief and Chief of Radiology	Progressive reductions of #CTs in ED by 10% (308 CTs) by March 2017 and an additional 10% by March 2018 (278 CTs)	Quality and Practice Committee/s, MAC, Board Quality and Safety Committee, Board Improvement and Sustainability Sub-Committee

Timeframe	Topic/Area	External Operational Review Report Recommendation Number (if applicable)	Responsibility	Timeline (to be completed by)	Monitoring
Immediate	Ensure a timely, comprehensive plan of care for newly admitted patients	#23	COS, Departmental Chiefs	Action plan developed by March 2016	Quality and Practice Committee/s, MAC, Board Quality and Safety Committee, Board Improvement and Sustainability Sub-Committee
Immediate	Maximize utilization of Operating Room/Recovery Room	#45 & 46	COS, Chief of Surgery, and Program Directors	Action plan developed by March 2016. Action plan implemented by March 2017	Quality and Practice Committee/s, MAC, Board Quality and Safety Committee, Board Improvement and Sustainability Sub-Committee
Short-term	Maximize preferred accommodation revenue	#16	CEO/CFO	Review potential opportunities by March 2016	Board Finance and Audit Committee, Board Improvement and Sustainability Sub-committee
Medium-term	Achieve “break even” state in retail food services	#15	CEO/VP HR and Quality	Plan developed by March 2016, implemented March 2017	Board Improvement and Sustainability Sub-Committee
Clinical Efficiencies					
Short-term Medium-term	Reduce length of stay	#24 – 26	COS/CNE/ Department Chiefs	Phase 1 work to be completed 2016/2017; Phase 2 2017/2018	Quality and Practice Committees, MAC, Board Quality and Safety Committee, Board Improvement and Sustainability Sub-Committee
Short-term	Work in collaboration with CCAC to ensure patients are assessed in a timely manner and a comprehensive plan is implemented to support patients when discharged	#27 & 28	CEO/COS	Meeting held with CCAC by March 2016 Action plan developed and implemented by March 2017	Quality and Practice Committees MAC Board Quality and Safety Committee Board Improvement and Sustainability Sub-Committee

Timeframe	Topic/Area	External Operational Review Report Recommendation Number (if applicable)	Responsibility	Timeline (to be completed by)	Monitoring
Immediate	Ensure best practice in regard to laparoscopic hysterectomies and early Caesarian sections	#29 &30	COS, Maternal Child Care Chief, Surgical Chief	Action plan developed by March 2016; implement actions to reduce C-section rates by March 2017	Quality and Practice Committee/s, MAC, Board Quality and Safety Committee, Board Improvement and Sustainability Sub-Committee
Immediate	Reduce excess Emergency Department (ED) admissions	#20 and 21	COS, ED Chief	Action plan developed by March 2016. Implementation by March 2017.	MAC, Board Improvement and Sustainability Sub-Committee
Operating Efficiencies					
Immediate	Reduce and realign support services management	#34	CEO/VP Human Resources (HR) & Quality	Reduce by March 2016; reassignment CSR management by fall 2016	Board Improvement and Sustainability Sub-Committee
Short-term	Reduce frequency of environmental cleaning in non-clinical areas	#35	CEO/VP HR & Quality	July 2016	Board Improvement and Sustainability Sub-Committee
Medium-term	Explore and assess opportunities in clinical engineering maintenance contracts	#36	CFO/VP HR & Quality	Review current state and future opportunities by September 2016	Board Improvement and Sustainability Sub-committee
Short-term and Medium-term	Achieve median productivity performance in the Emergency Department (ED)	#37	CNE/ED Chief	July 2016	Quality and Practice Committees, MAC, Board Quality and Safety Committee, Board Finance and Audit Committee, Board Improvement and Sustainability Sub-Committee
Short-term	Consolidate in-patient units	#38 – 39, 41, 42, 43	CEO/CNE	July 2016	Quality and Practice Committees, MAC, Board Quality and Safety Committee, Board Finance and Audit Committee, Board Improvement and Sustainability Sub-Committee
Short-term	Reduce reliance on float pool	#40	CEO/CNE	July 2016	Board Improvement and Sustainability Sub-committee

Timeframe	Topic/Area	External Operational Review Report Recommendation Number (if applicable)	Responsibility	Timeline (to be completed by)	Monitoring
Short-term	Achieve ICU productivity performance target	#44	CEO/CNE	April 2016	Board Finance and Audit Committee, ICU Quality Practice Council, MAC, Board Quality and Safety Committee
Short-term	Combine small outpatient departments	N/A	CNE	July 2016	Quality and Practice Committee, Board Improvement and Sustainability Sub-committee
Immediate	Restructure clinical administration	#48	CEO/Chief Nursing Executive (CNE)	April 2016	Board Improvement and Sustainability Sub-Committee
Medium-term	Review opportunity to alter approach to after-hours management	#47	CEO/CNE	Review options by September 2016	Board Improvement and Sustainability Sub-Committee
Short-term	Achieve best quartile performance in Laboratory	N/A	VP HR & Quality	July 2016	Board Improvement and Sustainability Sub-Committee
Medium-term	Introduce Point of Care testing	#50	VP HR & Quality	POCT proposal to be presented by March 2016; implementation 2017/2018	Board Improvement and Sustainability Sub-Committee
Medium-term	Outsource microbiology	#51	VP HR & Quality	Proposal to be presented by March 2016, implementation 2017/2018	Board Improvement and Sustainability Sub-Committee
Medium-term	Introduce Voice Recognition Technology	#33	VP HR & Quality/CFO	Action plan/business case completed by March 2016, implementation 2017/2018	Board Improvement and Sustainability Sub-Committee
Medium-term	Review Hospitalist program	#53	CEO/COS	Review options by March 2016; implementation by 2017/2018	MAC, Board Improvement and Sustainability Sub-Committee
Integration / Partnership Initiatives					
Long-term	Integration	#54	CEO/Board of Directors	Incorporate into new Strategic Plan and actively pursue, implement from 2016/2017 to 2019/2020	Board Improvement and Sustainability Sub-Committee

Appendix 2: Communication and Stakeholder Engagement Plan

OBJECTIVES

The Central East LHIN has advised NHH that the proposed HIP should include:

- *Mitigation strategies/initiatives and any other remedial actions, including those related specifically to operational and clinical efficiency improvements, service sustainability, integration, and the management in the short- and medium-term of changes in clinical volume, pricing, and funding due to Health System Funding Reform (HSFR)*
- *A monitoring plan to track implementation; and*
- *A communications and stakeholder engagement plan.*

This Communication and Stakeholder Engagement Plan supports requirement c). Details outlining specific messaging will be available to LHIN senior staff on request as implementation proceeds.

Consistent with the NHH Board's *Community Engagement Framework* and related Board policy, the objectives of this Plan will be to continue to both *inform* and *consult* internal and external stakeholders, as NHH has done to date in collaboration with the Central East LHIN and the Hay Group, through the course of the process outlined in section B, **Context**, above.

On approval, it will be NHH's responsibility to carry forward the communication and stakeholder engagement tactics related to the NHH HIP while keeping the LHIN informed of progress.

Building on previous communication and engagement, and in compliance with LHIN direction on specific communication deliverables, this Plan will continue to *inform* about:

- key findings in the Hay Group's External Operational Review;
- the outcome of the Hay Group's community engagement activities (town halls, survey, one-on-one meetings);
- the linkage between the External Operational Review recommendations and the related NHH Board-approved HIP;
- expected next steps/timing; and
- additional opportunities for stakeholder involvement.

This Plan will continue to *consult* with key stakeholders (gather feedback), from the time the HIP initiatives are announced to the date full implementation occurs, about:

- any concerns related to the approved HIP initiatives;
- how the specific HIP initiatives should best be implemented within NHH;
- additional mitigating steps, beyond those considered in the HIP, that NHH might take to maximize efficiency/minimize risk/maintain patient care quality; and
- impact on particular stakeholders (e.g. community partners) as a result of the HIP initiatives, and recommendations to mitigate.

Stakeholder input will be incorporated into the final transition/change management plans.

TIMING

This Plan is expected to be in effect from January 2016, or such time as the NHH Hospital Improvement Plan is approved by the Central East LHIN Board, through to completion.

STRATEGIES

- Provide the facts
- Precede external communication with internal
- Deliver news face-to-face to units/individuals affected by the HIP initiatives before communicating to entire hospital, using NHH's traditional team approach (VP/appropriate director/union representative)
- Demonstrate investments that are being made despite the pressures (ICU, RT)
- Provide NHH Directors/Supervisors with common talking points to support staff/face-to-face discussions, ensure consistency across the organization
- Demonstrate NHH values (compassion, respect) through the supports offered to any affected staff throughout the transition (e.g., EAP, etc.)
- Continue to consult NHH teams/union/physicians/community partners on the implementation of the HIP initiatives
- Leverage existing NHH communication vehicles (CEO/Staff Forums, InfoWeb (intranet), The Monday Report (staff newsletter), In Touch (community newsletter), Board reports, nhh.ca and Twitter), with an emphasis—where capacity permits—on face-to-face

TARGET AUDIENCES AND MECHANISMS FOR COMMUNICATION/ENGAGEMENT

INTERNAL	
AUDIENCE	MECHANISMS FOR COMMUNICATION/ENGAGEMENT
NHH Board of Directors, Community Committee volunteers	Board meetings, email, sub committee meetings
NHH Leadership and Quality Committee (LQC)	LQC meetings/scrums/email updates with supporting materials
NHH Quality Councils, Medical Advisory Committee	Council/Committee meetings, supporting documents

NHH union leadership (CUPE, OPSEU and ONA)	Face-to-face communication/VP, Human Resources; Fiscal Advisory Committee meetings
NHH physicians	Email/Monday Report/CEO-Physician Forums/Joint Conference Committee/Improvement Plan Steering Committee/Medical Advisory Committee/Quality Councils
All NHH staff	Face-to-face with immediate Director/Supervisor, CEO/Staff Forums, email, InfoWeb
NHH volunteer Boards (Auxiliary, Foundation)	Face-to-face with Aux./Foundation Boards, (for Aux) CEO/Staff Forums, Monday Report, In Touch and email (eg. emailed, embargoed copy of joint NHH/LHIN news release)

EXTERNAL	
AUDIENCE	MECHANISMS FOR COMMUNICATION/ENGAGEMENT
Northumberland/Quinte West MPP (Lou Rinaldi)	One-on-one updates (phone, in person); advance, embargoed copy of joint news release
Union presidents (CUPE, ONA, OPSEU)	Fiscal Advisory Committee (FAC)/VP, Human Resources
Media	Joint news release, NHH/Central East LHIN websites, proactive/reactive interviews
Central East LHIN hospital leadership teams (particularly PRHC, Lakeridge Health, Ross Memorial, Campbellford Memorial, Ontario Shores)	ongoing consultation/media releases/In Touch community newsletter
Health service providers/partners (HSPs) in our area (Central East CCAC, Community Care Northumberland, Northumberland Family Health Team, Port Hope Community Health Centre, area	Ongoing consultation/face-to-face meetings/ In Touch community newsletter/ media releases

long-term care facilities, etc.)	
Broader donor/volunteer community	Face-to-face, In Touch community newsletter and, for Auxiliary, Monday Report updates
Regional municipal leaders (mayors/deputy mayors within catchment area, Northumberland County warden)	Various: one-on-one meetings/phone updates, continued roadshows to municipal councils, In Touch community newsletters, media releases
General public	Various:- via media release to local media, website (NHH and LHIN), In Touch community newsletter, Twitter, town hall presentation(s), CEO/Board Chair road shows to community groups, one-on-one meetings, one-on-one meetings, as requested

TACTICS, RESPONSIBILITIES AND RELATED TIMELINE

NHH will engage key stakeholders using the tactics above in accordance with the immediate, short-term, medium-term and longer-term timelines set out in the HIP. Tactics to support the implementation of the NHH HIP in the immediate future are as follows. Consultation with the Central East LHIN will continue as HIP initiatives proceed.

Audience	Mechanism for engagement	Timing	Purpose
Internal audiences			
NHH Board/Community Committee volunteers	Email/Teleconference	Early- to mid-January – TBC	*Inform* - Update on outcome of January Central East LHIN Board meeting/review of proposed HIP, review of next steps, reporting/monitoring going forward
NHH LQC	LQC meeting	Early to mid-January – TBC	*Inform* - Update on outcome of January Central East LHIN Board meeting/review of proposed HIP, review of next steps
NHH staff	Face-to-face with affected units/individuals/union leaders, CEO/Staff	January 18, 2016	*Inform* - Overview of approved HIP initiatives, timing, next steps;

	Forums		*Consul*t – Various strategies, on an initiative-by-initiative basis, to solicit staff/physician input on implementation/risk mitigation
NHH HIP implementation teams	Initiative-specific, inter-professional as required	January 18, 2016 onward, through completion of HIP	*Consult* – with medical chiefs/Leadership & Quality Committee/Senior Management, Board, discuss and design transition/change management plans including, where required, risk mitigation strategies to ensure safe, timely implementation of HIP initiatives
External audiences			
Donor/volunteer community presentations	Face-to-face, written correspondence from CEO – in tandem with media release	From early- to mid-January, 2016, in advance of general public announcements, onward	Inform - Announcement of HIP initiatives, timelines (nhh.ca, Central East LHIN website)
Media	NHH news release	January 18, 2016 (following staff communication), onward	Inform – Announcement of HIP initiatives, timelines and updates as implementation proceeds
Community	Public presentations (CEO/Board Chair), monthly Board meetings, In Touch community newsletter	January 18, 2016, onward	Inform - Announcement of HIP initiatives, timelines and updates as implementation proceeds

SUPPORTING MATERIALS

- CEO/STAFF FORUM promotion/follow-up – (Monday Report announcement, Intranet blasts, posters at staff exit/entrance)
- Powerpoint deck (x2, internal, external) for presentation at Staff Forums/community town halls/area presentations

- Talking points/key messages for LQC members to support advance staff/unit communication (face-to-face) in affected areas
- Internal (Monday Report) messaging from CEO, Q&A
- media/nhh.ca materials:
- NHH news release, hotlink to NHH Hospital Improvement Plan on nhh.ca, media backgrounder, Q&A

MEASUREMENT

- LQC/Supervisor/staff feedback (anecdotal)
- Website traffic (volume and click-throughs, inquiries/comments submitted via the Contact Us address)
- Open/click through rates on e-*In Touch*
- Media coverage (print, radio, TV)
- Letters to the editor in local papers
- Staff feedback
- Social media interest

Appendix 3: Hay Group Stakeholder Consultation

The following is an excerpt from External Operational Review Final Report, October 2015.

Engagement Philosophy and Plan

Hay Group included stakeholder engagement as part of the external operational review process.

As defined by Northumberland Hills Hospital, community engagement is: *a process of collectively connecting with the many stakeholders that the hospital serves or partners with through intentional methods for the purpose of sharing information and exchanging ideas to develop and/or improve policies, programs and practices, in order to meet hospital accountability.*

In support of the hospital vision of ***leaders and partners creating health care excellence,*** the hospital is committed to the philosophy of patients being at the centre of care decisions, and has developed a community engagement framework to support this philosophy. In keeping with that framework, Hay Group has developed a community engagement approach. The approach was developed in collaboration with hospital and LHIN communications and public relations personnel, as part of the shared communication and stakeholder engagement plan for the External Operational Review of the Hospital by Hay Group.

The purpose of the engagement was to both ***inform*** and ***consult****:*

a) To ***inform*** about the external review, i.e. to provide balanced and objective information to assist community stakeholders to understand the engagement process, objectives and potential outcomes and solutions.
b) To ***consult*** or obtain feedback on, listen to and acknowledge concerns and aspirations; and to explain how public feedback will influence Hay Group's findings for the external review.

Audiences for engagement were identified to be external stakeholders of Northumberland Hills Hospital, specifically the hospital community and general public. External stakeholders included community partners (including Central East Community Care Access Centre (CE CCAC), Community Care Northumberland (Community Care NH), Northumberland Family Health Team (NH FHT), Port Hope Community Health Centre (PH CHC), area long-term care facilities), other Central East LHIN hospitals (Peterborough (PRHC), Lakeridge Health (LH), Ross Memorial (RMH), Campbellford Memorial (CMH), Ontario Shores), municipal leaders (mayors and warden), hospital donors/volunteers and the general public.

While a process for engagement of hospital employees was provided as part of the review process, it was suggested that front line staff should have further opportunities for information

and consultation. A number of engagement opportunities were therefore created for internal audiences throughout the review process.

Mechanisms for engagement included open forums, town hall meetings in person and by teleconference, focus groups and individual conversations, and a survey (available on line and in hard copy at the hospital).

Participation

The following exhibit shows the level of participation for each of the community engagement opportunities provided:

Stakeholder Type	Participation
Elected representatives	6 individual telephone interviews with mayors/deputy mayors/warden
Community partners	5 phone interviews with representatives from each of the Central East CCAC, Northumberland Family Health Team, Port Hope Community Health Centre, Community Care Northumberland, one long-term care home
Other LHIN hospitals	5 phone interviews with leaders from each of Peterborough Regional, Lakeridge, Ross Memorial, Campbellford Memorial and Ontario Shores
General public	51 (approx.) participants at Cobourg Town Hall Meeting 37 (approx.) participants at Port Hope Town Hall Meeting 4 comment sheets completed and returned at Town Hall Meetings 6 participants in Telephone Town Hall #1 5 participants in Telephone Town Hall #2 3 inquiries received on the toll-free message line 59 surveys completed on line 17 surveys received in hard copy 1 letter from public received
Hospital Auxiliary/Foundation volunteers	8 participants in the information forum
Hospital Staff	200 (approx.) staff participants at 5 hospital orientation sessions 80 (approx.) staff participants at 5 front-line staff focus group sessions 15 1:1 front-line staff interviews completed

Key Themes and Findings from Consultation with Community Partners

There is a general sense from community providers that while home care services available through the Community Care Access Centre are insufficient to meet needs, a relatively robust array of community services are available. Local providers have worked together to meet the needs of their community. There is a feeling that, with the exception of chronic disease management, the hospital role and range of services is appropriate. There is a strong desire among providers/community partners to keep the current array of services available in the community. The exception to this was mental health services, which most of the community partners found to be sorely lacking in this region.

It is felt to be advantageous for continuity that community based family physicians provide a large portion of hospital care. The reduced availability of after-hours physician care is thought to impact the efficiency with which the emergency department functions. There is support for the idea of more alternate care providers (NPs) in the hospital and in the community and for the development of the additional programs for managing COPD and CHF patients. While the PATH project has been very popular, providers were unsure what real advantages it has been offering in terms of clinical outcomes and system efficiencies.

Gaps in care were identified to be transportation/access to programs, cardiac rehabilitation, community-based physiotherapy and foot care. Increased access to primary care was noted to be important for reducing demand for hospital and ED services. It is noted that there is an after-hours walk in clinic that has been established in Port Hope that is reportedly serving 20,000 plus visits a year.

Most providers identified that the hospital was supportive and willing to work together for the benefit of the patient and to help implement solutions within their community. Several initiatives where there has been shared planning between the hospital and community providers were cited (for example, PATH, community palliative care planning, etc.). Port Hope CHC and the hospital have and are collaborating quite effectively together, including board to board collaboration. NHH has also offered expertise and support administratively, for example in human resources cases and decision support, and clinically, for example to the NP at the Golden Plough LTC. NHH is therefore considered a supportive and willing player in the system in south eastern Northumberland County.

Opportunities identified by community partners were:

- Shared Information Systems and decision support (some work in this capacity has already begun)
- Back office integration
- Shared human resources

- Shared volunteer services (both administration/leadership and volunteer workforce)
- Development of more chronic disease management services outside of the hospital
- Shared solutions for laboratory services
- Opportunities to reduce, or share, administrative and management roles
- More coordinated transportation planning (more formal partnerships with hospital to schedule/plan services for efficiencies)
- Consideration of moving hospital based program at NHH to be more of a community hospice located in the hospital, similar to model in Haliburton
- Opportunities to partner with community providers to divest/offer new services in the new medical building (urgent care, chronic disease management, wound care)
- Sharing of medical records
- Increased use of telemedicine so that more complex patients can be supported in LTC and in the community (particularly in geriatric psych)
- Partnerships/supports to help manage behavioural patients more effectively in the community.

Key Themes from Consultations with Elected Officials

All officials elected we spoke with cited the importance of the hospital to their constituency. Most noted that there is great pride in the hospital, and that it is extremely important for the local economy and growth. Some spoke about the impact of losing the hospital in Port Hope in the past.

While none of the mayors indicated that hospital or health care issues are major concerns that are raised on an ongoing basis, they did speak to the need to maintain very robust health care services for seniors. While some saw these as a continuum of services from community to hospital care and recognized the need to continue to build capacity in the community, many would like to see the hospital continue to develop expertise in seniors care (for example, more specialized geriatric care being available).

Transportation is an issue that all elected officials recognized as a challenge. Access to post-acute physiotherapy was also a concern that was raised.

Most officials cited the joint work on physician recruitment for the municipality as an example of where the hospital and counties have worked together effectively.

Everyone consulted with spoke of the importance of the hospital based palliative care service to the people in their community. They recognized that the community raised funds to support this service, and take significant pride in having it available.
There was support for investigating the following types of efficiencies in the review:

- Opportunities to share services (e.g. payroll, purchasing, human resources, etc.) between the hospital and other types of community businesses

- New models of care to speed up care in the emergency department
- The need to build capacity in long term care and potential for the hospital to support the homes to manage more complex patients.

Key Themes and Findings from Public Consultations (Town Halls)

Value of NHH Hospital Services

- Strong consensus that the hospital allows people to access needed care and services close to home, particularly:
    - Emergency department
    - Radiology and Diagnostics (MRI and CT Scan)
    - Palliative Care
    - Birthing and Maternal Care
    - Mammography
    - Rehabilitation
    - Chemotherapy and cancer services
- Many positive comments on the quality of care and caring provided by the hospital. Most people have had excellent experiences and cannot imagine being without this hospital.
- Should be noted that there was a recurring theme and strong support for the hospital to be able to continue to provide palliative care services, particularly while a lack of other end of life options exist for this community. The community appears to take great pride in the palliative services that it provides. One community member described the palliative care unit as "the crown" of the community.
- Dialysis was another service that the community advocates strongly to keep.
- Interest in offering comprehensive rehabilitation services (particularly stroke) so that folks are not required to travel to Peterborough; similar comments were received about chemotherapy services.
- Important to continue to be able to serve the traumas that come as a result of being located on the 401 Highway.
- There were several voices heard to ensure that, while much focus in on the aging population, the hospital should continue to provide care from cradle to grave. The community feels that maternal and child services, including obstetrics, should continue to be available locally at the hospital.
- Also noted was the importance of the hospital for the local economy and in attracting a strong and diverse community and workforce to the area.

Trust in Results/Recommendations of Review

- Concern that consultant recommendations may be biased as a result of long-term client relationship with Ministry of Health.
- Stakeholder wondered if the results of the review could be a recommendation for additional funding to the hospital.
- Numerous questions and comments about the process and type of recommendations that will be made were received. Interest in assuring that if no cost savings are found, will Hay Group recommend that additional funds are required to run the operation?

Impact of Community Based Services

- Community interest in advocating for more primary care services, such as walk-in clinic or urgent care (particularly in Cobourg) and evening/weekend hours. The community wanted to be sure that the lack of these services was considered as hospital and Emergency Department efficiency is being evaluated.
- Similarly, an interest in ensuring that the impact of limited home and community based services, including long term care beds, home care and social supports, was considered when evaluating the hospital.
- Recognition that some community based services are underutilized because people seek care from the hospital and hospital staff continue to provide it. For example, fitting compression stockings and some medical education (which is provided in hospital, but could be accessed through local pharmacies/home health care suppliers). Education is needed about right care in right place.

Opportunities for Improvement

- Many comments about opportunities to improve in the emergency department. Both in terms of customer approach (more pleasant, patient-centred care) and triage/prioritization of patient cases (specifically putting different processes in place to ensure patients are appropriately triaged and "quick fixes" are dealt with quickly). Community feels there is a need to reinstate "fast track" approach in the emergency room.
- Desire to have access to more specialists, through the hospital through clinics or satellite services if necessary (i.e. geriatric specialists, orthopedics, stroke response, psychiatry/mental health) instead of having to travel to Peterborough or elsewhere.
- Desire to service high risk pregnancies or newborns closer to home.
- Desire to offer more cancer treatment options close to home.

Cost savings Opportunities

- Many comments that LHIN and hospital are too "administrative heavy" and should consider reductions in both number of administrators and administrator salaries to save money.

- Several comments that if preventative care was improved, the demand for hospital services could be reduced and significant cost savings achieved. There was recognition, however, that this was a longer term cost savings strategy.
- The idea of integration opportunities for cost savings was well supported, especially around shared information systems and group purchasing.

Partnership Opportunities

- Off-site palliative care identified as an opportunity. The community is aware of advocacy for a hospice and/or improved palliative services.
- Long term care beds run by hospital, either on or off site.
- Improved communication and shared education between hospital and local health care providers.

Revenue Generation

- Some comments that parking rates could be increased to help offset operational costs.
- Would it be possible to operate MRI and CT Scan in revenue generating way? Or to run more clinics that generate revenues (rather than costs) for the hospital?
- Is there a way to help people understand the costs of hospital care better, as an incentive to change their behaviour?
- One resident thought the government should consider policies around medical tourism as a revenue generating mechanism.

Opportunities to learn more about recommendations from review and implementation plan

- Public town halls
- Local papers
- Hospital and LHIN website
- Generally people appreciated the public forums offered and would like to have similar opportunities to answer questions and provide input once the recommendations from this review are released.

Key Themes and Findings from "Have Your Say" Survey

Many (47%) of survey respondents were 51 to 65 years old, with 83% of all respondents being over 51 years of age. Most (67%) were female. Half (50%) were from Cobourg, with the other half from a variety of other townships. Respondents and their family members had used a large variety of hospital services over the last year.

Almost all understood why the external operational review was being completed (96%) and that a Hospital Improvement Plan would be the result of the review (94%).

Respondents most frequently cited that the hospital meant local access (42%) to a number of necessary medical services (36%). About a fifth of all respondents spoke about excellence, convenience and peace of mind that comes with having the hospital in their community.

The most important thing the hospital does was reported most frequently as providing 24 hour services close to home (48%), and providing a range of necessary services (24%). Thirty eight percent of people mentioned specific services that were important to them, and 24% of people mentioned the quality of care to be most important.

Opportunities for improvement were most often noted in quality of care and caring (24%), shorter wait times (24%) and improved communications (15%). Ten percent of responders suspected nothing could be improved.

When given suggestions for ways to increase efficiency and reduce duplication and waste, the majority of respondents agreed all suggestions might be viable options. The exception to this was the suggestion to reduce hospital services (67% said no, this is not a good idea). Strongest support was for helping different parts of the system to communicate more effectively (75%), helping hospital staff communicate more effectively about the patient plan (73%), using more alternate providers (such as nurse practitioners) when physicians aren't available (72%), reducing duplicate information requests from patients (69%), allied and support services available on the weekends and evenings (70%) and less time spent waiting while in hospital (66%).

Suggestions in addition to the options provided on the survey provided by respondents most frequently included opportunities to reduce layers of administration in the system, management numbers and management expenses at the hospital (26%). While a number of other suggestions were offered in the comments, no other strong themes emerged.

In terms of opportunities to reduce demand for hospital services, the majority of respondents agreed that more after hours services in the community would be beneficial (86%), getting in to see family physician in timely manner (71%) or having a family physician (52%) would be helpful, and increased community based rehabilitation and more community supports would both keep people out of the hospital (45%) and help people get out of the hospital faster 43%). While there was agreement that discharges often are delayed because home supports, etc. are not in place (60% positive), there was less agreement that discharges get delayed for unimportant reasons (only 23% positive). There was strong disagreement that people stay in hospital longer than needed (45%) and that the hospital tends to be cautious, admitting people "just in case" (45%).

Respondents provided comments on ways to reduce the demand for services. Themes emerged around the need to increase community based services in order to decrease the use of the

hospital (26% spoke of this). Twenty four percent of respondents thought that either there is nothing the hospital can do to manage demand, or that it is not the hospitals place to manage demand because they are there to provide whatever care is needed.

Finally, there was almost unanimous agreement for follow up after recommendations are made. Participants were interested in multiple approaches, including reading about it local papers (67%) or online (58%), attending a public session (49%) and having opportunities to comment on the recommendations (46%).

Appendix 4: HCM Benchmarking Report, 2015

20 July 2015

Ms. Cheryl Turk
Vice President & Chief Financial Officer
Northumberland Hills Hospital
1000 DePalma Drive
Cobourg, Ontario K9A 5W6

HCM GROUP INC.
The Health Care Management Group

Dear Cheryl:

This letter report summarizes our recent engagement to assist Northumberland Hills Hospital (NHH) in conducting an operational efficiency (OE) benchmarking exercise.

A set of operational efficiency performance benchmarking reports was sent earlier, in electronic format, for your review. The main performance benchmarking reports are one page per functional centre, including actual performance achieved, peer performance ranges, peers operating within the best quartile & median, and expected resources (FTEs, costs) for each hospital/functional centre at target performance and actual workload (most recent 2 years). These benchmarking reports are for 2013/14 and 2014/15 and use 2014/15 peer hospital best quartile performance targets[1], except for:

- Drug costs (kept at current actual due to differences in reporting drug costs among hospitals)
- Non-labour non-drug costs in direct functional centres [set at the median if the median is lower than actual NHH costs and there are significant costs in this category (greater than $30,000)]

This methodology is consistent with MOHLTC/LHIN operational/peer reviews in which HCM has been involved.

A summary report, four-year performance trend report, content of care analyses, skill mix analyses and a set of other (global) analyses such as sick time were also provided in electronic format.

The benchmarking reports (and summaries) are used as directional drivers to identify areas/functional centres with potential opportunity to improve operating efficiency, identify changes in volumes, performance and costs over four years, identify areas requiring further breakdown and analysis of costs and reporting, etc. Some observations regarding the results are presented in this letter report.

[1] For this project, operational efficiency benchmarking was also conducted using peer median performance levels.

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HCM GROUP INC.

Benchmarking Results Overall, in Context

Functional centre operational efficiency benchmarking involved developing performance comparison reports (using our multi-year financial planning tool) with peer MIS Trial Balance data for 2014/15, and NHH hospital's MIS data for the past four fiscal years (2011/12 – 2014/15).

The peers used for operational efficiency benchmarking are presented in the following table:

BGH	619 BROCKVILLE GENERAL
CGH	640 COLLINGWOOD GENERAL
LRM	707 LINDSAY ROSS MEM
GBG	726 GEORGIAN BAY GENERAL H
PGH	763 PEMBROKE GENERAL
STEG	793 ST THOMAS ELGIN GEN
HGH	800 HAWKESBURY DISTRICT
SNG	804 SIMCOE NORFOLK GEN
SGH	813 STRATFORD GENERAL
WGH	890 WOODSTOCK GENERAL
ODHCC	916 ORANGEVILLE DUFF-CAL HCC
SFPD	928 SMITH FALLS & PERTH DISTRICT
CCH	967 CORNWALL COMMUNITY HOSPITAL

The benchmarking performance reports at a functional centre level suggest a ***theoretical*** target savings of $7.9 million for 2013/14 and $6.3 million for 2014/15 for NHH performance compared with the peer best quartiles[2]. The total ***theoretical*** savings target for NHH equals 13.4% of net operating costs in 2013/14 and 10.5% in 2014/15. Results are summarized in the following table.

NHH Overall Benchmarking Results

Overall Benchmarking Results	**2013/14 Actual**		**2014/15 Actual**	
	FTEs	**Net Total $**	**FTEs**	**Net Total $**
Actual FTEs and Net Operating Costs	396.4	$58,703,299	395.4	$59,635,550
Calculated (Theoretical) Screening @ Best Quartile	-64.0	-$7,887,022	-48.7	-$6,249,544
Percentage Change		-13.4%		-10.5%

These theoretical savings represent the total theoretical adjustment required for those functional centres operating above the 25th percentile to achieve the screening target. In practice, no Canadian hospital can operate at the best quartile in all areas and it is

[2] Best Quartile Screening Target: Productivity and "Net Cost"-based functional centres are forecasted at peer best quartile. Variable Non-Labour Non-Drug Cost indicators are screened at peer median. Drug Costs are current actual.

unlikely for any hospital to achieve 100% of their overall theoretical target, due to many factors such as:

- Data/reporting issues
- Variations in scope of services
- Critical mass issues
- Barriers (e.g. physical layout)
- Some hospitals may make an investment in one area (including different approaches in organizing work and staffing) to achieve better performance in other areas
- Recognition that not all departments can together function at or better than the best quartile.

The screening estimates of savings are intended to provide an indication of where to look for savings and the relative orders of magnitude of potential savings.

A review of the reports and underlying data may lead to some data adjustments for comparability, and corresponding adjustments in savings targets; however, in many cases, this may lead to simply shifting costs/resources from one functional centre to another that already has a theoretical target.

NHH Screening versus Other Clients

For other HCM clients (all clients including multi-site clients), the initial ***theoretical*** screening percent has varied between 5.9% and 25.8%, with a median screening of 12.0%. For single-site clients this screening percentage has ranged from 6.6% and 25.8%, with a median screening of 12.9%.

Over the past four fiscal years (2011/12 - 2014/15) the initial screening percentage has varied between 8.2% and 25.8%, with a median screening of 12.9% for all HCM clients, and between 9.4% and 25.8% with a median screening of 13.9% for single-site clients.

Note that the results for other clients below reflect a spectrum of large and small community and teaching hospitals[3]. Also, the mix of clients from one year to the next may vary. These results are presented in the following tables[4].

Initial Benchmark Screening – Theoretical Savings Target Percentage (Ontario Clients)

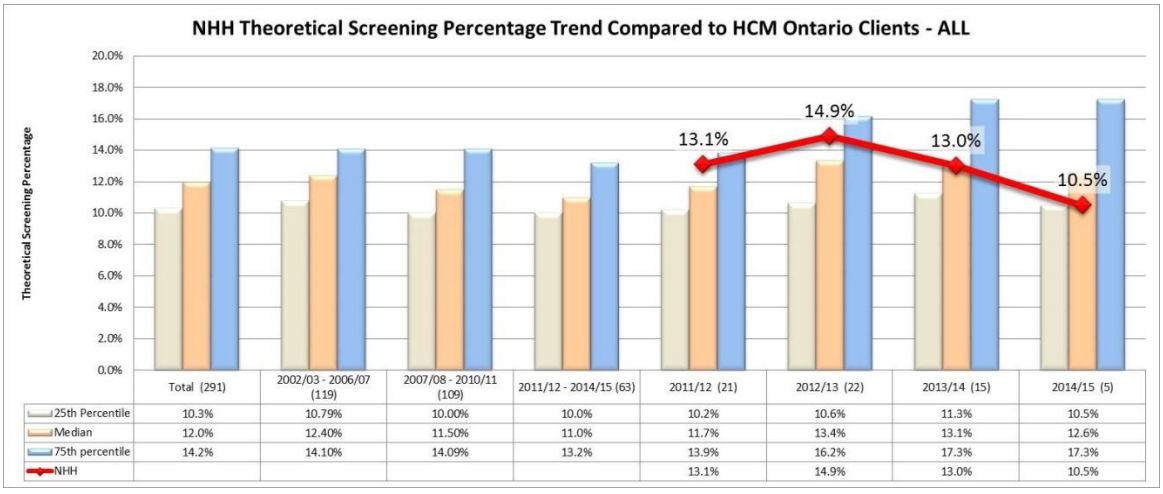
All Clients	Total	2002/03 - 2006/07	2007/08 - 2010/11	2011/12 - 2014/15
Number	291	119	109	63
Mean	12.44%	12.37%	11.93%	13.46%
Median	12.00%	12.40%	11.50%	12.90%
Min	5.87%	5.87%	6.20%	8.20%
Max	25.80%	19.29%	19.90%	25.80%

Single Site Clients	Total	2002/03 - 2006/07	2007/08 - 2010/11	2011/12 - 2014/15
Number	139	53	50	36
Mean	13.24%	12.43%	12.74%	15.10%
Median	12.90%	12.35%	12.53%	13.90%
Min	6.60%	6.60%	8.53%	9.40%
Max	25.80%	19.29%	19.90%	25.80%

[3] Standalone CCC/Rehabilitation and specialty hospital screening results are excluded.

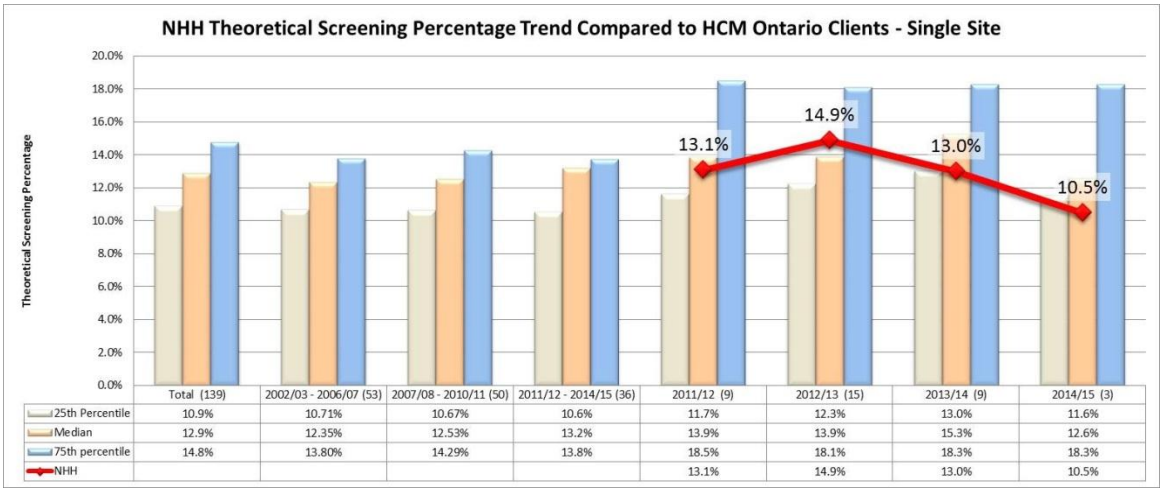
[4] NHH 2013/14 and 2014/15 results are included in the table.

The chart below provides a comparison of NHH's initial screening percentage from 2011/12 through 2014/15 in comparison with all HCM benchmarking clients over the past four years (2011/12 – 2014/15). Note that NHH's 2013/14 screening result in the chart below is relative to peer 2013/14 benchmarking comparisons conducted in June 2014.



NHH's 2014/15 ***theoretical*** screening percentage has improved 19.2% from 2013/14 and 29.5% from 20012/13 screening percentages. Relative to the initial screening results (based on best quartile screening) of all HCM benchmarking clients, NHH's 2014/15 screening percentage is better than 75% of all HCM benchmarking clients.

In comparison with only the single-site clients (the majority of which are smaller community hospitals), NHH's 2014/15 screening percentage is better than 85% of all HCM single-site clients.



	Total (139)	2002/03 - 2006/07 (53)	2007/08 - 2010/11 (50)	2011/12 - 2014/15 (36)	2011/12 (9)	2012/13 (15)	2013/14 (9)	2014/15 (3)
25th Percentile	10.9%	10.71%	10.67%	10.6%	11.7%	12.3%	13.0%	11.6%
Median	12.9%	12.35%	12.53%	13.2%	13.9%	13.9%	15.3%	12.6%
75th percentile	14.8%	13.80%	14.29%	13.8%	18.5%	18.1%	18.3%	18.3%
NHH					13.1%	14.9%	13.0%	10.5%

Theoretical versus Client Targeted Savings

Past clients who have pursued opportunities to improve cost efficiencies have achieved 20-70% of the best quartile theoretical screening savings potential, with a median/mean achievement of 36%[5]. These improvement strategies represent initiatives from across the organization, including savings in areas that were identified as having no theoretical savings target (already in the best quartile) and new revenue/recovery opportunities. Past clients include community general (small and large), teaching, CCC/Rehabilitation and mental health hospitals.

NHH's functional centre benchmarking reports suggest there are opportunities for cost savings and/or increased revenue.

Based on our experience with other clients, NHH could expect to achieve savings and revenue improvements of $1.9 – 2.5 million for 2014/15 assuming that NHH would go through the same type of organization-wide operational improvement exercise that other clients have undertaken. This equates to 30% - 40% of the theoretical savings, in line with savings realized by other clients over the past few years.

Benchmarking results by functional centre group indicate that there are potential opportunities across all groupings as presented in the following table.

OE Benchmarking Results by Functional Centre Grouping

Functional Centre Grouping	2013/14 Actual		2013/14 Opportunity to Meet Best Quartile			2014/15 Actual		2014/15 Opportunity to Meet Best Quartile		
	FTEs	Net $	FTEs	Net $	$ %	FTEs	Net $	FTEs	Net $	$ %
Corporate Services	35.15	$5,664,827	-9.04	($1,101,496)	-19.4%	29.09	$5,290,101	-3.26	($468,981)	-8.9%
Support Services	82.61	$8,516,091	-10.23	($1,329,046)	-15.6%	83.57	$8,279,003	-8.97	($1,182,069)	-14.3%
IP Nursing	144.06	$17,639,939	-17.56	($1,907,415)	-10.8%	148.12	$17,990,360	-15.81	($1,670,954)	-9.3%
Outpatient Services	63.25	$14,221,229	-20.53	($2,538,925)	-17.9%	59.84	$13,387,302	-14.65	($1,796,353)	-13.4%
Diagnostic Services	48.09	$10,467,163	-2.21	($627,113)	-6.0%	48.59	$11,749,684	-1.99	($748,156)	-6.4%
Therapeutic Services	23.24	$2,194,050	-4.39	($383,026)	-17.5%	23.35	$2,644,695	-3.99	($383,031)	-14.5%
Total	396.40	$58,703,299	-63.96	($7,887,022)	-13.4%	392.56	$59,341,145	-48.68	($6,249,544)	-10.5%

Of the 39 NHH functional centres benchmarked, 11 (28%) account for 80% of the total theoretical savings in 2014/15 as presented in the following table.

Functional Centres Accounting for 80% of the Total 2014/15 Theoretical Best Quartile Screening Opportunity

Northumberland Hills Hospital	2014/15 Actual		2014/15 Opportunity to Meet Best Quartile Potential			Cummulative % of Total Opportunity
Functional Centre	FTEs	Net $	FTEs	Net $	$ %	
713102000 General Emergency	36.76	$7,584,950	-9.78	-$1,165,370	-15.36%	19%
712813000 Combined Rehabilitation	33.50	$3,327,896	-7.16	-$683,828	-20.55%	30%
714109900 Clinical Laboratory - Combined Functions	17.29	$2,916,453	-1.99	-$614,834	-21.08%	39%
713408600 Renal Dialysis	12.56	$1,512,353	-2.96	-$445,921	-29.49%	47%
712403000 ICU - Combined Med/Surg	15.26	$2,047,920	-3.38	-$437,923	-21.38%	54%
711450000 Housekeeping	21.42	$1,608,710	-5.58	-$413,054	-25.68%	60%
711559000 Utilities		$1,082,411		-$391,426	-36.16%	66%
712052000 Clinical Resources	3.07	$458,550	-2.57	-$274,322	-59.82%	71%
712300000 Combined Medical/Surgical	67.51	$7,235,654	-2.69	-$267,663	-3.70%	75%
718400000 In-Service Education	2.71	$381,761	-1.58	-$223,061	-58.43%	79%
714500000 Physiotherapy	8.19	$724,995	-2.20	-$193,124	-26.64%	82%

[5] Based on 45 clients HCM has worked with to pursue operational improvement initiatives.

Additional/Enhanced Analyses

A four-year trend analysis of each functional centre's productivity/performance since 2011/12 was conducted to isolate functional centres where productivity/performance has worsened and which present potential opportunities for NHH to follow up to improve performance. The primary focus was to isolate those functional centres that currently are performing above (worse than) the peer median and/or worst quartile performance levels.

The following table presents the performance trends of those functional centres that comprise 80% of the total opportunity[6] for 2014/15.

Performance Trend[7] of Functional Centres Accounting for 80% of the Total 2014/15 Theoretical Opportunity

Functional Centre	Performance Indicator	NHH 4 Year Actual Performance					NHH Peer Performance Quartile	
		2011/12 Actual	2012/13 Actual	2013/14 Actual	2014/15 Actual	4 Yr NHH Trend	2013/14 Actual	2014/15 Actual
713102000 General Emergency	Worked Hours per Equiv Visit	1.7776	1.8841	1.7988	1.7178		4	4
712813000 Combined Rehabilitation	Worked Hours/Patient Day	5.0740	4.9920	4.6729	4.7716		2	2
714109900 Clinical Laboratory - Combined Functions	Worked Hours/Pt Workload	0.0223	0.0388	0.0383	0.0385		2	2
713408600 Renal Dialysis	Net Cost exclg Depn/Med per Weighted Unit	378.0483	323.3128	238.8946	171.2873		4	3
712403000 ICU - Combined Med/Surg	Worked Hours/Patient Day	20.4899	20.9952	19.5350	15.5913		4	4
711450000 Housekeeping	Net Cost exclg Depn/Med per Square Metre	$86.71	$90.19	$86.09	$85.65		2	2

711559000	Utilities	Net Cost exclg Depn/Med per Square Metre	$58.09	$55.65	$60.30	$58.94		3	3
712052000	Clinical Resources	Net Cost % of Nursing excl Eq/Med	1.83%	1.72%	1.47%	1.30%		4	4
712300000	Combined Medical/Surgical	Worked Hours/Patient Day	6.7499	6.7308	6.1020	6.1990		2	3
718400000	In-Service Education	Net Cost % of Direct Care	1.63%	2.47%	3.16%	1.13%		4	4
714500000	Physiotherapy	Worked Hours/Attendance	1.3024	1.3610	1.3588	1.2036		4	4

NHH has a high percentage of functional centres that are performing at or better than the peer median and the majority of these functional centres are performing at or better than the peer best quartile performance levels as presented in the following table[8].

NHH Functional Centre Performance Distribution by Peer Performance Quartile

	NHH Performance Distribution					
	Productivity Indicators		VNL Indicators		Net Cost Based Indicators	
	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15
Number of Indicators	25	26	23	23	20	20
1st Quartile (<BQ)	40%	46%	43%	30%	40%	45%
2nd Quartile (> BQ < Med)	20%	12%	4%	13%	15%	15%
3rd Quartile (> Med < WQ)	12%	19%	13%	17%	25%	25%
4th Quartile (> WQ)	28%	23%	39%	39%	20%	15%

6 All functional centres are presented in the "NHH 2014 15 Four Year Performance Trend Report.xls" file

7 Variable Non-Labour Non-Drug cost indicators not included.

8 Other vote and marketed service functional centres are excluded.

As shown in the above table for 2014/15:

- Productivity Indicators: 58% of the functional centres are operating at the peer median or better, with 46% operating at the peer BQ or better. 42% are operating above (worse than) the peer median performance levels, of and 23% of these are operating above (worse than) the peer 75th percentile of performance.

- Variable Non-Labour Indicators: 43% of the functional centres are operating at the peer median or better, with 30% operating at the peer BQ or better. 56% are operating above (worse than) the peer median performance levels and 39% are operating above (worse than) the peer 75th percentile performance.

- Cost-Based Indicators: 60% of the functional centres are operating at the peer median or better, with 45% operating at the peer BQ or better. 40% are operating above (worse than) the peer median performance levels and 15% are operating above (worse than) the peer 75th percentile performance.

As noted earlier, a review of the reports and underlying data[9] may lead to some data adjustments for comparability, and corresponding adjustment(s) in savings targets, however

in many cases this may lead to simply shifting costs/resources from one functional centre to another that already has a theoretical target.

Based on a review of the NHH Skill Mix reports the following comments related to NHH reporting are provided:

- 712813000 Combined Rehabilitation – Physiotherapy and Recreation Therapy resources are reported in this functional centre. These should be reported under the respective MIS frameworks (Physio, Recreation). Performance remains above peer best quartile when these hours are excluded however the corresponding impact on Physiotherapy and Recreation is unknown (NHH does not report a Recreation functional centre).
- 713406600 Oncology Day Care - Pharmacist and Pharmacist Technician resources are reported in this functional centre. These should be reported under Pharmacy. Only one peer has similar reporting. Excluding these hours NHH performance is better than BQ, however the corresponding impact on Pharmacy is unknown.
- 713408600 Renal Dialysis – NHH's reporting of Renal Dialysis is more comprehensive than peers. NHH reports more staff categories as compared to the peers, which leads to higher costs per weighted unit. NHH RN productivity is better than peer RN best quartile performance.
- 712052000 Clinical Resources – Most peers do not report this functional centre and likely report these resources in the direct care functional centres. NHH reports both Unit Producing and Management and Operational Support RNs in this functional centre. The Ontario MIS reporting guidelines (Chapter 8) indicate that all resources should be reported as unit producing personnel.

An enhanced skill mix analysis was conducted to simulate each NHH direct care functional centre's 2014/15 worked hours based on each peer's worked hours per staff category using NHH's 2014/15 workload. This enhancement allows NHH to identify what potential resource requirements a functional centre would require by staff category if it were to operate at similar performance levels of a particular peer across all staff categories. This analysis is provided in the "NHH Skill Mix 2014 15.xls" file.

The screening estimates of savings are intended to provide an indication of where to look for savings and the relative orders of magnitude of potential savings.

Content of Care Analyses

The allied health content of care analyses provide another perspective on benchmarking (versus the productivity-based measure of hours per attendance). These analyses compare "how much" therapy NHH is providing compared/relative to the peers. The MIS Trial Balance reported service recipient workload units are used to allocate worked hours by the type of patient (acute, outpatient, etc.). Comparisons with peers focus on therapy hours per patient day and the percentage of resources devoted to outpatient care. These reports indicate the following (based on NHH 2014/15 performance):

[1] Note that 714350000 Respiratory Therapy did not report any workload and could not be benchmarked.

- Pharmacy's outpatient service percentages ae above the 75th percentile. Overall NHH tends to provide less outpatient services than the peer hospitals.

- The overall allied health hours per acute patient day are less than the peer 25th percentile. Clinical Nutrition is just above the peer 75th percentile and SLP is above the peer median.

- The overall allied health hours per rehab patient day are less than the peer 25th percentile and have been decreasing since 2011/12. Clinical Nutrition and SLP are just above/at the peer the peer medians. Note: NHH reports some Physiotherapy and Recreation resources directly on the Inpatient Rehab unit and thus are not captured in this analysis.

- Pharmacy is the only allied health service to report emergency patient workload. Clinical Laboratory hours per emergency visit are just above/at the peer median.

Similarly, the diagnostic services content of care analyses provide another perspective on benchmarking (versus the productivity-based measure of hours per workload unit), and may provide useful information on utilization of diagnostic services (how much work is ordered, versus how efficiently the work is performed). These reports indicate the following (based on NHH 2014/15 performance):

- Clinical Laboratory's outpatient percentage is above the median. Radiology, CT and Ultrasound's outpatient percentage is above the peer 75th percentile.

- The overall diagnostic hours per acute patient day are above the peer median and have decreased over the past 3 years. Radiology and CT's hours per acute patient day are higher than the peer 75th percentiles.

- The overall diagnostic hours per rehab patient day are above the peer 25th percentile and have fluctuated over the past 3 years.

- The overall diagnostic hours per emergency visit are below the peer 25th percentile. Clinical Laboratory is above the peer median and CT is above the 75th percentile.

Other (Global) Analyses

These secondary analyses are focused on more global opportunities. These reports indicate the following (for 2014/15):

- Overall Information Technology costs (including and excluding PACS) as a percentage of Net Operating $s is above the peer median.

- Drug costs (measured very crudely here) are above the peer median as a percentage of Net Operating costs and on a cost per weighted patient day basis are above the peer 75th percentile. Both of these indicators have improved in 2014/15 as compared to 2013/14.
- Inpatient laundry/linen costs per patient day are less than the peer minimum.
- Inpatient Supply Costs:
  - Inpatient supply/sundry cost are less than the peer 25th percentile as a % of net operating costs and per patient day are just above/at the peer 25th percentile.
  - Medical/surgical supplies costs are above the peer 25th percentile.
  - Organs and implant costs are above the peer 25th percentile.
- Equipment operating costs are above the maximum overall and for equipment maintenance costs. For equipment depreciation it is above the peer 75th percentile.
- Biomedical Engineering and equipment maintenance costs in direct care functional centres are above the peer 75th percentile.
- Long distance charges are just above/at the peer 25th percentile.
- Sick time is above the peer 25th percentile and has decreased slightly from 2013/14.
- Education/orientation time is above the peer 25th percentile and has decreased significantly from 2013/14.
- Overtime is above the peer 75th percentile and has decreased slightly from 2013/14.
- Total Fringe Benefit costs per FTE are less than the peer 25th percentile.
- Differential and Other Revenue (2014/15):
  - Acute inpatient differential revenue (per patient day) and Rehabilitation inpatient revenue (per patient day) is highest of all peers.
  - Bad debt percentage is at the peer median and has increased significantly compared to the previous 3 years.
  - Parking revenue per patient day is near/at the peer maximum.

Summary

Performance benchmarking is a tool that helps an organization become a top performer and is a means to establish internal priorities. On their own, the results derived from the performance benchmarking and comparisons are not the answer and are only one component of a complete continual operational improvement process.

The overall results illustrate that NHH has improved its overall 2014/15 operating efficiency performance from 2013/14 levels and appears to more efficient (from an overall operational efficiency perspective) than most HCM clients (i.e., lower theoretical target savings percentage than most other clients). However, in our experience, a lower initial screening percentage does not suggest that the percentage of actual savings should also be lower. We have found that the overall amount of cost savings that clients identify is more directly related to the degree of need and their commitment to finding savings.

The results of the performance benchmarking exercise indicate that there are opportunities for cost savings and/or increased revenue opportunities. Based on our experience NHH could expect to achieve savings and revenues of $1.9 – 2.5 million for 2014/15 assuming that NHH would go through the same type of organization-wide operational improvement exercise that other clients have undertaken. This equates to 30%
- 40% of the theoretical savings, in line with savings realized by other clients over the past few years.

Once you have had a chance to review please feel free to call me at 1-519-448-4180 with any questions.

Very truly yours,

Robert Kimsto Principal

Appendix 5: Northumberland Hills Hospital Environmental Scan

Committed to meeting the acute care needs of the community it serves, Northumberland Hills Hospital (NHH) conducts regular environmental scans, the most recent of which was completed September 2015. Conducted by HCM Group Inc. using relevant data sources (Statistics Canada, CIHI etc.), the following provides highlights from the 2015 scan that demonstrates the uniqueness of the community served by NHH and the growing need for acute care services in west Northumberland.

West Northumberland Catchment

Northumberland Hills Hospital's west Northumberland catchment, which includes the Town of Cobourg, the Municipality of Port Hope, and the townships of Hamilton, Alnwick/Haldimand and Cramahe, represents 60,640 residents or 71% of Northumberland County's population and 4% of the total Central East LHIN population.

Projected Population Growth

Ministry of Finance population projections indicate a moderate 0.5% annual population growth for Northumberland County which is projected to be lower than the Central East LHIN and Ontario rate of 1% over the next 20 years.

Population Characteristics, Behaviors and Health Status

Comparing NHH's west Northumberland catchment to the Central East LHIN and Ontario, the following highlights the notable aspects that NHH must be positioned to respond to in the year (s) ahead:

Notable ***population characteristics*** include:

- NHH is currently serving a much older population with 20.7% of its catchment being 65 years of age and older compared to the Central East LHIN at 15% and Ontario at 14.6%. Within the west Northumberland catchment, it must be noted that Cobourg has the highest population 65 years of age and older with the rate at 26.5%. Looking ahead over the next 20 years Northumberland County will see a more significant growth than the rest of the province among those 65 years of age and older which will double/triple from 2011 to 2031. This is important to note as an aging population with associated chronic conditions creates a higher demand for local health service needs.

- There is a notable Aboriginal population making it imperative that NHH understands how the health status characteristics differ for this population ensuring its services mirror the health service needs to ensure equitable access to care.

- Finally, there is a lower income and higher percentage of lone parent families living in Cobourg. Because income is a widely used measure of socio-economic status (higher

income is associated with better health) and lone families headed by women are among the most economically vulnerable, NHH must consider how to ensure equitable access to care for low income and lone parent families.

Notable ***health behaviors*** include:

- Significantly higher overweight / obese rates which is linked with increased risk for a broad range of illnesses including heart disease, cancer, stroke and type 2 diabetes etc.. It is also noted that there has been a significant increase in unhealthy weights in children with these obesity rates continuing into adulthood.
- Higher rates of smoking which is a leading cause of preventable mortality and is associated with ischemic heart disease, stroke, lung cancer, chronic lung disease and a number of other cancers.
- Higher rates of heavy drinking which is associated with conditions such as acute intoxication causing death, injuries from drinking and driving, and chronic conditions such as liver cirrhosis.
- While the cancer screening rates are higher than Ontario, there can still be improvements in screening participation as mortality reduction is dependent on early detection and timely treatment.

Notable ***health status indicators*** include:

- Higher prevalence for non-age-adjusted health conditions including for example arthritis, diabetes, asthma, high blood pressure, COPD, pain and discomfort. Such conditions are markers of current and future health of the population noting that chronic conditions are a significant cause of death and disability, impacting healthcare resources.

- It is also noted that the NHH catchment has a lower life expectancy and higher age-adjusted total and premature mortality rate which are used as an indication of the overall health of this population.

HEALTH SYSTEM INDICATORS

Utilization Trends / Market Share – Potential Future Drivers

Over the last three years the following trends have been noted:

Inpatient Demand / Market Share

- There has been an increase in total inpatient cases driven by Cobourg and Port Hope residents. Notable increases have been seen in palliative care, urology, pulmonary, general surgery and neurology. At the CMG level there has been an increase for palliative care, COPD, and heart failure cases. There has been a notable decrease in gynaecology, orthopedics, and obstetrics over this same timeframe.

- Total inpatient case market share has been stable with a notable increase for Cobourg residents offset by decreases in other areas.

- The October 2015 NHH Hay Report notes that west Northumberland is dependent on NHH for over 60% of its inpatient hospital care.

Outpatient Demand / Market Share

- There has been an increase in total day surgery cases driven by Cobourg and Peterborough residents. Specific areas of increase include digestive system endoscopes, otolaryngology and neurosurgery (carpal tunnel release) cases.

- There has been an overall decrease in total day surgery cases market share driven by NHH catchment with the exception of Hamilton. NHH has seen an increase in dental/oral surgery and carpal tunnel release market share while there has been a decrease in digestive system endoscopies, general surgery and ophthalmology market share. NHH has the highest market share % for gynecology, neurosurgery (carpal tunnel release) and plastic surgery.

- With regard to Emergency Department (ED) visits, while there has been a decrease in total ED visits, there has been a notable increase in CTAS 2 (emergent), CTAS 3 (urgent) and CTAS 4 (semi-urgent) visits. It must be noted that there has been a decrease in the number of CTAS 5 (non-urgent) visits indicating that residents may be seeking non-urgent care through primary care. It is important to note that there has been an increase in ED visits from residents living in the NHH catchment and other Northumberland Regions (Brighton and Trent Hills) residents.

- While the total ED visit market share has been relatively stable there was a slight decrease in Hamilton residents.

HEALTH SYSTEM CHARACTERISTICS

As compared to the Central East LHIN and Ontario, the HKPR District Health Unit has:

A statistically higher rate for:

- Cardiac Revascularization
- Percutaneous Coronary Intervention
- Hip Replacement
- Knee Replacement

A higher rate for:

- Coronary Artery Bypass Graft
- Hospitalized AMI Event Rate (same as province)
- Injury Hospitalization
- Mental Illness Hospitalization

AREAS OF PROJECTED GROWTH

As highlighted in the October 2015 NHH Hay Report, if patterns of hospital use do not change, the west Northumberland community will demand almost 14% more inpatient hospital care over the next five years.

Based on hospital specific 2014/15 data, assuming 2014/15 utilization rates and referral patterns, sensitive to 5 year age cohort/sex/census division geography and Ministry of finance population projections (Fall 2014 release) the following highlights potential areas of growth for Northumberland Hills Hospital.

Notable highest projected growth programs include:

- Adult medicine including pulmonary, general medicine and palliative care with continued pressure on inpatient beds and critical care,
- Adult surgery including urology and orthopedics
- Outpatient growth in day surgery is driven by ophthalmology

Environmental Scan

Northumberland Hills Hospital
September 2015

Introduction

- Objective
  - To provide a picture of our community to ensure services are aligned with the west Northumberland community
    - To provide an understanding of the current catchment and characteristics of the local population
    - To provide an understanding of the future demographics to anticipate changing needs
    - To provide an understanding of the current referral patterns that will help to strategically plan what services to best deliver at NHH in the future
    - To provide an understanding of the drivers of volumes in the last few years and to anticipate potential future drivers of demand

2

Questions

1. What is the Northumberland Hills Hospital catchment?
2. What is the projected population?
3. What are population characteristics for the local population?
4. What are the health behaviours for the local population?
5. What is the health status of the local population?
6. What are the utilization trends over the past three years?
7. What programs are expected to have significant growth given current utilization?
8. How well is the local health system performing?

3

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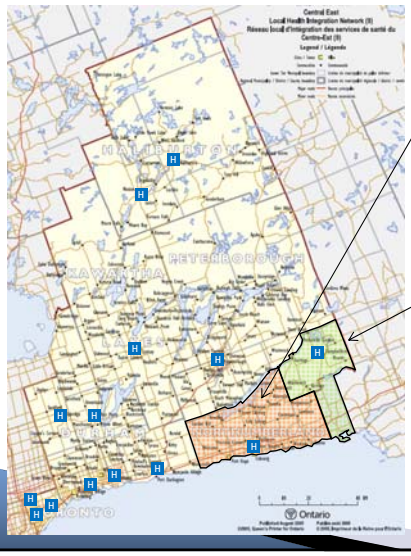
4

West Northumberland represents the primary catchment for Northumberland Hills Hospital



- West Northumberland
  - Cobourg
  - Port Hope
  - Hamilton
  - Alnwick/Haldimand
  - Cramahe
  - Alderville First Nation
- Note that Northumberland County also includes Trent Hills (part of CE LHIN) & Brighton (part of SE LHIN)
- However, 71% of Northumberland County residents are part of the NHH catchment

Source: Central East LHIN (base map)

Northumberland Hills Hospital's catchment represents over 60,000 residents

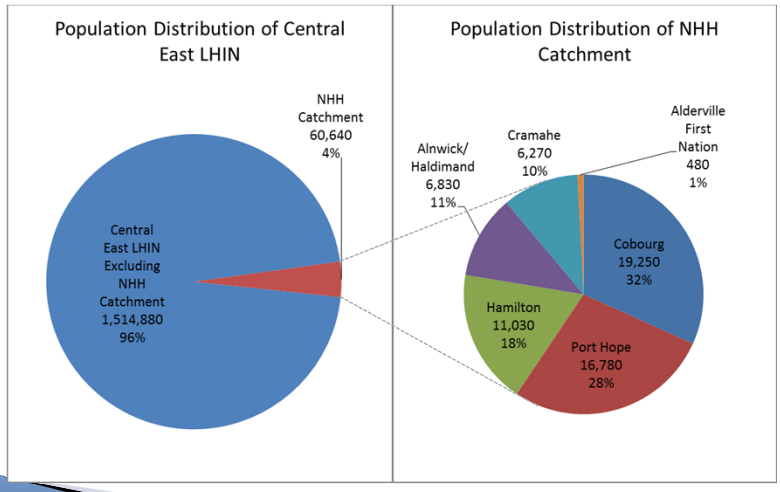
Geography	Population
Total NHH Catchment	60,640
Cobourg	19,250
Port Hope	16,780
Hamilton	11,030
Alnwick/Haldimand	6,830
Cramahe	6,270
Alderville First Nation	480

Note: Alderville First Nation website indicates approximately 300 members that live in Alderville, and another 650 + members that live outside of Alderville

Source: Statistics Canada, 2013 Estimates

6

Due to high population density in Scarborough & South Durham, NHH catchment represents 4% of the CE LHIN population



Source: Statistics Canada, 2013 Estimates

7

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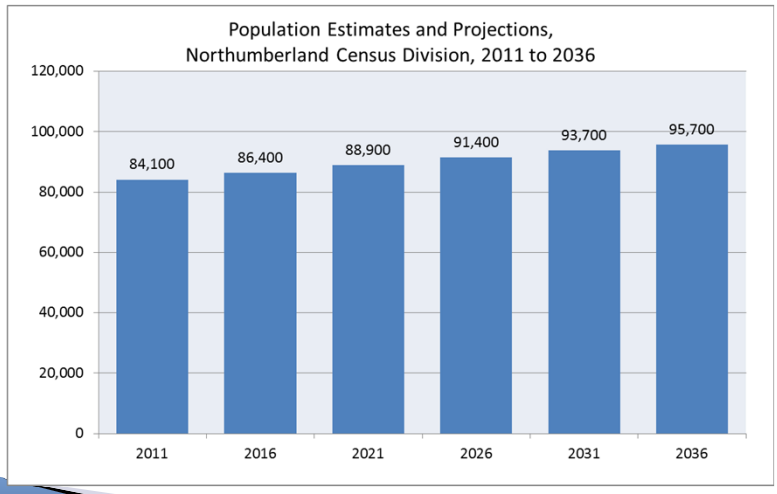
8

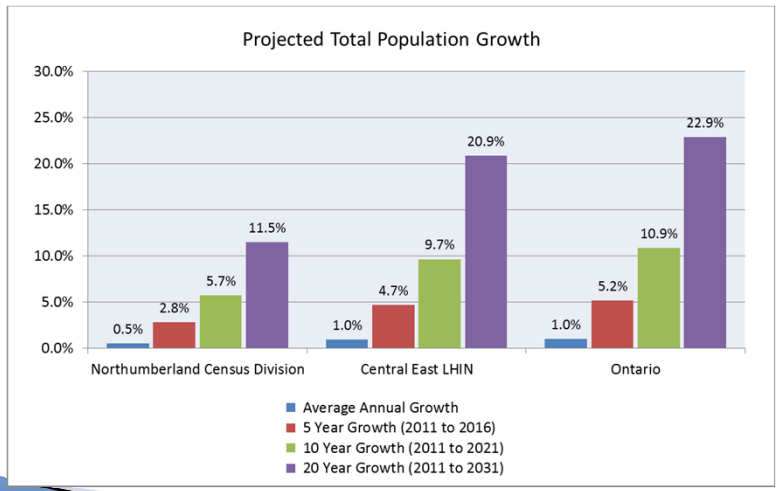
Ministry of Finance population projections indicate moderate total population growth for Northumberland County



Source: Ministry of Finance (Fall 2014 Release)

9

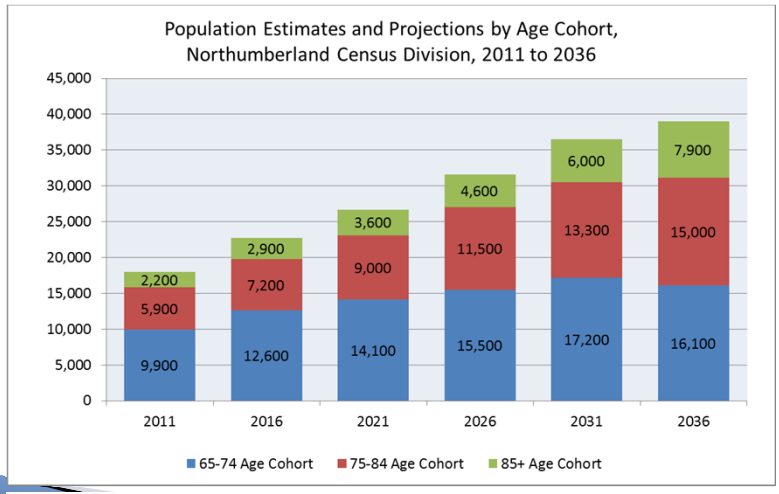
Total population growth for Northumberland County projected to be lower than Central East LHIN or Ontario



Source: Ministry of Finance (Fall 2014 Release)

10

Consistent with all other areas in the province, more significant growth among older age cohorts

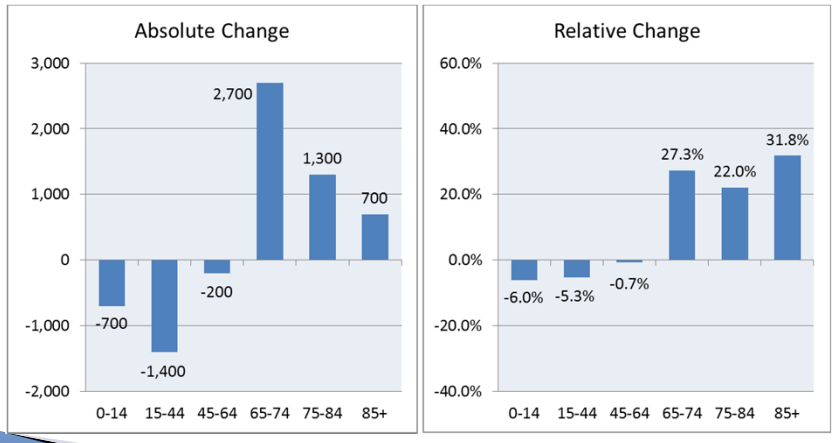


Source: Ministry of Finance (Fall 2014 Release)

11

Current trends (2011-2016) demonstrates varying growth by age cohort

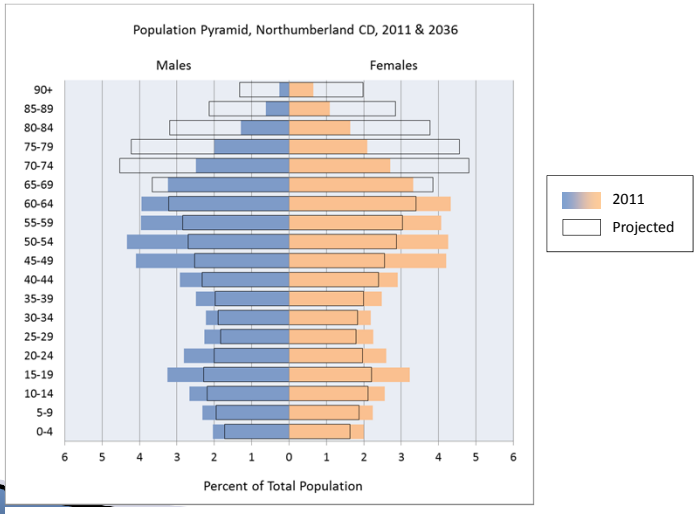
Projected Population Growth by Age Cohort (Relative vs. Absolute Change), Northumberland County, 2011-2016



Source: Ministry of Finance (Fall 2014 Release)

12

Population pyramid demonstrates the aging of the population for each age and sex cohort from 2011 to 2036



Source: Ministry of Finance (Fall 2014 Release)

13

Key Messages

- Ministry of Finance population projections indicate moderate total population growth for Northumberland County (0.5% per year)
  - Lower than Central East LHIN or Ontario (1.0% per year)
  - However, 0.5% is near the median of 49 census divisions in Ontario
- Projections similar to previous Northumberland Growth Management Strategy (2009)
  - Acknowledge that individual lower tier municipalities project higher growth per year (e.g., sum of individual official plans)
- Much more significant growth among older age cohorts
  - Older age cohorts will double/triple in population from 2011 to 2031

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Questions

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Population characteristics of NHH catchment vs. Central East LHIN & Ontario

Indicator	NHH Catchment	Central East LHIN	Ontario
Total Population (2011 Census)	58,600	1,498,650	12,851,800
Population Change 2006 to 2011 (%) (2011 Census)	0.3	4.6	5.7
Population Density (per km2) (2011 Census)	50	98	14
Median Age of the Population (2011 Census)	47.7	41.1	40.4
Population Aged 65+ (%) (2011 Census)	20.7	15.0	14.6
Pop'n with No Knowledge of Official Lang. (%) (2011 Census)	0.1	3.2	2.3
Francophone Population (%) (2011 Census)	1.5	1.5	4.4
Female Lone Parent Families (%) (2011 Census)	10.7	15.2	13.5
Population of Aboriginal Identity (%) (2011 NHS)	2.4	1.4	2.4
Visible Minority Population (%) (2011 NHS)	2.7	37.2	25.9
Recent Immigrants (%) (2006 to 2011) (2011 NHS)	0.3	4.1	4.0
Unemployment Rate (%) (2011 NHS)	8.3	9.6	8.3
Pop'n Without High School Ages 25-64 (%) (2011 NHS)	10.0	11.2	11.0
Low Income Pop'n (All Persons & After Tax) (%) (2011 NHS)	11.2	14.6	13.9

Source: Statistics Canada, 2011 Census & National Household Survey, 2011

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Population characteristics of NHH catchment by census subdivision

Indicator	Cobourg	Port Hope	Alnwick/ Haldimand	Cramahe	Hamilton	Alderville First Nation
Total Population (2011 Census)	18,500	16,200	6,600	6,100	10,700	500
Population Change 2006 to 2011 (%) (2011 Census)	1.7	-1.1	2.8	2.1	-2.5	-7.3
Population Density (per km2) (2011 Census)	828	58	17	30	42	37
Median Age of the Population (2011 Census)	49.6	47.1	46.6	46.3	46.6	41.2
Population Aged 65+ (%) (2011 Census)	26.5	20.2	17.9	16.2	15.7	12.8
Pop'n with No Knowledge of Official Lang. (%) (2011 Census)	0.1	0.2	0.1	0.1	0.1	0.0
Francophone Population (%) (2011 Census)	1.5	1.5	1.6	1.2	1.5	1.1
Female Lone Parent Families (%) (2011 Census)	14.1	11.7	7.0	9.2	6.8	11.1
Population of Aboriginal Identity (%) (2011 NHS)	1.3	1.7	1.3	2.1	2.9	72.3
Visible Minority Population (%) (2011 NHS)	3.0	3.5	1.4	3.1	1.5	2.1
Recent Immigrants (%) (2006 to 2011) (2011 NHS)	0.4	0.3	0.4	0.0	0.2	- -
Unemployment Rate (%) (2011 NHS)	8.7	8.4	3.2	9.4	10.1	11.1
Pop'n Without High School Ages 25-64 (%) (2011 NHS)	10.4	10.7	8.2	14.5	7.1	20.4
Low Income Pop'n (All Persons & After Tax) (%) (2011 NHS)	14.6	12.3	6.3	12.2	6.0	- -

Source: Statistics Canada, 2011 Census & National Household Survey, 2011

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Key Messages

- NHH catchment has an older population vs. CE LHIN and Ontario
  - Within NHH catchment, Cobourg has an older population
  - Impacts the current health status of a region and its need for health services
  - An aging population with associated chronic conditions are key drivers for health service needs
- Notable Aboriginal population (Alderville First Nation)
  - Health status characteristics and non-medical determinants of Aboriginal people often differ from the non-Aboriginal population
  - Cultural values need to be mirrored in the health services for equitable access
- Within NHH catchment, a range of population densities exist
  - May be challenges facing more isolated residents in terms of equitable access to health care services;
  - May require urban planning considerations for higher density areas
- Within NHH catchment, lower income and higher percent of lone parent families in Cobourg
  - Income is a widely used measure of socio-economic status; lone parent families headed by women are among the most economically vulnerable

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Self-Reported Health Behaviours

Indicator	HKPR District Health Unit	Central East LHIN	Ontario
Current Smoker; Daily or Occasional (%) (2013/14)	20.1	16.1	17.7
Exposure to Second-Hand Smoke at Home (%) (2013/14)	F	3.6	3.6
Heavy Drinking (%) (2013/14)	17.5	14.1*	16.7
Moderately Active / Active During Leisure Time (%) (2013/14)	62.5*	52.1	53.4
Fruit & Veg Consumption (>5 per day) (%) (2013/14)	42.9	36.4	38.7
Overweight / Obese Adults (Self-Reported) (%) (2013/14)	60.0*	53.7	53.9
Overweight / Obese Youth (Self-Reported) (%) (2013/14)	F	27.9	22.8
Influenza Immunization Within Past Year (%) (2013/14)	38.4*	33.0	33.0
Contact with a Medical Doctor in Past Year (%) (2013/14)	80.6	80.7	80.0
Breastfeeding Initiation (%) (2013/14)	92.4	89.6	90.8
Always Wears a Helmet when Riding a Bicycle (%) (2013/14)	38.2	34.5	38.2

Source: Statistics Canada, Canadian Community Health Survey, 2013/14
* Statistically different from the provincial rate; F Too unreliable to be published

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Relationship between selected chronic conditions and risk factors

Chronic Condition	Smoking	Alcohol Misuse	Physical Inactivity	Inadequate Fruit/Veg	Excess Weight
Lung cancer	✓✓			✓✓	
Colorectal cancer	✓	✓	✓✓	✓✓	✓✓
Breast cancer		✓✓	✓✓	✓	✓✓
Prostate cancer			✓	✓	✓✓
Type 2 diabetes	✓	✓✓	✓✓	✓	✓✓
Depression		✓✓	✓		✓
Ischemic heart disease	✓✓	✓✓	✓✓	✓✓	✓✓
Stroke	✓✓	✓✓	✓✓	✓✓	✓✓
Asthma	✓				✓
COPD	✓✓			✓	
Arthritis	✓		✓		
Hypertension		✓✓	✓✓	✓✓	✓✓

✓✓ High likelihood of causal relationship between risk factor and outcome; reliable estimate of relative risk available from literature
✓ Emerging evidence of some relationship between risk factor and outcome, but evidence is too limited to draw conclusions of causal relationship
Source: Chronic Conditions, Health System Intelligence Project. Health Results Team for Information Management.

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Cancer Screening Participation Indicators

Indicator	HKPR District Health Unit	Central East LHIN	Ontario
Women who completed at least one mammogram within a two-year period (% Ages 50-74) (2012 to 2013) National Target: ≥70%	62.3	59.9	59.0
Screen-eligible women who completed at least one Pap Test in a three year period (% Ages 21-69) (2011 to 2013) Ontario Cancer Plan Target: ≥85%	63.9	62.6	61.8
Population overdue for colorectal screening (individuals are considered "overdue" if they have not had an FOBT in 2 years, colonoscopy in 10 years, or flexible sigmoidoscopy in 5 years) (% Ages 50-74) (2013) Target: Decrease Percent	39.4	39.6	41.5

Source: Cancer System Quality Index, Cancer Care Ontario, Cancer Quality Council of Ontario

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Key Messages

- Significantly higher overweight/obese rates
  - Overweight and obesity linked with increased risk for a broad range of illnesses including heart disease, cancer, stroke and type 2 diabetes
  - There has been a significant increase in unhealthy weights in children; and these obesity rates continue into adulthood
- Higher smoking and heavy drinking rates
  - Smoking is a leading cause of preventable mortality and is associated with ischemic heart disease, stroke, lung cancer, chronic lung disease and a number of other cancers
  - Alcohol use is associated with conditions such as acute intoxication causing death, injuries from drinking and driving, chronic conditions such as liver cirrhosis
- Cancer screening rates are higher for HKPR vs. Ontario; however, can still further improve screening participation
  - Mortality reduction depends on early detection and appropriate therapy

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Questions

1. What is the Northumberland Hills Hospital catchment?
2. What is the projected population?
3. What are population characteristics for the local population?
4. What are the health behaviours for the local population?
5. What is the health status of the local population?
6. What are the utilization trends over the past three years?
7. What programs are expected to have significant growth given current utilization?
8. How well is the local health system performing?

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Health Status Indicators

Indicator	HKPR District Health Unit	Central East LHIN	Ontario
Perceived Health: Very Good / Excellent (%) (2013/14)	60.2	58.7	59.5
Perceived Mental Health: Very Good / Excellent (%) (2013/14)	72.5	68.9	70.7
Perceived Life Stress: Quite / Extremely Stressful (%) (2013/14)	19.8	20.4*	22.9
Community Belonging: Somewhat / Very Strong (%) (2013/14)	67.6	67.4	68.0
Life Satisfaction: Satisfied / Very Satisfied (%) (2013/14)	91.1	88.4*	90.9
Arthritis (%) (2013/14)	27.9*	20.0	18.1
Diabetes (%) (2013/14)	8.0	6.5	7.0
Asthma (%) (2013/14)	9.3	8.9	7.6
High Blood Pressure (%) (2013/14)	24.0*	18.8	18.5
COPD (%) (2013/14)	6.3*	4.3	4.0
Pain or Discomfort: Moderate / Severe (%) (2013/14)	16.3	17.5*	13.8
Pain or Discomfort that Prevents Activities (%) (2013/14)	18.9	19.3*	15.5
Low Birth Weight (% of live births) (2005-07)	5.4*	6.5*	6.2
Life Expectancy at Birth (years) (2007-09)	80.5*	82.1*	81.5

Source: Statistics Canada, Canadian Community Health Survey, 2013/14 & Vital Statistics, Birth & Death Databases
* Statistically different from the provincial rate

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Health Status Indicators

Indicator	HKPR District Health Unit	Central East LHIN	Ontario
Total Age Standardized Mortality (per 100,000 population) (2005-07)	571.5*	497.6*	521.8
All Malignant Neoplasms	177.8*	155.7*	159.1
Colorectal Cancer	20.5*	17.2	17.0
Lung Cancer	50.1*	40.0	40.3
Breast Cancer	21.8	20.5	22.0
Prostate Cancer	20.2	19.2	20.5
Circulatory Diseases	172.3*	141.5*	155.6
Respiratory Diseases	50.3*	41.2	41.3
Unintentional Injuries	31.9*	21.1*	23.4
Suicides and Self-Inflicted Injuries	9.2	6.8*	7.7
Human Immunodeficiency Virus	NR	0.6*	0.9
Age Standardized Premature Mortality (per 100,000 population) (2007-09)	264.4*	229.1*	239.0

Source: Statistics Canada, Vital Statistics, Death Database
* Statistically different from the provincial rate

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Key Messages

- Higher prevalence for non age-adjusted health conditions (e.g., arthritis, diabetes, asthma, high blood pressure, COPD pain & discomfort)
  - Health conditions are markers of the current and future health of the population
  - Chronic conditions are significant causes of death and disability, impacting healthcare resources
- Lower life expectancy
  - Life expectancy is a widely used indicator of the health of a population
  - Note that life expectancy measures quantity rather than quality of life
- Higher age-adjusted total & premature mortality rates
  - Mortality rates indicate the overall health of the population
  - Mortality statistics can also be used as a proxy for morbidity statistics; indicating current burden of disease on healthcare systems
  - Premature deaths are those of individuals who are younger than age 75

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Questions

1. What is the Northumberland Hills Hospital catchment?
2. What is the projected population?
3. What are population characteristics for the local population?
4. What are the health behaviours for the local population?
5. What is the health status of the local population?
6. What are the utilization trends over the past three years?
7. What programs are expected to have significant growth given current utilization?
8. How well is the local health system performing?

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Total NHH Inpatient Cases by Residence

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Geography	Inpt Cases	%	Inpt Cases	%	Inpt Cases	%	Absolute Change	Relative Change	Change in Distr
NHH Catchment	3,675	86.2%	3,653	87.0%	3,929	86.3%	254	6.9%	0.1%
Cobourg	1,850	43.4%	1,862	44.3%	2,025	44.5%	175	9.5%	1.1%
Hamilton	296	6.9%	262	6.2%	309	6.8%	13	4.4%	-0.2%
Port Hope	973	22.8%	949	22.6%	1,035	22.7%	62	6.4%	-0.1%
Alnwick/Haldimand	251	5.9%	254	6.0%	247	5.4%	-4	-1.6%	-0.5%
Cramahe	305	7.2%	326	7.8%	313	6.9%	8	2.6%	-0.3%
Other Northumberland	182	4.3%	166	4.0%	157	3.4%	-25	-13.7%	-0.8%
Durham Region	249	5.8%	231	5.5%	271	6.0%	22	8.8%	0.1%
All Other Areas	159	3.7%	151	3.6%	197	4.3%	38	23.9%	0.6%
Total	4,265	100.0%	4,201	100.0%	4,554	100.0%	289	6.8%	0.0%

- Increase in cases – Cobourg and Port Hope residents
- Decrease in cases – Other Northumberland residents

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Total NHH Inpatient Cases by Program

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Program	Inpt Cases	%	Inpt Cases	%	Inpt Cases	%	Absolute Change	Relative Change	Change in Distr
Pulmonary	529	12.4%	515	12.3%	574	12.6%	45	8.5%	0.2%
Cardiology	531	12.5%	509	12.1%	566	12.4%	35	6.6%	0.0%
Obstetrics	521	12.2%	478	11.4%	502	11.0%	-19	-3.6%	-1.2%
Neonatology	511	12.0%	464	11.0%	491	10.8%	-20	-3.9%	-1.2%
Gastro/Hepatobiliary	418	9.8%	440	10.5%	455	10.0%	37	8.9%	0.2%
General Surgery	294	6.9%	311	7.4%	334	7.3%	40	13.6%	0.4%
General Medicine	312	7.3%	344	8.2%	328	7.2%	16	5.1%	-0.1%
Palliative Care	211	4.9%	212	5.0%	276	6.1%	65	30.8%	1.1%
Neurology	145	3.4%	163	3.9%	184	4.0%	39	26.9%	0.6%
Urology	126	3.0%	111	2.6%	173	3.8%	47	37.3%	0.8%
Non-Acute (Convalescence)	95	2.2%	101	2.4%	122	2.7%	27	28.4%	0.5%
Gynaecology	135	3.2%	109	2.6%	101	2.2%	-34	-25.2%	-0.9%
Endocrinology	83	1.9%	71	1.7%	88	1.9%	5	6.0%	0.0%
Psychiatry	63	1.5%	80	1.9%	72	1.6%	9	14.3%	0.1%
Otolaryngology	50	1.2%	47	1.1%	61	1.3%	11	22.0%	0.2%
Nephrology	44	1.0%	49	1.2%	59	1.3%	15	34.1%	0.3%
Orthopaedics	82	1.9%	82	2.0%	55	1.2%	-27	-32.9%	-0.7%
Haematology	57	1.3%	44	1.0%	48	1.1%	-9	-15.8%	-0.3%
All Other Programs	58	1.4%	71	1.7%	65	1.4%	7	12.1%	0.1%
Total	4,265	100.0%	4,201	100.0%	4,554	100.0%	289	6.8%	0.0%

- Increase in cases – palliative care, urology, pulmonary, general surgery & neurology
- Decrease in cases – gynaecology, orthopaedics, obstetrics & neonatology

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Total NHH Inpatient Cases by CMG (CMGs with highest absolute +change)

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Case Mix Group	Inpt Cases	%	Inpt Cases	%	Inpt Cases	%	Absolute Change	Relative Change	Change in Distr
810 Palliative Care	211	4.9%	212	5.0%	276	6.1%	65	30.8%	1.1%
139 Chronic Obstructive Pulmonary Disease	205	4.8%	233	5.5%	265	5.8%	60	29.3%	1.0%
196 Heart Failure without Coronary Angiogram	90	2.1%	104	2.5%	148	3.2%	58	64.4%	1.1%
487 Lower Urinary Tract Infection	72	1.7%	78	1.9%	116	2.5%	44	61.1%	0.9%
806 Convalescence	86	2.0%	99	2.4%	119	2.6%	33	38.4%	0.6%
255 Gastrointestinal Obstruction	44	1.0%	61	1.5%	74	1.6%	30	68.2%	0.6%
26 Ischemic Event of Central Nervous System	42	1.0%	63	1.5%	62	1.4%	20	47.6%	0.4%
562 Vaginal Birth w Anaesthetic and Non-Major Obs/Gyne Interv	77	1.8%	68	1.6%	93	2.0%	16	20.8%	0.2%
477 Renal Failure	44	1.0%	46	1.1%	59	1.3%	15	34.1%	0.3%
287 Disorder of Pancreas except Malignancy	68	1.6%	56	1.3%	81	1.8%	13	19.1%	0.2%
761 Fracture/Dislocation/Rupture of Pelvis/Sacrum/Coccyx	8	0.2%	15	0.4%	21	0.5%	13	162.5%	0.3%
209 Other/Miscellaneous Cardiac Disorder	16	0.4%	19	0.5%	28	0.6%	12	75.0%	0.2%
285 Cirrhosis/Alcoholic Hepatitis	7	0.2%	20	0.5%	19	0.4%	12	171.4%	0.3%
708 Substance Abuse with Other State	20	0.5%	31	0.7%	32	0.7%	12	60.0%	0.2%
405 Cellulitis	23	0.5%	49	1.2%	34	0.7%	11	47.8%	0.2%
All Other CMGs	3,252	76.2%	3,047	72.5%	3,127	68.7%	-125	-3.8%	-7.6%
Total	4,265	100.0%	4,201	100.0%	4,554	100.0%	289	6.8%	0.0%

- In 2012/13, above CMGs accounted for 24% of all cases; in 2014/15, same set of CMGs account for 31% of all cases

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Total NHH Inpatient Cases by Level of Care

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Level of Care	Inpt Cases	%	Inpt Cases	%	Inpt Cases	%	Absolute Change	Relative Change	Change in Distr
Primary	3,089	72.4%	3,047	72.5%	3,292	72.3%	203	6.6%	-0.1%
Secondary	1,093	25.6%	1,071	25.5%	1,178	25.9%	85	7.8%	0.2%
Tertiary / Quaternary	83	1.9%	83	2.0%	84	1.8%	1	1.2%	-0.1%
Total	4,265	100.0%	4,201	100.0%	4,554	100.0%	289	6.8%	0.0%

- Similar level of care distribution from 2012/13 to 2014/15
- Level of care reflects differences in acute average length of stay and the cost and complexity of treatment
  - Primary care can be provided in any hospital setting by general practitioners or specialists
  - Secondary care includes surgical and other procedures provided by medical specialists, usually in larger community hospitals
  - Tertiary and quaternary cases involve highly specialized, costly care provided to seriously ill patients, most often in larger regional referral centres or teaching hospitals

Source: Hay Group Level of Care Assignment Algorithm

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Total NHH Outpatient Day Surgery Cases by Residence

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Geography	Cases	%	Cases	%	Cases	%	Absolute Change	Relative Change	Change in Distr
NHH Catchment	3,178	73.8%	3,260	71.7%	3,293	72.4%	115	3.6%	-1.4%
Cobourg	1,508	35.0%	1,613	35.5%	1,579	34.7%	71	4.7%	-0.3%
Hamilton	312	7.2%	327	7.2%	325	7.1%	13	4.2%	-0.1%
Port Hope	794	18.4%	833	18.3%	819	18.0%	25	3.1%	-0.4%
Alnwick/Haldimand	265	6.2%	241	5.3%	250	5.5%	-15	-5.7%	-0.7%
Cramahe	299	6.9%	246	5.4%	320	7.0%	21	7.0%	0.1%
Other Northumberland	225	5.2%	245	5.4%	236	5.2%	11	4.9%	0.0%
Durham Region	92	2.1%	101	2.2%	119	2.6%	27	29.3%	0.5%
Peterborough County	173	4.0%	257	5.6%	243	5.3%	70	40.5%	1.3%
Kawartha Lakes	36	0.8%	75	1.6%	67	1.5%	31	86.1%	0.6%
Niagara Region	425	9.9%	433	9.5%	385	8.5%	-40	-9.4%	-1.4%
All Other Areas	177	4.1%	178	3.9%	205	4.5%	28	15.8%	0.4%
Total	4,306	100.0%	4,549	100.0%	4,548	100.0%	242	5.6%	0.0%

- Increase in cases – Cobourg & Peterborough residents
- Decrease in cases – Niagara residents (although patient origin still significant at 8.5%)

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Total NHH Outpatient Day Surgery Cases by Program/Type

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Program/Type	Cases	%	Cases	%	Cases	%	Absolute Change	Relative Change	Change in Distr
Digestive Syst. Endoscopy	1,695	39.4%	1,830	40.2%	1,806	39.7%	111	6.5%	0.3%
Ophthalmology	1,202	27.9%	1,196	26.3%	1,194	26.3%	-8	-0.7%	-1.7%
General Surgery	342	7.9%	315	6.9%	324	7.1%	-18	-5.3%	-0.8%
Otolaryngology	236	5.5%	390	8.6%	317	7.0%	81	34.3%	1.5%
Dental/Oral Surgery	142	3.3%	159	3.5%	164	3.6%	22	15.5%	0.3%
Plastic Surgery	130	3.0%	109	2.4%	128	2.8%	-2	-1.5%	-0.2%
Gastro/Hepatobiliary	109	2.5%	103	2.3%	103	2.3%	-6	-5.5%	-0.3%
Neurosurgery	45	1.0%	52	1.1%	98	2.2%	53	117.8%	1.1%
Obstetrics	121	2.8%	108	2.4%	96	2.1%	-25	-20.7%	-0.7%
Resp. Syst. Endoscopy	66	1.5%	70	1.5%	79	1.7%	13	19.7%	0.2%
Ungroupable	47	1.1%	62	1.4%	77	1.7%	30	63.8%	0.6%
Orthopaedics	74	1.7%	73	1.6%	65	1.4%	-9	-12.2%	-0.3%
Gynaecology	44	1.0%	45	1.0%	44	1.0%	0	0.0%	-0.1%
Urology	30	0.7%	23	0.5%	33	0.7%	3	10.0%	0.0%
Haematology	16	0.4%	11	0.2%	15	0.3%	-1	-6.3%	0.0%
All Other	7	0.2%	3	0.1%	5	0.1%	-2	-28.6%	-0.1%
Total	4,306	100.0%	4,549	100.0%	4,548	100.0%	242	5.6%	0.0%

- Increase in cases – digestive system endoscopies, otolaryngology & neurosurgery (carpal tunnel release)
- Decrease in cases – obstetrics

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Total NHH Emergency Department Visits by Residence

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Geography	Visits	%	Visits	%	Visits	%	Absolute Change	Relative Change	Change in Distr
NHH Catchment	26,261	85.4%	26,724	85.6%	28,354	86.1%	2,093	8.0%	0.7%
Cobourg	13,459	43.8%	13,939	44.7%	14,536	44.1%	1,077	8.0%	0.4%
Hamilton	2,404	7.8%	2,289	7.3%	2,573	7.8%	169	7.0%	0.0%
Port Hope	6,125	19.9%	6,204	19.9%	6,647	20.2%	522	8.5%	0.3%
Alnwick/Haldimand	1,888	6.1%	1,995	6.4%	2,088	6.3%	200	10.6%	0.2%
Cramahe	2,385	7.8%	2,297	7.4%	2,510	7.6%	125	5.2%	-0.1%
Other Northumberland	1,051	3.4%	1,107	3.5%	1,188	3.6%	137	13.0%	0.2%
Durham Region	789	2.6%	888	2.8%	801	2.4%	12	1.5%	-0.1%
All Other Areas	2,650	8.6%	2,497	8.0%	2,601	7.9%	-49	-1.8%	-0.7%
Total	30,751	100.0%	31,216	100.0%	32,944	100.0%	2,193	7.1%	0.0%

- Increase in visits – NHH Catchment & Other Northumberland Region (Brighton & Trent Hills) residents
- Decrease in visits – All Other Areas residents

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Total NHH Emergency Department Visits by Triage Level

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Triage Level	Visits	%	Visits	%	Visits	%	Absolute Change	Relative Change	Change in Distr
1 Resuscitation	239	0.8%	264	0.8%	242	0.7%	3	1.3%	0.0%
2 Emergent	4,961	16.1%	5,143	16.5%	5,655	17.2%	694	14.0%	1.0%
3 Urgent	13,903	45.2%	13,484	43.2%	14,565	44.2%	662	4.8%	-1.0%
4 Semi-Urgent	10,703	34.8%	11,326	36.3%	11,652	35.4%	949	8.9%	0.6%
5 Non-Urgent	945	3.1%	999	3.2%	830	2.5%	-115	-12.2%	-0.6%
Total	30,751	100.0%	31,216	100.0%	32,944	100.0%	2,193	7.1%	0.0%

- Increase in visits - CTAS 2 (emergent), CTAS 3 (urgent) & CTAS 4 (semi-urgent) visits
- Decrease in visits - CTAS 5 (non-urgent) visits

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Total NHH Oncology Visits by Residence

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Geography	Visits	%	Visits	%	Visits	%	Absolute Change	Relative Change	Change in Distr
NHH Catchment	1,215	83.7%	1,084	81.3%	1,029	78.9%	-186	-15.3%	-4.8%
Cobourg	604	41.6%	551	41.3%	480	36.8%	-124	-20.5%	-4.8%
Hamilton	65	4.5%	66	5.0%	157	12.0%	92	141.5%	7.6%
Port Hope	316	21.8%	252	18.9%	184	14.1%	-132	-41.8%	-7.7%
Alnwick/Haldimand	99	6.8%	120	9.0%	98	7.5%	-1	-1.0%	0.7%
Cramahe	131	9.0%	95	7.1%	110	8.4%	-21	-16.0%	-0.6%
Other Northumberland	93	6.4%	93	7.0%	82	6.3%	-11	-11.8%	-0.1%
Durham Region	9	0.6%	22	1.7%	29	2.2%	20	222.2%	1.6%
All Other Areas	134	9.2%	134	10.1%	164	12.6%	30	22.4%	3.3%
Total	1,451	100.0%	1,333	100.0%	1,304	100.0%	-147	-10.1%	0.0%

- Increase in visits – Hamilton residents
- Decrease in visits – Coburg & Port Hope residents

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Key Messages (Patient Origin)

- Inpatient Origin
  - Increase in total inpatient cases
    - Driven by Cobourg and Port Hope residents
    - Driven by palliative care, urology, pulmonary, general surgery & neurology programs
    - At CMG level, notable increases in palliative care, COPD, heart failure cases
  - Notable decrease in gynaecology, orthopaedics, obstetrics & neonatology cases
  - Level of care distribution stable from 2012/13 to 2014/15
- Outpatient Origin
  - Increase in total day surgery cases
    - Driven by Cobourg & Peterborough residents
    - Driven by digestive system endoscopies, otolaryngology & neurosurgery (carpal tunnel release) cases
    - Notable decrease in Niagara region residents (although patient origin still significant at 8.5% (representing ophthalmology cases))
  - Decrease in total ED visits
    - Increase in visits from NHH Catchment & Other Northumberland Region (Brighton & Trent Hills) residents
    - Notable increase in CTAS 2 (emergent), CTAS 3 (urgent) & CTAS 4 (semi-urgent) visits
  - Decrease in oncology visits (Cobourg and Port Hope residents)

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Market Share for Total NHH Inpatient Cases by Residence

	2012/13			2013/14			2014/15			Change from 2012/13 to 2014/15
Geography	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Absolute Change
Cobourg	2,765	1,850	66.9%	2,808	1,862	66.3%	2,965	2,025	68.3%	1.4%
Hamilton	517	296	57.3%	489	262	53.6%	563	309	54.9%	-2.4%
Port Hope	1,592	973	61.1%	1,624	949	58.4%	1,708	1,035	60.6%	-0.5%
Alnwick/Haldimand	438	251	57.3%	435	254	58.4%	453	247	54.5%	-2.8%
Cramahe	557	305	54.8%	587	326	55.5%	602	313	52.0%	-2.8%
Total	5,869	3,675	62.6%	5,943	3,653	61.5%	6,291	3,929	62.5%	-0.2%

- Increase in market share – Cobourg residents
- Decrease in market share – Hamilton, Alnwick/Hamilton & Cramahe residents

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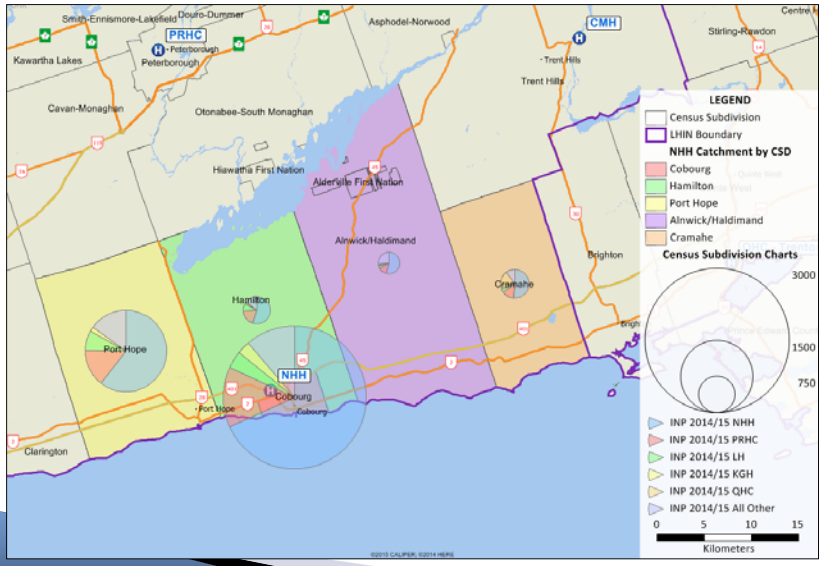
Market Share, Total Inpt Cases, 2014/15



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Market Share for Total NHH Inpatient Cases by Program (Sorted by Decreasing Market Share)

	2012/13			2013/14			2014/15			
Program	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Abs. Change
Palliative Care	206	196	95.1%	203	197	97.0%	268	262	97.8%	2.6%
Gastro/Hepatobiliary	452	384	85.0%	499	409	82.0%	486	409	84.2%	-0.8%
Pulmonary	616	508	82.5%	591	483	81.7%	637	531	83.4%	0.9%
General Medicine	365	301	82.5%	404	321	79.5%	379	300	79.2%	-3.3%
Neurology	186	134	72.0%	213	157	73.7%	212	166	78.3%	6.3%
Endocrinology	90	74	82.2%	89	68	76.4%	106	79	74.5%	-7.7%
Obstetrics	457	342	74.8%	455	332	73.0%	466	335	71.9%	-2.9%
Psychiatry	83	59	71.1%	94	72	76.6%	89	62	69.7%	-1.4%
Non-Acute	152	94	61.8%	162	97	59.9%	162	112	69.1%	7.3%
Neonatology	460	332	72.2%	457	318	69.6%	489	333	68.1%	-4.1%
Nephrology	61	42	68.9%	59	42	71.2%	84	56	66.7%	-2.2%
Cardiology	795	500	62.9%	797	471	59.1%	829	534	64.4%	1.5%
General Surgery	409	256	62.6%	452	269	59.5%	466	297	63.7%	1.1%
Urology	251	119	47.4%	207	101	48.8%	281	167	59.4%	12.0%
Gynaecology	172	118	68.6%	147	91	61.9%	153	86	56.2%	-12.4%
Rehabilitation	7	2	28.6%	9	3	33.3%	9	5	55.6%	27.0%
Other Reasons	67	34	50.7%	74	51	68.9%	74	38	51.4%	0.6%
Haematology	115	56	48.7%	94	41	43.6%	121	46	38.0%	-10.7%
Otolaryngology	97	34	35.1%	101	37	36.6%	130	47	36.2%	1.1%
Ophthalmology	5	2	40.0%	8	3	37.5%	7	2	28.6%	-11.4%
Plastic Surgery	31	4	12.9%	26	4	15.4%	32	5	15.6%	2.7%
Neurosurgery	66	6	9.1%	64	5	7.8%	60	7	11.7%	2.6%
Orthopaedics	582	77	13.2%	582	80	13.7%	572	49	8.6%	-4.7%
Thoracic Surgery	38	1	2.6%	32		0.0%	42	1	2.4%	-0.3%
Dental/Oral Surgery	9		0.0%	2		0.0%	9		0.0%	0.0%
Cardiac Surgery	63		0.0%	80		0.0%	67		0.0%	0.0%
Vascular Surgery	34		0.0%	42	1	2.4%	61		0.0%	0.0%
Total	5,869	3,675	62.6%	5,943	3,653	61.5%	6,291	3,929	62.5%	-0.2%

- Higher market share – palliative, gastro/hepatobiliary, pulmonary, general medicine & neurology
- Lower market share – orthopaedics, gynaecology & urology

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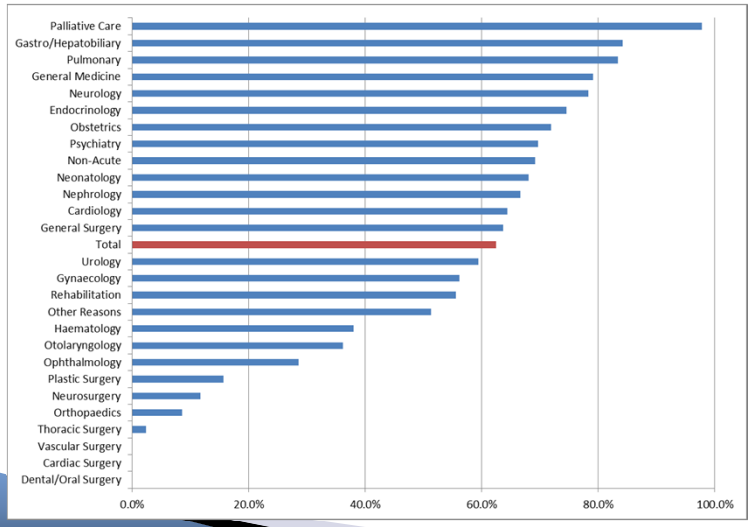
Overall market share was 62.5% in 2014/15; notable variability by program



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Market Share for Total NHH Inpatient Cases by Level of Care

	2012/13			2013/14			2014/15			Change from 2012/13 to 2014/15
Level of Care	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Absolute Change
Primary	3,241	2,694	83.1%	3,294	2,688	81.6%	3,459	2,868	82.9%	-0.2%
Secondary	1,985	904	45.5%	1,972	894	45.3%	2,173	987	45.4%	-0.1%
Tertiary/Quaternary	643	77	12.0%	677	71	10.5%	659	74	11.2%	-0.7%
Total	5,869	3,675	62.6%	5,943	3,653	61.5%	6,291	3,929	62.5%	-0.2%

- Similar level of care market share from 2012/13 to 2014/15

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Market Share for Total Outpatient Day Surgery Cases

	2012/13			2013/14			2014/15			Change from 2012/13 to 2014/15
Geography	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Absolute Change
Cobourg	2,734	1,508	55.2%	2,900	1,613	55.6%	3,008	1,579	52.5%	-2.7%
Hamilton	694	312	45.0%	691	327	47.3%	701	325	46.4%	1.4%
Port Hope	1,741	794	45.6%	1,849	833	45.1%	1,910	819	42.9%	-2.7%
Alnwick/Haldimand	490	265	54.1%	512	241	47.1%	577	250	43.3%	-10.8%
Cramahe	728	299	41.1%	721	246	34.1%	790	320	40.5%	-0.6%
Total	6,387	3,178	49.8%	6,673	3,260	48.9%	6,986	3,293	47.1%	-2.6%

- Decrease in market share – All geographies except Hamilton

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Market Share for Total Outpatient Day Surgery Cases by Program/Type

	2012/13			2013/14			2014/15			Change from 2012/13 to 2014/15
Program/Type	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Absolute Change
Dental/Oral Surgery	132	84	63.6%	112	80	71.4%	107	83	77.6%	13.9%
General Surgery	389	293	75.3%	398	261	65.6%	405	278	68.6%	-6.7%
Digestive Syst. Endoscopy	2,240	1,492	66.6%	2,434	1,614	66.3%	2,482	1,598	64.4%	-2.2%
Obstetrics	146	96	65.8%	139	93	66.9%	114	69	60.5%	-5.2%
Ophthalmology	956	652	68.2%	985	638	64.8%	1,201	669	55.7%	-12.5%
Otolaryngology	271	133	49.1%	240	141	58.8%	257	140	54.5%	5.4%
Ungroupable	84	36	42.9%	98	47	48.0%	118	56	47.5%	4.6%
Neurosurgery	110	35	31.8%	105	38	36.2%	139	62	44.6%	12.8%
Plastic Surgery	213	92	43.2%	202	75	37.1%	186	75	40.3%	-2.9%
Resp. Syst. Endoscopy	157	55	35.0%	158	57	36.1%	151	57	37.7%	2.7%
Gastro/Hepatobiliary	213	94	44.1%	241	92	38.2%	245	86	35.1%	-9.0%
Gynaecology	85	31	36.5%	81	36	44.4%	97	33	34.0%	-2.4%
Pulmonary	3	2	66.7%	5	0	0.0%	9	3	33.3%	-33.3%
Haematology	51	12	23.5%	50	7	14.0%	43	9	20.9%	-2.6%
Orthopaedics	524	45	8.6%	538	57	10.6%	517	43	8.3%	-0.3%
Urology	351	22	6.3%	385	21	5.5%	389	31	8.0%	1.7%
Vascular Surgery	30	2	6.7%	38	1	2.6%	43	1	2.3%	-4.3%
Cystoscopy	260		0.0%	275		0.0%	296		0.0%	0.0%
Oth Int Medicine	44	2	4.5%	50		0.0%	88		0.0%	-4.5%
Cardiology	52		0.0%	45	2	4.4%	40		0.0%	0.0%
Psychiatry	44		0.0%	77		0.0%	39		0.0%	0.0%
Neurology	32		0.0%	16		0.0%	17		0.0%	0.0%
Endocrinology				1		0.0%	3		0.0%	
Total	6,387	3,178	49.8%	6,673	3,260	48.9%	6,986	3,293	47.1%	-2.6%

- Increase in market share – Dental/oral surgery & neurosurgery (carpal tunnel release)
- Decrease in market share – Digestive system endoscopies, general surgery & ophthalmology

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Market Share for Emergency Department Visits

	2012/13			2013/14			2014/15			Change from 2012/13 to 2014/15
Geography	Total Visits	At NHH	% At NHH	Total Visits	At NHH	% At NHH	Total Visits	At NHH	% At NHH	Absolute Change
Cobourg	14,682	13,459	91.7%	15,159	13,939	92.0%	15,842	14,536	91.8%	0.1%
Hamilton	2,906	2,404	82.7%	2,860	2,289	80.0%	3,194	2,573	80.6%	-2.2%
Port Hope	7,378	6,125	83.0%	7,416	6,204	83.7%	8,000	6,647	83.1%	0.1%
Alnwick/Haldimand	2,376	1,888	79.5%	2,492	1,995	80.1%	2,598	2,088	80.4%	0.9%
Cramahe	3,422	2,385	69.7%	3,405	2,297	67.5%	3,583	2,510	70.1%	0.4%
Total	30,764	26,261	85.4%	31,332	26,724	85.3%	33,217	28,354	85.4%	0.0%

- Decrease in market share – Hamilton

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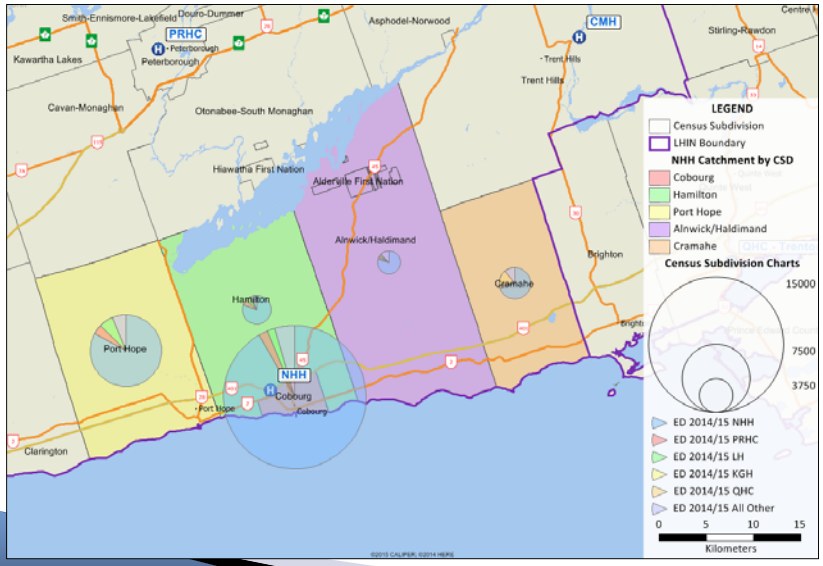
Market Share, Total ED Visits, 2014/15



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Market Share for Emergency Department Visits by Facility

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15
Facility	Total Visits	%	Total Visits	%	Total Visits	%	Absolute Change
940 COBOURG Northumberland Hills	26,261	85.4%	26,724	85.3%	28,354	85.4%	0.0%
952 OSHAWA Lakeridge Health Corp	971	3.2%	956	3.1%	1,066	3.2%	0.1%
771 PETERBOROUGH Regional	830	2.7%	887	2.8%	1,017	3.1%	0.4%
957 BELLEVILLE Quinte Health Care	871	2.8%	857	2.7%	757	2.3%	-0.6%
624 CAMPBELLFORD Memorial	474	1.5%	509	1.6%	564	1.7%	0.2%
954 TORONTO Rouge Valley	114	0.4%	112	0.4%	120	0.4%	0.0%
693 KINGSTON General	88	0.3%	90	0.3%	93	0.3%	0.0%
852 TORONTO St. Michael's	73	0.2%	94	0.3%	88	0.3%	0.0%
947 TORONTO University Hlth Network	84	0.3%	60	0.2%	83	0.2%	0.0%
837 TORONTO Hosp for Sick Children	79	0.3%	69	0.2%	82	0.2%	0.0%
999 All Other Hospitals	919	3.0%	974	3.1%	993	3.0%	0.0%
Total	30,764	100.0%	31,332	100.0%	33,217	100.0%	0.0%

- Overall market share stable from 2012/13 to 2014/15 (small increase for PRHC & small decrease for QHC)

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Market Share for Chemotherapy Visits

	2012/13			2013/14			2014/15			Change from 2012/13 to 2014/15
Geography	Total Visits	At NHH	% At NHH	Total Visits	At NHH	% At NHH	Total Visits	At NHH	% At NHH	Absolute Change
Cobourg	986	561	56.9%	917	519	56.6%	871	431	49.5%	-7.4%
Hamilton	276	55	19.9%	230	66	28.7%	391	154	39.4%	19.5%
Port Hope	593	299	50.4%	485	226	46.6%	495	172	34.7%	-15.7%
Alnwick/Haldimand	197	94	47.7%	177	117	66.1%	240	87	36.3%	-11.5%
Cramahe	230	116	50.4%	155	89	57.4%	226	108	47.8%	-2.6%
Total	2,282	1,125	49.3%	1,964	1,017	51.8%	2,223	952	42.8%	-6.5%

- Increase in market share – Hamilton
- Decrease in market share – Cobourg, Port Hope & Alnwick/Haldimand

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Key Messages (Market Share)

- Inpatient Market Share
  - Total inpatient case market share stable for the catchment (increase for Cobourg residents balanced decrease in other areas)
    - Higher market share for palliative, gastro/hepatobiliary, pulmonary, general medicine & neurology programs
    - Lower market share for orthopaedics, gynaecology & urology programs
- Outpatient Market Share
  - Decrease in total day surgery cases market share
    - Driven by all NHH catchment residents (except Hamilton)
    - Driven by digestive system endoscopies, general surgery & ophthalmology
    - Notable increase in market share for dental/oral surgery & neurosurgery
  - Total ED visit market share relatively stable
    - Small decrease in Hamilton residents (after correcting for coding error)
  - Decrease in chemotherapy visit market share
    - Driven by Cobourg, Port Hope & Alnwick/Haldimand residents

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Health System Characteristics (1 of 3) (Physician Rates and Inflow/Outflow Ratios)

Indicator	HKPR District Health Unit	Central East LHIN	Ontario
General/Family Physicians (Rate per 100,000 population) (2013) (CIHI)	90	78*	103
Specialist Physicians (Rate per 100,000 population) (2013) (CIHI)	24*	63*	106
Inflow / Outflow: Overall (Ratio) (2013/14) (CIHI)	0.63	0.83	NA
Inflow / Outflow: Percutaneous Coronary Intervention (Ratio) (2013/14) (CIHI)	0.00	0.82	NA
Inflow / Outflow: Coronary Artery Bypass Graft (Ratio) (2013/14) (CIHI)	0.00	0.00	NA
Inflow / Outflow: Hip Replacement (Ratio) (2013/14) (CIHI)	0.38	0.80	NA
Inflow / Outflow: Knee Replacement (Ratio) (2013/14) (CIHI)	0.41	0.81	NA

Notes: * Statistically different from the provincial rate
Sources: Canadian Institute for Health Information

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Health System Characteristics (2 of 3) (Cardiac Revascularization & Joint Procedures)

Indicator	HKPR District Health Unit	Central East LHIN	Ontario
Cardiac Revascularization (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	289*	230	236
Percutaneous Coronary Intervention (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	223*	179	176
Coronary Artery Bypass Graft (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	66	51*	62
Hip Replacement (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	169*	132*	145
Knee Replacement (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	244*	199	196

Notes: * Statistically different from the provincial rate
Sources: Canadian Institute for Health Information

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Health System Characteristics (3 of 3)
(AMI, Stroke, Injury & Mental Health Hospitalization

Indicator	HKPR District Health Unit	Central East LHIN	Ontario
Hospitalized AMI Event Rate (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	195	169*	195
Hospitalized Stroke Event Rate (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	99*	115	116
Injury Hospitalization (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	428	350*	416
Mental Illness Hospitalization (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	475	347	443
Mental Illness Patient Days (Age-Standardized Rate per 100,000 Population) (2013/14) (CIHI)	439*	369*	518

Notes: * Statistically different from the provincial rate
Sources: Canadian Institute for Health Information

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Questions

1. What is the Northumberland Hills Hospital catchment?
2. What is the projected population?
3. What are population characteristics for the local population?
4. What are the health behaviours for the local population?
5. What is the health status of the local population?
6. What are the utilization trends over the past three years?
7. What programs are expected to have significant growth given current utilization?
8. How well is the local health system performing?

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Methodology for Projecting Growth

- Based on hospital specific 2014/15 data
  - Assumed 2014/15 utilization rates and referral patterns
  - Sensitive to 5-year age cohort/sex/census division geography
  - Used Ministry of Finance population projections (Fall 2014 release)
- Inpatient clinical efficiency sensitivity analysis provided
  - Back testing indicates that population growth and aging methodologies over-project inpatient medical/surgical volume by ~2% per year
  - 1-2% reduction per year for medical/surgical inpatient volume presented
  - Implies that observed clinical efficiencies/reduced utilization will continue to be achievable
- Allows planners to see where the system may be headed, and to identify potential needs, problems and opportunities

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Projected Growth

	No Clinical Efficiency			1% Clinical Efficiency Per Year			2% Clinical Efficiency Per Year		
Program	5 Year Change	10 Year Change	20 Year Change	5 Year Change	10 Year Change	20 Year Change	5 Year Change	10 Year Change	20 Year Change
Total Inpatient Cases	14%	28%	59%	8%	16%	30%	3%	4%	6%
Obstetrics / Newborns	5%	8%	2%						
Paediatrics	-4%	-4%	-4%						
Adult Medicine	17%	35%	79%	11%	22%	47%	6%	11%	20%
Adult Surgery	13%	28%	61%	8%	16%	31%	2%	5%	7%
Total Outpatient Cases/Visits	8%	16%	32%						
Day Surgery Cases	9%	18%	30%	Shift of procedures to community?					
Emergency Dept. Visits	5%	11%	24%	Shift of visits to alternative care settings?					
Oncology Visits	13%	25%	41%	Shift of visits to oral chemotherapy?					
Renal Dialysis Visits	19%	38%	70%	Shift of visits to home based modalities?					

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Key Messages (Potential Growth)

- Notable projected growth for adult medicine
  - Given current and projected age distribution, highest projected growth programs include pulmonary, general medicine and palliative care
  - Continued pressure on inpatient beds and critical care?
- For adult surgery, urology and orthopaedics are higher projected growth programs
  - Opportunity for growth (e.g., high projected growth and low market share)?
- Notable projected growth for outpatient volumes
  - Growth in day surgery driven ophthalmology
    - Need to monitor current and future utilization
  - Need to acknowledge MOHLTC's support of community-based specialty clinics per "Ontario's Action Plan for Health Care"
    - Moving more procedures into the community – faster access to high quality care at less cost
    - Reducing ED visits that can be treated in alternative primary care settings as per "Ontario's Action Plan for Health Care"
    - Shifts from in-centre dialysis to home modalities can affect hospital based volumes
    - Shifts to oral chemotherapy can affect hospital based volumes

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Questions

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Residence Based Health System Performance

Indicator	HKPR District Health Unit	Central East LHIN	Ontario
Has a Regular Medical Doctor (%) (2013/14)	94.2*	92.9	91.8
Wait Time for Hip Fracture Surg (% within 48 hours) (2013/14)	84.2	80.3	83.8
Amb Care Sensitive Cond (per 100,000 pop'n <75) (2013/14)	302*	253	262
Caesarean Section (%) (2013/14)	30.6	29.2*	28.0
Hospitalized Hip Fracture Rate (per 100,000 pop'n 65+) (2013/14)	457	432	444
30-Day Acute Myocardial Infarction In-Hosp Mortality (2011/12-2013/14)	7.7	7.0	7.1
30-Day Stroke In-Hospital Mortality Rate (%) (2011/12-2013/14)	17.3	12.2	13.4
30-Day AMI Readmission Rate (%) (2013/14)	9.0	10.6	11.9
30-Day Medical Readmission Rate (%) (2013/14)	11.8*	13.0*	13.6
30-Day Surgical Readmission Rate (%) (2013/14)	6.5	6.5*	7.2
30-Day Obstetric Readmission Rate (%) (2013/14)	1.4	1.8	1.8
30-Day Pediatric Readmission Rate (%) (2013/14)	7.3	6.8	7.0
30-Day Mental Illness Readmission Rate (%) (2013/14)	9.3	10.2	11.5
Potentially Avoidable Mortality (per 100,000 pop'n) (2009/10-2011/12)	196*	156*	163
From Preventable Causes (per 100,000 pop'n) (2009/10-2011/12)	131*	97*	102
From Treatable Causes (per 100,000 pop'n) (2009/10-2011/12)	65	58	60

Sources: Statistics Canada, Canadian Community Health Survey, 2013/14; Canadian Institute for Health Information, Discharge Abstract Database, 2013/14; Statistics Canada, Vital Statistics, Death Database 2009-2012
* Statistically different from the provincial rate

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Hospital Based Performance (CIHI Canadian Hospital Reporting Project)

Indicator	Northumberland Hills Hospital	Central East LHIN	Ontario
Administrative Expense (%) (2013/14)	4.8	6.8	5.8
All Patients Readmitted to Hospital (%) (2013/14)	8.2	8.4*	9.1
Cost of a Standard Hospital Stay (Dollars) (2013/14)	5,228	4,689	5,283
Emergency Department Wait Time for Physician Initial Assessment (Hours, 90th Percentile) (2013/14)	3.5	2.7	3.0
Hospital Deaths Following Major Surgery (%) (2013/14)	2.4	1.7	1.7
In-Hospital Sepsis (per 1,000) (2013/14)	0*	4.4	4.4
Low-Risk Caesarean Sections (%) (2013/14)	22.7*	17.5*	14.8
Medical Patients Readmitted to Hospital (%) (2013/14)	12.3	13.0*	13.6
Obstetric Patients Readmitted to Hospital (%) (2013/14)	1.0	1.8	1.8
Obstetric Trauma (With Instrument) (%) (2013/14)	0*	13.8	14.4
Patients 19 and Younger Readmitted to Hospital (%) (2013/14)	16.1	6.8	7.0
Surgical Patients Readmitted to Hospital (%) (2013/14)	6.1	6.5*	7.2
Total Time Spent in Emergency Department for Admitted Patients (Hours, 90th Percentile) (2013/14)	25.7	31.9	28.4

Source: Canadian Institute for Health Information, Canadian Hospital Reporting Project
* Statistically different from the provincial rate

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Key Messages

- Higher ambulatory care sensitive condition rates (HKPR residents)
  - While not all admissions for ambulatory care sensitive conditions are avoidable, it is assumed that appropriate prior ambulatory care could prevent the onset of this type of illness or condition, control an acute episodic illness or condition, or manage a chronic disease or condition;
  - A disproportionately high rate is presumed to reflect problems in obtaining access to primary care
- Higher potentially avoidable mortality (HKPR residents)
  - Premature deaths that could potentially have been avoided through all levels of prevention
  - Mortality from preventable causes—a subset of avoidable mortality that informs efforts to reduce the number of initial cases (i.e., incidence reduction)
    - Includes conditions linked to modifiable factors, such as smoking (lung cancer) or excessive alcohol consumption (liver cirrhosis), as well as deaths related to effective public health interventions, such as vaccinations, or traffic safety legislation)
- Higher low-risk C-section rate (Northumberland Hills Hospital)
  - The implicit assumption is that a lower rate indicates more appropriate as well as more efficient care; however, variations in rates can serve as a flag to examine appropriateness of care, as well as maternal and neonatal outcomes

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Appendix

Focus Areas

Total Renal Dialysis Visits by Residence

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Geography	Visits	%	Visits	%	Visits	%	Absolute Change	Relative Change	Change in Distr
NHH Catchment	5,420	78.0%	6,283	91.3%	6,240	94.0%	820	15.1%	16.0%
Cobourg	2,881	41.5%	3,273	47.6%	3,392	51.1%	511	17.7%	9.6%
Hamilton	548	7.9%	570	8.3%	367	5.5%	-181	-33.0%	-2.4%
Port Hope	1,703	24.5%	1,885	27.4%	1,784	26.9%	81	4.8%	2.4%
Alnwick/Haldimand	139	2.0%	148	2.2%	229	3.4%	90	64.7%	1.4%
Cramahe	149	2.1%	407	5.9%	468	7.1%	319	214.1%	4.9%
Other Northumberland	939	13.5%	410	6.0%	337	5.1%	-602	-64.1%	-8.4%
Durham Region	0	0.0%	0	0.0%	59	0.9%	59		0.9%
All Other Areas	586	8.4%	186	2.7%	2	0.0%	-584	-99.7%	-8.4%
Total	6,945	100.0%	6,879	100.0%	6,638	100.0%	-307	-4.4%	0.0%

- Increase in visits – Cobourg & Cramahe residents
- Decrease in visits – Hamilton, Other Northumberland (Brighton & Trent Hills) and All Other Areas (Peterborough County) residents

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Market Share for Renal Dialysis Visits

	2012/13			2013/14			2014/15			Change from 2012/13 to 2014/15
Geography	Total Visits	At NHH	% At NHH	Total Visits	At NHH	% At NHH	Total Visits	At NHH	% At NHH	Absolute Change
Cobourg	2,983	2,881	96.6%	3,490	3,273	93.8%	3,511	3,392	96.6%	0.0%
Hamilton	586	548	93.5%	599	570	95.2%	380	367	96.6%	3.1%
Port Hope	2,008	1,703	84.8%	2,175	1,885	86.7%	2,022	1,784	88.2%	3.4%
Alnwick/Haldimand	149	139	93.3%	158	148	93.7%	245	229	93.5%	0.2%
Cramahe	165	149	90.3%	521	407	78.1%	475	468	98.5%	8.2%
Total	5,891	5,420	92.0%	6,943	6,283	90.5%	6,633	6,240	94.1%	2.1%

- Increase in market share – Hamilton, Port Hope & Cramahe

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NHH Inpatient Cases by Residence (Stroke Quality Based Procedures)

	2012/13		2013/14		2014/15		Change from 2012/13 to 2014/15		
Geography	Inpt Cases	%	Inpt Cases	%	Inpt Cases	%	Absolute Change	Relative Change	Change in Distr
NHH Catchment	68	93.2%	75	96.2%	87	94.6%	19	27.9%	1.4%
Cobourg	31	42.5%	47	60.3%	51	55.4%	20	64.5%	13.0%
Hamilton	6	8.2%	1	1.3%	5	5.4%	-1	-16.7%	-2.8%
Port Hope	15	20.5%	13	16.7%	23	25.0%	8	53.3%	4.5%
Alnwick/Haldimand	10	13.7%	9	11.5%	4	4.3%	-6	-60.0%	-9.4%
Cramahe	6	8.2%	5	6.4%	4	4.3%	-2	-33.3%	-3.9%
Other Northumberland	3	4.1%	2	2.6%	1	1.1%	-2	-66.7%	-3.0%
Durham Region		0.0%		0.0%	2	2.2%	2		2.2%
All Other Areas	2	2.7%	1	1.3%	2	2.2%	0	0.0%	-0.6%
Total	73	100.0%	78	100.0%	92	100.0%	19	26.0%	0.0%

- Increase in cases – Cobourg and Port Hope residents
- Decrease in cases – Alnwick/Haldimand residents

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Market Share for NHH Inpatient Cases by Residence (Stroke Quality Based Procedures)

	2012/13			2013/14			2014/15			Change from 2012/13 to 2014/15
Geography	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Total Cases	At NHH	% At NHH	Absolute Change
Cobourg	38	31	81.6%	53	47	88.7%	58	51	87.9%	6.4%
Hamilton	7	6	85.7%	2	1	50.0%	7	5	71.4%	-14.3%
Port Hope	27	15	55.6%	21	13	61.9%	23	23	100.0%	44.4%
Alnwick/Haldimand	12	10	83.3%	11	9	81.8%	5	4	80.0%	-3.3%
Cramahe	9	6	66.7%	9	5	55.6%	8	4	50.0%	-16.7%
Total	93	68	73.1%	96	75	78.1%	101	87	86.1%	13.0%

- Increase in market share – Cobourg and Port Hope

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NHH Inpatient Cases for Selected Surgical Programs

	2012/13	2013/14	2014/15	Change from 2012/13 to 2014/15	
Program / Case Mix Group	Inpt Cases	Inpt Cases	Inpt Cases	Absolute Change	Relative Change
Orthopaedics	**82**	**82**	**55**	**-27**	**-32.9%**
766 Fracture of Femur	57	59	37	-20	-35.1%
767 Other Fracture Dislocation of Leg	8	7	7	-1	-12.5%
770 Other Fracture/Dislocation of Arm/Shoulder	8	9	7	-1	-12.5%
All Other Orthopaedics CMGs	9	7	4	-5	-55.6%
Urology	**4**	**6**	**9**	**5**	**125.0%**
Gynaecology	**130**	**102**	**96**	**-34**	**-26.2%**
501 Hysterectomy with Malignancy	7	5	7	0	0.0%
502 Hysterectomy with Non Malignant Diagnosis	90	66	56	-34	-37.8%
503 Fixation/Occl/Rem Interv on Fem Rep Syst except Tube/Ovary	10	7	3	-7	-70.0%
505 Ovarian/Fallopian Tube Interv w Non Mal Diag exc Endo Appr	12	8	12	0	0.0%
507 Repair/Brachytherapy/Oth Intr on Fem Rep Syst exc Tube/Ovary	9	9	8	-1	-11.1%
All Other Gynaecology CMGs	2	7	10	8	400.0%
Plastic Surgery	**5**	**7**	**6**	**1**	**20.0%**

- Decrease in cases – Orthopaedics and gynaecology
- Note: Case Mix Group (CMG) detail provided for more common CMGs (15+ cases over 3 years)

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Market Share for Selected Surgical Programs, Inpatient Cases, 2014/15

	Northumber-land Hills Hospital		Peter-borough Regional Health Centre		Lakeridge Health		Kingston General Hospital		Quinte Healthcare		All Other Hospitals		Total Cases
Program	#	%	#	%	#	%	#	%	#	%	#	%	#
Orthopaedics	49	8.6%	222	38.8%	54	9.4%	26	4.5%	51	8.9%	170	29.7%	572
Urology	9	8.7%	48	46.2%	25	24.0%	2	1.9%	0	0.0%	20	19.2%	104
Gynaecology	82	55.4%	20	13.5%	10	6.8%	16	10.8%	6	4.1%	14	9.5%	148
Plastic Surgery	5	15.6%	2	6.3%	1	3.1%	1	3.1%	0	0.0%	23	71.9%	32

- Highest Inpatient Market Share of NHH Catchment:
  - Orthopaedics: PRHC
  - Urology: PRHC
  - Gynaecology: NHH
  - Plastic Surgery: All Other Hospitals

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NHH Outpatient Cases for Selected Surgical Programs

	2012/13	2013/14	2014/15	Change from 2012/13 to 2014/15	
Program / Comprehensive Ambulatory Case Classification	Inpt Cases	Inpt Cases	Inpt Cases	Absolute Change	Relative Change
7 Gynaecology	**44**	**45**	**44**	**0**	**0.0%**
C464 Ovarian and Fallopian Intervention	13	18	17	4	30.8%
C467 Partial Cervical Excision	26	15	13	-13	-50.0%
All Other CACS	5	12	14	9	180.0%
12 Neurosurgery	**45**	**52**	**98**	**53**	**117.8%**
C005 Carpal Tunnel Release, Open Approach	45	52	96	51	113.3%
All Other CACS			2	2	
16 Orthopaedics	**74**	**73**	**65**	**-9**	**-12.2%**
C301 Repair Cruciate Ligament, Knee	7	4	4	-3	-42.9%
C302 Other Knee Intervention, excluding cruciate repair	37	38	29	-8	-21.6%
All Other CACS	30	31	32	2	6.7%
20 Plastic Surgery	**130**	**109**	**128**	**-2**	**-1.5%**
C323 Soft Tissue Intervention Extremity	15	10	18	3	20.0%
C352 Plastic and Other Breast Intervention	34	30	48	14	41.2%
C353 Abdomen & Trunk Skin Intervention	21	20	20	-1	-4.8%
C354 Face and Neck Skin Intervention	35	28	18	-17	-48.6%
C355 Other Skin Intervention	6	8	8	2	33.3%
All Other CACS	19	13	16	-3	-15.8%
25 Urology	**30**	**23**	**33**	**3**	**10.0%**
C455 Lower Urinary Tract Intervention	19	14	21	2	10.5%
All Other CACS	11	9	12	1	9.1%

- Increase in cases – carpal tunnel release
- Note: CACS detail provided for more common CACS (15+ cases over 3 years)

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Market Share for Selected Surgical Programs, Outpatient Cases, 2014/15

	Northumber-land Hills Hospital		Peter-borough Regional Health Centre		Lakeridge Health		Kingston General Hospital		Quinte Healthcare		All Other Hospitals		Total Cases
Program	#	%	#	%	#	%	#	%	#	%	#	%	#
Gynaecology	33	34.0%	30	30.9%	4	4.1%	2	2.1%	3	3.1%	25	25.8%	97
Neurosurgery	62	44.6%	24	17.3%	20	14.4%	2	1.4%	6	4.3%	25	18.0%	139
Orthopaedics	43	8.3%	193	37.3%	88	17.0%	3	0.6%	33	6.4%	157	30.4%	517
Plastic Surgery	75	40.3%	29	15.6%	28	15.1%		0.0%	3	1.6%	51	27.4%	186
Urology	31	8.0%	165	42.4%	118	30.3%	3	0.8%	29	7.5%	43	11.1%	389
Cystoscopy		0.0%	94	31.8%	90	30.4%		0.0%	52	17.6%	60	20.3%	296

- Highest Outpatient Market Share of NHH Catchment:
  - Gynaecology: NHH (PRHC & Other Hospitals have notable share as well)
  - Neurosurgery: NHH (represents carpal tunnel release cases)
  - Orthopaedics: PRHC
  - Plastic Surgery: NHH
  - Urology: PRHC
  - Cystoscopy: PRHC & LH
- Note: Cystoscopy market share can be significantly influenced by reporting methods at different hospitals

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Key Messages (Focus Areas)

- Renal Dialysis
  - Increase in visits – Cobourg & Cramahe residents
  - Decrease in visits – Hamilton, Other Northumberland (Brighton & Trent Hills) & All Other Areas (Peterborough County) residents
  - Increase in market share; and despite decreasing total visits for Hamilton residents, NHH increasing market share
- Stroke Quality Based Procedures
  - Increase in cases – Cobourg & Port Hope residents
  - Increase in market share – Cobourg & Port Hope residents
- Inpatient Surgery
  - Decrease in orthopaedics & gynaecology cases
  - Low number of urology cases
  - NHH has highest market share % for gynaecology
  - PRHC has highest market share % for orthopaedics and urology
  - Other hospitals have highest market share % for plastic surgery
- Outpatient Surgery
  - Increase in neurosurgery cases (carpal tunnel release)
  - Low number of urology & orthopaedics cases
  - NHH has highest market share % for gynaecology (PRHC & Other Hospitals have notable share as well)
  - NHH has highest market share % for neurosurgery and plastic surgery
  - PRHC has highest market share % for orthopaedics and urology

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