

**REVIEW OF THE NIAGARA HEALTH SYSTEM  
HOSPITAL IMPROVEMENT PLAN**

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## 1) Executive Summary

The Hamilton Niagara Haldimand Brant Local Health Integration Network (HNHB LHIN) requested the Niagara Health System (NHS) prepare a hospital improvement plan (HIP) that achieved a balanced budget while providing accessible, quality healthcare to the citizens of Niagara, now and in the future. The HNHB LHIN requested Dr. Jack Kitts lead an external review of the NHS HIP to ensure the plan achieves quality, is financially feasible and has sufficient health professional capacity.

The NHS is one hospital on seven sites. This has not been generally accepted and has resulted in a divided culture and competition for scarce resources. Recognizing this, the reviewers refer to NHS sites rather than to individual hospitals as the NHS is the hospital.

### *Key Findings*

The NHS HIP is contentious. It proposes significant service delivery changes across the organization, particularly at the Douglas Memorial site in Fort Erie and the Port Colborne General site. There are 7 key areas for discussion.

#### 1. Consolidation of Clinical Services:

Clinical programs require a critical mass of patients to support recruitment, clinical competency and effective use of resources. Consolidation of clinical services represents the right quality strategic direction.

#### 2. The Future Role of the Douglas Memorial and Port Colborne General Sites:

The Douglas Memorial site and the Port Colborne General site do not function as full service hospitals today. Residents of Fort Erie and Port Colborne incorrectly believe they have access to full service Emergency Departments, a wide range of surgical services and comprehensive acute care inpatient beds. The sites do not have the necessary diagnostic equipment or specialist support to offer a full scope of services. The Douglas Memorial site and the Port Colborne General site do not provide inpatient surgical perioperative services. The current surgical program consists of minor surgical procedures that can be provided in minor procedure rooms and clinics. Patient volumes are low and the buildings require significant renovation to meet modern care delivery standards. The communities of Fort Erie and Port Colborne are faced with barriers to healthcare access including geography, availability of primary care and a low socio-economic state.

### *Recommendation:*

The Emergency Departments at the Douglas Memorial site and the Port Colborne General site should be converted to 24/7 Urgent Care Centres. The Urgent Care Centres would no longer care for CTAS level 1 and 2 patients and would not receive ambulances. The centres would continue to see and treat CTAS level 3-5 patients, representing patient volumes almost equivalent to current levels.

The Douglas Memorial site and the Port Colborne General site perioperative services should be converted to ambulatory minor procedure units – the scope and volume of services will be determined in the broader surgical services plan of the NHS.

The Douglas Memorial site and the Port Colborne General site should no longer operate acute care inpatient beds. The NHS may consider operating complex continuing care beds at these sites, but should not proceed with the planned slow-paced rehabilitation beds. Each site should operate a 3-6 bed monitored holding unit adjacent to the Urgent Care Centre. The unit would be designed for patients requiring a 24 to 48 hour observational length of stay. If patients required admission beyond this time they would be transferred to one of the 3 larger NHS sites, with direct admission to an inpatient unit.

3. Maternal Child Services:

The NHS plans to consolidate maternal child services to the new St. Catharines healthcare complex to achieve the critical patient mass necessary for quality and health professional coverage. The new St. Catharines location was selected as it was the only site that could accommodate a consolidated maternal child program without significant cost and service disruption, and because of clinical dependencies with other services to be located at the new site.

Many community members are concerned about the accessibility of the new St. Catharines site. However, 90 percent of the citizens of Niagara will be able to access the site within 45 minutes or less. The remainder of residents live within 1 hour of the new facility. In the vast majority of cases women do not require emergency access to obstetrical care. For women requiring emergency access, Emergency Medical Services will provide rapid transit.

*Recommendation:*

Maternal child services should be consolidated to the new healthcare complex in St. Catharines.

4. Location of the New St. Catharines Healthcare Complex:

The reviewers acknowledge that the location of the new healthcare complex is outside the review mandate, but will share observations on this issue as there are significant implications for implementation of the HIP. It is clear that many citizens of Niagara, including many healthcare professionals and politicians, do not support the location of the new healthcare complex in West St. Catharines. Many citizens of Niagara feel the location of the new healthcare complex does not support regional access to regional services. The current public backlash against the location of the new healthcare complex in St. Catharines may be a significant barrier in achieving the public support necessary to successfully implement the Niagara Health System Hospital Improvement Plan.

5. Leadership and Public Support:

The Niagara region is highly political and fractious. NHS leadership has stepped forward with a plan to improve regional hospital services. However, the NHS has little public support. Members of the community and stakeholder organizations express a loss of trust in the NHS leadership. The public feels that the NHS has failed to effectively engage them in its efforts to improve hospital services. This loss of trust preceded the presentation of the HIP.

*Recommendation:*

The reviewers are concerned that the NHS leadership does not have the public trust necessary to implement the HIP. The Board of Governors should consider engaging an Advisor to help steer both the Board and NHS senior management through the difficult issues facing the NHS.

6. Financial Situation:

The recommended Hospital Improvement Plan is a good clinical plan that addresses quality care, but it will not resolve the NHS's financial crisis. There are currently limited opportunities for the NHS to improve its financial position. The NHS has initiated two external financial and operational reviews. The organization has committed to implementing all feasible recommendations. The NHS scores well on measures of operational efficiency compared to peer hospitals. Preliminary review of MoHLTC funding suggests that the NHS may receive less funding than peer hospitals for their level of patient activity.

The Hospital Improvement Plan will require additional investments in capital and operations. The amount of operating and capital investment required will only be clear once the detailed plan is finalized. Efficiencies derived from program consolidation will not be realized for several years.

*Recommendation:*

The NHS will require a substantial and permanent additional cash infusion to manage its financial situation and successfully implement the Hospital Improvement Plan.

7. Moving Forward:

The Hospital Improvement Plan identifies two key community enablers: transportation and primary care. The Niagara region currently faces challenges in these areas, but they are not insurmountable barriers to the HIP. Progress in these areas can happen in parallel with advances in quality care. In addition, the NHS must focus on community relations and enabling technologies to move forward with service delivery improvement.

Regional, specialty programs located in Niagara will require a strong relationship with the Hamilton academic hospitals' programs. These programs should be satellites of the Hamilton academic hospitals, operated at the NHS. The academic hospital is

positioned to provide regional support for recruitment, training and education as well as common care delivery standards.

The NHS and the HNHB LHIN must develop a rigorous implementation and evaluation process to ensure HIP implementation achieves its goal of better quality care for the citizens of Niagara. The evaluation framework will allow for monitoring progress and will serve as an engaging, transparent mechanism, accountable to the citizens of Niagara, to demonstrate that positive results are being achieved.

With the recommendations included in this report, the Hospital Improvement Plan is a good clinical plan that will help achieve improved quality hospital services for the people of Niagara – quality care that is safer, more efficient, effective and accessible and that will result in higher levels of patient and provider satisfaction. Time is of the essence. The NHS is 10 years behind other Ontario hospitals in developing infrastructure, recruiting staff and building modern, quality health care programs. Citizens of Niagara deserve access to high quality hospital services. Claim that right – develop a common Niagara vision for hospital care and begin improving quality of care.

## 2) Background

The Hamilton Niagara Haldimand Brant Local Health Integration Network (HNHB LHIN) commissioned this review of the Niagara Health System Hospital Improvement Plan (NHS HIP). The goal of the review is to evaluate the NHS HIP to ensure the plan:

- achieves quality care;
- is financially realistic;
- has the necessary supporting human resources.

The LHIN Board appointed Dr. Jack Kitts, President and Chief Executive Officer of The Ottawa Hospital, as its expert advisor and lead reviewer. Appendix A lists the review team members. The review team completed a clinical operations review, a financial review and medical staff review. Quality of healthcare services was the cornerstone of the review. Five dimensions of quality were considered: access, efficiency, effectiveness, safety and patient and staff satisfaction.

The methodology included a comprehensive review of relevant documentation, stakeholder consultation and analysis of capital and financial information. The consultation and review process is detailed in Appendix B.

### a) Terminology

#### i) *NHS Sites*

The NHS is one hospital on seven sites. This structure has not been generally accepted and has resulted in a divided culture and competition for scarce resources. Many of the original hospitals continue to believe they are an individual hospital and not a site of the NHS. Recognizing this, the reviewers refer to NHS sites rather than to individual hospitals.

#### ii) *Urgent Care Centres*

The Niagara Health System Hospital Improvement Plan uses the term Prompt Care Centre to define services provided for urgent, but non-immediately life threatening conditions. The reviewers have chosen to use the term Urgent Care Centre as it is more reflective of the level of service provided. Urgent Care Centres provide care for CTAS level 3-5 patients and do not receive ambulances. Please see Appendix C for CTAS definitions.

#### iii) *Centre of Excellence*

The Niagara Health System uses the term centre of excellence in its vision for improved hospital services. There is some confusion in the community regarding the meaning of the term centre of excellence. The review team chooses to use the following definition to describe a centre of excellence.

A centre of excellence is a program seeking the highest standards of achievement. The centre of excellence brings together a critical mass of patients, providers and infrastructure to enable leading quality care. The centre of excellence may be virtual, supported by information communication technologies, or may be consolidated to a single site. The centre of excellence, as a program hub, shares its expertise with other sites, ensuring that all sites receive excellent quality care.

### 3) Findings

#### a) The Niagara Region: Assuming Responsibility for Quality Healthcare

The Niagara region is fractious. There is not “one community of Niagara”, but rather distinct municipalities promoting local interests. The region fails to acknowledge that a quality health system depends on the system being greater than the sum of its parts. By placing local interests ahead of regional interests, Niagara has prevented the establishment of quality hospital services in the region. The result is reduced quality for all citizens of Niagara.

Responsibility rests with all citizens of Niagara, but particularly with municipal and provincial politicians who have allowed municipal boundaries to act as barriers to better health services in the region. For the Niagara region to achieve a quality hospital system it must behave as one community of health. Individual municipalities will only flourish if their residents enjoy access to quality health services. This is only possible if municipalities and residents begin to work together on a common vision for quality hospital care.

#### b) Current State of the Niagara Health System

The Niagara Health System faces serious challenges.

The organization posted a deficit from operations of \$17.9 M in fiscal 2007/08 and is projecting similar results for 2008/09. The NHS currently has an RN/RPN vacancy rate of 8.6% and is struggling to recruit nurses, physicians and key health professionals. Capital assets are aging and the NHS is having difficulty acquiring and maintaining facilities, technology and equipment.

The Niagara Health System delivers health services across six hospital sites and one ambulatory care centre. Services and supporting equipment are duplicated across sites, fragmenting programs and stretching resources. Small isolated services have insufficient volume to maintain adequate standards of care. Human and physical infrastructure is insufficient to support the current service delivery model.

The Niagara Health System, in its current state, is unsustainable. The environment is uncertain and morale is low. It is essential that the Niagara Health System and the public proceed with developing a plan for quality hospital services for the benefit of all citizens of Niagara.

#### i) *NHS Leadership*

The HIP represents the Niagara Health System’s description of an integrated hospital health plan. This plan has been developed in the context of a highly political and fractious environment, as described above. The Niagara Health System leadership has stepped forward with a plan to improve regional hospital services. However, the NHS

cannot accomplish this on its own. The community must coalesce around better quality hospital services for all citizens of Niagara.

Unfortunately, the NHS has little public support. Members of the community and stakeholder organizations express a loss of trust in the NHS leadership and have deep concerns regarding the Hospital Improvement Plan. This loss of trust preceded the presentation of the HIP. The public feel that the NHS has failed to effectively engage them in its efforts to improve hospital services and does not have the necessary support to successfully navigate change.

The reviewers are concerned that the NHS leadership does not have the public trust necessary to implement the HIP. The review team feels the NHS leadership should consider engaging an advisor to help steer both the Board and NHS senior management through the difficult issues facing the NHS.

#### *ii) Quality of Hospital Services*

The review team's primary focus is quality hospital services for the residents of Niagara. There are significant quality issues that only can be addressed by health system transformation. Worrisome quality indicators include:

- Higher than expected hospital standardized mortality rates (HSMR);
- High rates of hospital re-admission for some illnesses;
- MRSA and VRE infection issues.

The NHS does not appear to have a robust quality measurement and improvement framework. There is an apparent lack of discussion regarding quality of care indicators in many medical departments and across all sites. Care practices vary significantly between sites. There is insufficient volume in some program locations to support quality care.

The NHS must re-design its service delivery model to improve the quality of patient care. There should be standardization of care across the NHS. The review team also recommends that the NHS support its improvement efforts by establishing a robust quality measurement and improvement framework. This framework should be implemented at the program level, be multidisciplinary, and be monitored by the Board of Governors.

#### c) The New Healthcare Care Complex in St. Catharines

The Niagara region is fortunate to be building a new, state of the art healthcare complex. The new hospital is badly needed and will replace aging infrastructure in St. Catharines, as well as provide new regional hospital services. The new hospital represents an opportunity to design facilities that will support excellent patient care. Modern facilities and equipment are also essential in the competition to attract and retain health care professionals.

The location of the new healthcare complex is outside the review team's mandate. However, the review team would like to share its observations on this important issue as there are implications for service-delivery redesign.

It is clear that many citizens of Niagara, including many healthcare professionals, do not support the location of the new healthcare complex in West St. Catharines.

Prior to developing the HIP, the NHS had planned to place a number of regional services at the new facility including cancer, long-term mental health and cardiac catheterization. The HIP proposes additional program transfers to St. Catharines including: the consolidation of maternal child services, gynaecology, inpatient mental health and addiction services. Centres of excellence in orthopaedics, otolaryngology and plastics are to be located at both the St. Catharines healthcare complex and Greater Niagara General site.

The NHS had previously described the new healthcare complex as a local hospital for the communities of St. Catharines, Thorold and Niagara on the Lake. However, with its original regional services, and the proposed changes outlined in the HIP, the new healthcare complex is clearly a regional site, serving all residents of Niagara.

Many citizens of Niagara feel the location of the new healthcare complex does not support regional access to regional services. They are concerned about travel time to the new facility, particularly for maternal child care and for disadvantaged populations. The public has expressed a desire for a more central location, potentially at Brock University. Many have called for a halt to the development of the new facility until a thorough site review can be completed.

Acknowledging public sentiment, development of the new healthcare complex in West St. Catharines has progressed beyond the point of return. Contracts have been signed, plans developed and financial resources committed. Re-evaluation of the site would result in unacceptable delay and may result in financial losses. It is paramount that the community and the NHS move beyond this issue – identify challenges with the current site and look for opportunities to overcome them. Niagara cannot afford to wait any longer for its new hospital site.

#### d) General Observations

##### i) *Regional Context*

The review mandate was limited to the Niagara Health System Hospital Improvement Plan. However, an effective clinical services plan for the NHS must also consider the broader range of health services available in the HNHB LHIN. In addition, the Hamilton Niagara Haldimand Brand LHIN must adopt a consistent approach to clinical services

planning across its geography. The same principles for consolidation of services used for the NHS must be applied across the LHIN.

*ii) Program Consolidation*

Clinical programs require a critical mass of patients to support recruitment, clinical competency and effective use of resources. Technology and modern care delivery standards have become too specialized to support small, isolated programs. Graduating physicians are looking for arrangements that provide collegial support, access to quality infrastructure and minimize on-call demands. Health professionals must be exposed to a minimum volume of activity to ensure skill maintenance. Organizations can not afford to duplicate expensive equipment and infrastructure across multiple sites.

The NHS has recognized that it will not be able to deliver quality services if it continues its current model of decentralized care. It is already experiencing difficulty with recruitment and capital renewal. The future promises to be even more challenging unless action is taken quickly. The review team supports the NHS's desire to centralize key services and create centres of excellence. This is in keeping with current health services best practice and will help transform the NHS.

*iii) Relationship with the Academic Health Sciences Centre*

The review team also believes that the NHS must partner with the Hamilton academic hospitals to successfully provide specialty programs. Such programs should be satellites of the academic centre, operated on NHS property. The academic hospital is positioned to provide regional support for recruitment, continuing medical education, professional interaction, and potentially a regional call schedule and coverage of vacation or leave. Importantly, there are also opportunities to establish common care delivery standards, ensuring the residents of Niagara have access to the very best hospital care.

*iv) Evaluation Plan*

The NHS must develop an evaluation framework for the Hospital Improvement Plan to measure the impact on quality, specifically: access, efficiency, effectiveness, safety and patient and staff satisfaction. The NHS should conduct evaluations at regular, pre-determined intervals. Both the Board of Governors and the HNHB LHIN should monitor results to ensure the Hospital Improvement Plan is delivering on its promise of better hospital care for the residents of the Niagara region. The framework will be used to ensure engagement, transparency and accountability of the service delivery changes by the care providers to the citizens of Niagara.

e) Clinical Operations

i) *Role of the Douglas Memorial Site*

CURRENT SERVICES AT THE DOUGLAS MEMORIAL SITE

The Douglas Memorial site does not function as a full service hospital today. Residents of Fort Erie believe they have access to a full service emergency department, a wide range of surgical services and comprehensive acute care inpatient beds. This is not the case.

The emergency department does not have the necessary technology or specialist coverage to provide a full scope of emergency services. Care is provided by family physicians and nurses. They manage CTAS level 3-5 patients well. Patients requiring critical emergency care are transferred to one of the larger NHS sites, or, in the case of major trauma, to Erie County Medical Centre.

The current surgical program consists of minor surgical procedures that can be provided in minor procedure rooms and clinics. Surgical services are predominantly scoping and ophthalmology, with cataract procedures representing 75 percent of surgical volumes. The Douglas Memorial site does not provide inpatient perioperative services. The Douglas Memorial site runs one operating room daily, with utilization ranging from approximately 40 percent to 80 percent. There is one full time ophthalmologist and there are 5 visiting surgeons. A family physician anaesthetist delivers anaesthesia care. Case time is significantly longer compared to the 3 larger NHS sites. In advance and independently of the HIP, the NHS had planned to reduce and consolidate operating room hours at the DM site to improve efficiency. Patient volumes are low and the buildings require significant renovation to meet modern care delivery standards.

The Douglas Memorial site currently has 24 complex continuing care beds and 32 acute care inpatient beds, 4 of which are closed due to staffing challenges. Approximately half of the remaining acute care beds are filled with alternative level of care patients. The majority of CMGs include: heart failure, congestive obstructive pulmonary disease, pneumonia and digestive issues. Patients are cared for by family physicians. Specialists will not perform consults at the Douglas Memorial site; any patient requiring a specialist consult must be transferred to one of the 3 larger NHS sites. In addition, patients are transferred for any specialty diagnostics and treatment.

The Douglas Memorial site was built in 1931. The facility would require significant capital renewal to meet modern day standards for care delivery environments.

THE COMMUNITY OF FORT ERIE

Fort Erie is located in the southern most corner of the Niagara Peninsula. It has a year-round population of 30,000 people, and grows to approximately 45,000 people in the summer. By car, it is approximately 20 minutes away from the Greater Niagara General

site and 45 minutes away from the new site of the St. Catharines healthcare complex. Fort Erie can be subjected to heavy snowfall, impacting driving conditions. The town is fortunate to have excellent primary care, with a number of new family physicians arriving in recent years.

Residents are passionate about their community hospital. The Douglas Memorial site has been an important part of Fort Erie for over 70 years. Business leaders understand that access to quality health services is important for economic development. The community and medical professionals understand that health infrastructure is important for recruiting and retaining health professionals.

#### RECOMMENDED SERVICES AT THE DOUGLAS MEMORIAL SITE

Despite Fort Erie's geography and its commitment to its community hospital, the Douglas Memorial site cannot provide a full scope of hospital services. It is not feasible from the perspective of either human or financial resources. Most importantly, this is not the solution that would deliver the highest quality of care to the residents of Fort Erie. The review team concurs that hospital services must be re-aligned to reflect the realities facing the Niagara Health System. The services provided at the hospital will change, but Douglas Memorial will continue to play a vitally important role in Fort Erie. Specific recommendations are outlined below.

##### Emergency Care

The Douglas Memorial site should maintain a 24/7 Urgent Care Centre. Urgent Care Centre means that the department would no longer care for CTAS level 1 and 2 patients, the most critically ill patients. The department will continue to see and treat CTAS level 3-5 patients, representing over 95% of its current patient population. Ambulances will no longer travel to the Douglas Memorial site. Ambulances currently represent approximately 5.5% of ED volume. The Urgent Care Centre will remain open 24 hours a day in recognition of Fort Erie's geography. The ongoing HIP implementation evaluation will include an assessment of the Urgent Care Centre's operating hours.

In critical cases it is vital that patients receive definitive treatment as quickly as possible. The ED at the Douglas Memorial site is unable to provide this service as it lacks the necessary diagnostic equipment and specialist back-up. Critically ill patients would best be served by direct transport to a definitive treatment centre. Paramedics are trained in airway management and are able to provide valuable, time sensitive services such as administration of thrombolytic drugs in the event of myocardial infarction. In the Niagara region, 56% of paramedics are trained as advanced care paramedics, with EMS targeting a rate of 80%. Advanced care paramedics are also trained in endotracheal intubation. The review team recommends that EMS ensure advanced care paramedics are available to serve the Fort Erie area.

##### Perioperative Services

The Douglas Memorial site should be converted to ambulatory minor procedure units. The scope and volume of services will be determined in the broader surgical services plan

of the NHS. As indicated above, the majority of activity is ophthalmology. The HIP recommends consolidating ophthalmology to the Welland site and creating an ophthalmology centre of excellence. The review team supports this direction as discussed later in this report.

#### Inpatient Beds

The Hospital Improvement Plan proposes that the Douglas Memorial site will close all of its acute care inpatient beds and operate a 40 bed complex continuing care program, with a centre of excellence in slow paced rehabilitation. The reviewers support this direction, with some modifications.

The Douglas Memorial site should create a 3-6 bed monitored holding unit, adjacent to the Urgent Care Centre. This unit would be staffed with a ratio of 1 RN to every 3 patients. The holding unit would be designed for patients requiring a 24 to 48 hour observational or monitored length of stay. If patients required admission beyond this time, they would be transferred to one of the 3 larger NHS sites, with direct admission to an inpatient unit.

The reviewers also recommend the NHS consider its complex continuing care program in more detail. The reviewers believe Fort Erie would benefit from non-acute / transitional care beds located in the community. Given this patient population's prolonged length of stay, travel to one of the larger NHS sites would be burdensome for many Fort Erie families. However, it is not clear to the reviewers exactly how many complex continuing care beds are required, or what services are truly needed. The NHS should not proceed with the planned slow-paced rehabilitation beds as this is the expertise of the rehabilitation hospital. The reviewers recommend that the NHS work with its partners, particularly Hotel Dieu Shaver, in developing a non-acute bed plan that meets the needs of the population.

#### Ambulatory Care and Chronic Disease Prevention / Management

The Hospital Improvement Plan proposes that the Douglas Memorial site assume a greater role in ambulatory care, particularly in chronic disease prevention and management (CDPM). The NHS has not yet developed a CDPM strategy and planning is in the concept phase. There are likely opportunities for the Douglas Memorial site to address unmet needs in this arena; however, programs must be developed in concert with community stakeholders. Some CDPM programs may be better run by organizations such as Public Health or The Lung Association. There could be exciting opportunities for partnership, maximizing both hospital and community expertise and infrastructure. In a hub and spoke ambulatory care model for the NHS, the Douglas Memorial site could serve as a valuable spoke.

### EVALUATION AGAINST QUALITY FRAMEWORK

#### Access

The proposed model ensures the residents of Fort Erie will have access to the best possible quality hospital services. Poor quality services located within the community does not equate to excellent access. Residents of Fort Erie will have to travel further for

some services, but those services will be of higher quality. Importantly, the Douglas Memorial site will continue to provide 24 hour access to non-critical emergency services. The Douglas Memorial site will also continue to care for complex continuing care patients, facilitating access for family and friends. The future promises improved access to chronic disease prevention and management programs. Transportation, as an enabler of access, is discussed later in the report.

#### Efficiency

The proposed model balances efficiency against the need for safe, accessible hospital services. Consolidation of perioperative programs and acute care inpatient beds will allow the NHS to reduce equipment needs and deploy staff more effectively.

#### Effectiveness

The proposed model is effective. It recognizes Fort Erie's need for quality hospital services and existing pressures on the hospital health system. Under the proposed model appropriate care will be delivered in the right environment, by the right provider, in an acceptable timeframe.

#### Safety

The proposed model is safer. The Douglas Memorial site will only offer services that have the necessary supporting human and physical infrastructure. The Emergency Medical Service is well positioned to provide safe transit to the nearest full service Emergency Department in the event of a critical emergency. Travel times for critical emergencies and obstetrical care are not out of line compared to other Ontario communities.

#### Patient and Staff Satisfaction

In the short-term it is likely that community members and some staff will be saddened by the changes at the Douglas Memorial site. Change is difficult, particularly changes to hospital services. However, the review team is confident that a renewed NHS will deliver better quality hospital care - care that is safe, accessible, efficient, effective and centred on the needs of patients and their families. As patients, staff and the community experience these improvements, satisfaction with the NHS will grow.

#### *ii) Role of the Port Colborne General Site*

##### CURRENT SERVICES AT THE PORT COLBORNE GENERAL SITE

There are striking similarities between the Port Colborne General and the Douglas Memorial sites.

The Port Colborne General site does not function as a full service hospital today. Residents of Port Colborne and surrounding communities believe they have access to a full service emergency department, a wide range of surgical services and comprehensive acute care inpatient beds. This is not the case.

The emergency department does not have the necessary technology or specialist coverage to provide a full scope of emergency services. Care is provided by family physicians and nurses. They do a good job of managing CTAS level 3-5 patients. Patients requiring critical emergency care are transferred to one of the larger NHS sites, or, to an academic centre.

The current surgical program consists of minor surgical procedures that can be provided in minor procedure rooms and clinics. There is no inpatient surgery at the Port Colborne General site. Surgical services are predominantly cystoscopy and endoscopy. This past summer, the sole ophthalmologist ceased performing cataract surgery at the Port Colborne General site. These cataract patients were given a general anaesthetic which is not the accepted standard. The PCG site runs one operating room 4 half days per week, with utilization ranging from approximately 35 percent to 90 percent. A family physician anaesthetist delivers anaesthesia care. In advance and independently of the HIP, the NHS had planned to reduce and consolidate operating room hours at the Port Colborne site to improve efficiency.

The Port Colborne General site currently has 24 complex continuing care beds and 32 acute care inpatient beds. Approximately two thirds of the acute care beds are filled with alternative level of care patients. Primary CMGs include: heart failure, congestive obstructive pulmonary disease, pneumonia, and digestive issues. Patients are cared for by family physicians. Specialists will not perform consults at the Port Colborne General site; any patient requiring a specialist consult must be transferred to one of the 3 larger NHS sites. In addition, patients are transferred for any specialty diagnostics and treatment.

The review team estimates that at least 50 percent of the facility is vacant and unused. The Port Colborne General site was built in 1951. The facility is outdated and would require significant capital renewal to meet modern day standards for care delivery environments.

#### THE COMMUNITY OF PORT COLBORNE

Port Colborne is home to 19,000 permanent residents, with the population growing to approximately 27,500 people in the summer. The community is located in southern Niagara on the shores of Lake Erie. By car it is approximately 15 minutes away from the Welland Community site and 45 minutes away from the new site of the St. Catharines healthcare complex. Like Fort Erie, Port Colborne can be subjected to heavy snowfall, impacting driving conditions.

The area is socio-economically depressed and has a high percentage of elderly residents. Unlike Fort Erie, the town has a shortage of family physicians. This is also true for the neighbouring community of Wainfleet, which also utilizes the Port Colborne General site. Residents are extremely concerned about the proposed service changes at the Port Colborne General site. They feel they are in jeopardy of losing their hospital.

The town of Port Colborne hired a private consulting firm to prepare a response to the NHS Hospital Improvement Plan and to develop alternate recommendations for the Port Colborne General site. The consultants' report was submitted on Oct. 6<sup>th</sup>, 2008 to the HNHB LHIN. The review team has considered the consultants' report and its recommendations both for the Port Colborne General site and the broader Niagara Health System. The review team supports recommendations for greater collaboration between the NHS and its community. Central to the Port Colborne report is a call to halt service delivery re-design until further detailed analysis can be completed. While the review team recognizes that further planning is needed as part of the implementation process, the reviewers strongly recommend proceeding quickly with service delivery re-design. The residents of Port Colborne and the Niagara region cannot afford to wait any longer for improvements to hospital care. The need for further analysis must be balanced against the need for immediate action.

#### RECOMMENDED SERVICES AT THE PORT COLBORNE GENERAL SITE

##### Emergency Care

The Port Colborne General Site should maintain a 24/7 Urgent Care Centre. Urgent Care means that the department would no longer care for CTAS level 1 and 2 patients, the most critically ill patients. The department will continue to see and treat CTAS level 3-5 patients, representing over 97% of its current patient population. Ambulances will no longer travel to the Port Colborne General site. Ambulances currently represent 3% of ED volume. The Urgent Care Centre will remain open 24 hours a day in recognition of Port Colborne's geography. The HIP implementation evaluation plan will include an assessment of the Urgent Care Centre's operating hours.

In critical cases it is vital that patients receive definitive treatment as quickly as possible. The ED at the Port Colborne General site is unable to provide this service as it lacks the necessary diagnostic equipment and specialist back-up. Critically ill patients would best be served by direct transport to a definitive treatment centre. Paramedics are trained in airway management and are able to provide valuable, time sensitive services such as administration of thrombolytic drugs in the event of myocardial infarction. In the Niagara region, 56% of paramedics are trained as advanced care paramedics, with EMS targeting a rate of 80%. Advanced care paramedics are also trained in endotracheal intubation. The review team recommends that EMS ensure advanced care paramedics are available to serve the Port Colborne area.

##### Perioperative Services

The Port Colborne General site should be converted to ambulatory minor procedure units. The scope and volume of services will be determined in the broader surgical services plan of the NHS.

##### Inpatient Beds

The Hospital Improvement Plan proposes that the Port Colborne General site close all of its acute care inpatient beds and operate a 40 bed complex continuing care program, with

a centre of excellence in slow paced rehabilitation. The reviewers support this direction, with some modifications.

The reviewers recommend the NHS consider its complex continuing care program in more detail. The reviewers believe Port Colborne would benefit from non-acute / transitional care beds located in the community. Given this patient population's prolonged length of stay, travel to one of the larger NHS sites would be burdensome for many Port Colborne families. However, it is not clear to the reviewers exactly how many complex continuing care beds are required, or what services are truly needed. The NHS should not proceed with the planned slow-paced rehabilitation beds as this is the expertise of the rehabilitation hospital. The reviewers recommend that the NHS work with its partners, particularly Hotel Dieu Shaver, in developing a non-acute bed plan that meets the needs of the population. The NHS may also consider partnering with the LHIN to develop a supportive living unit located in the current Newport Centre facility.

#### Ambulatory Care and Chronic Disease Prevention / Management

The Hospital Improvement Plan proposes that the Port Colborne General site assume a greater role in ambulatory care, particularly in chronic disease prevention and management (CDPM). The NHS has not yet developed a CDPM strategy and planning is in the concept phase. There are likely opportunities for the Port Colborne General site to address unmet needs in this arena, however, programs must be developed in concert with community stakeholders. Some CDPM programs may be better run by organizations such as Public Health or The Lung Association. There could be exciting opportunities for partnership, maximizing both hospital and community expertise and infrastructure. In a hub and spoke ambulatory care model for the NHS, the Port Colborne General site could serve as a valuable spoke. The review team does not believe Port Colborne is the optimal site for the Diabetes hub due to critical mass of patients and geography.

### EVALUATION AGAINST QUALITY FRAMEWORK

#### Access

The proposed model ensures the residents of Port Colborne and the surrounding area will have access to the best possible quality hospital services. Poor quality services located within the community does not equate to excellent access. Residents of Port Colborne will have to travel further for some services, but those services will be of higher quality. Importantly, the Port Colborne General site will continue to provide 24 hour access to non-critical emergency services. The Port Colborne General site will also continue to care for complex continuing care patients, facilitating access for family and friends. The future promises improved access to chronic disease prevention and management programs. Transportation, as an enabler of access, is discussed later in the report.

#### Efficiency

The proposed model balances efficiency against the need for safe, accessible hospital services. Consolidation of perioperative programs and acute care inpatient beds will allow the NHS to reduce equipment needs and deploy staff more effectively.

### Effectiveness

The proposed model is effective. It recognizes Port Colborne's need for quality hospital services and existing pressures on the hospital health system. Under the proposed model appropriate care will be delivered in the right environment, by the right provider, in an acceptable timeframe.

### Safety

The proposed model is safer. The Port Colborne General site will only offer services that have the necessary supporting human and physical infrastructure. The Emergency Medical Service is well positioned to provide safe transit to the nearest full service Emergency Department in the event of a critical emergency. Travel times for critical emergencies and obstetrical care are not out of line compared to other Ontario communities.

### Patient and Staff Satisfaction

In the short-term it is likely that community members and some staff will be saddened by the changes at the Port Colborne General site. Change is difficult, particularly changes to hospital services. However, the review team is confident that a renewed NHS will deliver better quality hospital care. It will be care that is safe, accessible, efficient, effective and centred on the needs of patients and their families. As patients, staff and the community experience these improvements, satisfaction with the NHS will grow.

### *iii) Maternal Child Services*

#### CURRENT MATERNAL CHILD SERVICES

In the Niagara Health System obstetrical care is currently delivered across three sites: the Greater Niagara General site, the St. Catharines General site and the Welland Community site. In 2007/08 these three sites recorded 2,967 births. Paediatric beds are divided between the St. Catharines General site and the Greater Niagara General site.

Three years ago, the Niagara Health System began planning for a consolidated maternal child centre. An independent third party review had recommended consolidating the maternal child program to a single site to address quality concerns and facilitate recruitment and retention of obstetricians and paediatricians. The literature supports that birthing centres maintain approximately 1,500 births per year to achieve both quality and economies of scale.

The NHS maternal child planning team, which included obstetrical medical leaders, was unanimous in its support for a single consolidated model. The team then evaluated options for program location. None of the existing 3 sites could accommodate a consolidated obstetrical program as the program would require approximately 50,000 sq. feet. To create a consolidated unit in any of the existing facilities, significant renovations would be required. Adjacent programs would need to be moved, disrupting service delivery and requiring further downstream renovations. A greenfield site was the most

cost-effective solution, and the only solution that would avoid domino disruptions to clinical services.

In planning the new St. Catharines healthcare complex, the Ministry of Health and Long-Term Care had instructed the NHS to maintain flexibility for program growth and change. Because of this direction, the obstetrical area had been designed with adjacent offices and classrooms that could be located elsewhere in the facility. The new healthcare complex in St. Catharines was the only site able to accommodate a consolidated maternal child program.

The NHS maternal child planning team considered the advantages and disadvantages of placing a consolidated program at the new St. Catharines site. The number of women of child-bearing age is declining in St. Catharines, but the city remains the largest centre for this population group in the region. Drive time analyses indicated that 90 percent of women in the Niagara region would be able to reach the new healthcare complex within 45 minutes or less. Locating the program at the new healthcare complex recognizes clinical co-dependencies with gynaecology and specialty paediatrics with ENT and plastic surgery. The committee unanimously endorsed consolidating the maternal child program to one site and locating the program at the new healthcare complex in St. Catharines.

#### RECOMMENDED MODEL FOR MATERNAL CHILD SERVICES

The review team supports the decision of the NHS maternal child planning team and recommends a single consolidated maternal child program, to be located at the new healthcare complex in St. Catharines. The most important consideration for the maternal child program is quality. When women and children access obstetrical and paediatric care, it is critical that it be of high quality. Consolidation to the St. Catharines site is consistent with this priority. The St. Catharines site offers the best opportunity to build an appropriate facility and enables co-location with clinically dependent services.

The maternal child program will include midwives and family physicians, recognizing the valuable role they play in obstetrical care. The NHS should adopt a formal planning structure that ensures all members of the care team are involved in planning and developing the consolidated maternal child program. In addition, the NHS should ensure that all professionals work towards their full scope of practice.

Obstetricians, midwives and family physicians delivering obstetrical care may choose to continue offering pre and post natal care in other regions of Niagara. However, some pre and post natal services may migrate to St. Catharines with the consolidation of the maternal child program.

Paediatrics is a specialized service and paediatric professionals are difficult to recruit. The NHS must consolidate this service to a single site to achieve a critical mass of patients for clinical competency and acquisition and maintenance of infrastructure. Paediatrics is closely aligned with maternal care in addition to supporting services such

as ENT and plastic surgery. Location at the St. Catharines site is the best option for paediatrics. The NHS should also consider a strong relationship with McMaster University to support its paediatric program.

## EVALUATION AGAINST QUALITY FRAMEWORK

### Access

Although St. Catharines is not central to the Niagara region, the majority of residents will be able to access the facility within 45 minutes or less by car. The remainder of residents live within 1 hour of the new facility. This is in keeping with the experience of many other Ontario communities.

The average Canadian fertility rate, or average number of children per woman, was 1.59 in 2006. In the vast majority of cases women do not require emergency access to obstetrical care. For women requiring emergency access, Emergency Medical Services will provide rapid transit.

### Efficiency

The proposed model is efficient. It avoids duplication of expensive infrastructure and human resources.

### Effectiveness

The proposed model is effective. It will allow the NHS to develop a strong maternal child program. It will ensure obstetricians, family physicians, midwives, paediatricians, surgical specialists and anaesthesiologists are all present to provide appropriate care to women and children.

### Safety

The proposed model is safer. The consolidation of maternal and child care to a single location will provide the critical mass of patients necessary to maintain competency. It will promote standardization of policies and procedures and facilitate collaboration between professionals. Travel times for obstetrical and paediatric care are not outside the experience of other Ontario communities. Emergency Departments will be equipped with emergency birthing kits in the event of an unplanned delivery.

### Patient and Staff Satisfaction

Staff satisfaction is likely to rise in a consolidated single site model. Professionals will be delivering care in a new, state of the art facility. There will be increased opportunities for inter and intra professional collaboration. This will have significant benefits for patient care and will improve the patient experience. The reviewers recognize that some patients and their families will be dissatisfied with the program location, but feel that the benefits offered by placing the program at the new St. Catharines site outweigh the drawbacks.

#### *iv) Perioperative Care*

##### CURRENT STATE OF PERIOPERATIVE CARE

Perioperative care is currently delivered across all NHS sites with the exception of Niagara-on-the-Lake and the Ontario St. site. Services vary depending on the site and policies and procedures are not always standardized. Resources are limited and fragmenting programs across multiple sites is problematic from the perspective of capital equipment and human resources. In addition, the quality of perioperative care is predicated on a critical mass of patients. Many speciality volumes are too low to support activity at multiple sites.

##### RECOMMENDED PERIOPERATIVE MODEL

The review team supports the Hospital Improvement Plan recommendations to consolidate perioperative services and create “centres of excellence” with leading infrastructure that will attract leading clinicians. The review team toured the existing perioperative environments and noted that current infrastructure is inconsistent with modern care delivery practices. Implementing the “centre of excellence” model for perioperative services will require capital development and renewal. Such development is already planned at the new St. Catharines site. However, the review team also recommends expedited redevelopment of the operating rooms at the Greater Niagara General site.

The review team agrees that maintaining perioperative environments across 5 sites is no longer feasible. The Douglas Memorial site and the Port Colborne General site are no longer suited to perioperative care. Surgical volumes are low and the programs are inefficient. There is insufficient back-up for emergency situations. These perioperative environments should be closed.

The review team found that the NHS considered the principles of co-location of clinically dependent services, existing activity patterns and maximizing expertise and infrastructure when developing its perioperative model. The review team also recommends that each consolidated NHS surgical specialty develop feasible coverage plans, with a response time of 24 hours or less, for alternate sites in the event an off-site inpatient requires consultation.

The review team supports the NHS HIP recommendations for perioperative services with the adjustments noted below.

##### Urology

Urology is currently offered at the 5 NHS acute care sites, with the majority of activity divided between the St. Catharines General site, the Greater Niagara General site and the Welland Community site. The Hospital Improvement Plan recommends consolidating Urology to a single centre of excellence, located at the Welland Community site. The review team supports this direction, with the stipulation that Urology develop a coverage

plan that addresses clinical dependencies with Gynaecology at the St. Catharines site and the need for Urological inpatient services at the Greater Niagara General site.

#### Thoracic Surgery and Vascular Surgery

Thoracic Surgery and Vascular Surgery are small, highly specialized surgical services. There are a limited number of thoracic and vascular patients and a limited number of surgeons. It can be difficult to build a critical mass of providers and patients in these specialties, even in centres larger than Niagara.

The reviewers believe the feasibility of a Vascular program and a Thoracic program requires further analysis. If the NHS is to build successful Thoracic and Vascular Surgery programs, it must partner with the academic health science centre. The programs should be satellites of the academic centre. Surgeons could belong to the university department, with privileges at the NHS. This would provide opportunities for continuing medical education, professional interaction, and potentially a regional call schedule and coverage of vacation or leave. The only viable location for these services is the new healthcare complex in St. Catharines.

Even with these stipulations, Thoracic Surgery does not appear viable at the NHS. Any Thoracic program should be consistent with Cancer Care Ontario standards. Based on this criteria, the review team believes that Thoracic Surgery is not appropriate at the NHS.

### EVALUATION AGAINST QUALITY FRAMEWORK

#### Access

The proposed perioperative model will provide citizens of Niagara with access to quality surgical services in their own region. Travel times for surgical services will be comparable to many Ontario communities. Core surgical services, necessary to support the Emergency Departments and ICUs will be maintained at all 3 perioperative sites.

#### Efficiency

The proposed perioperative model will improve efficiency by reducing the need to duplicate infrastructure. It will also promote standardization and will help achieve economies of scale.

#### Effectiveness

The proposed perioperative model is effective. Centres of excellence attract excellent perioperative professionals and lead to excellent patient care. The model recognizes clinical co-dependencies and maximizes existing expertise and infrastructure.

#### Safety

The proposed model is safer. Travel times are not outside those of other Ontario communities. EMS providers are well trained to transfer surgical patients to the most appropriate facility in the event of an emergency. The core services of General Surgery and Anaesthesia will remain at all 3 perioperative sites.

### Patient and Staff Satisfaction

The proposed model is likely lead to increased patient and staff satisfaction. In the short term the NHS will experience challenges as it consolidates programs and moves staff and physicians between sites. Merging culture and practices is difficult. However, in the long term professionals will have access to superior infrastructure and a culture that benefits from increased collaboration. This will lead to higher quality clinical care and more satisfied patients.

#### *v) Other Specialty Programs – Cancer Care, Interventional Cardiology, Mental Health, Addictions*

The NHS Hospital Improvement Plan includes establishing a number of specialty programs at the new St. Catharines healthcare complex. Two of these programs are new to Niagara and represent significant improvements in access to specialty care.

Citizens of Niagara currently travel to Hamilton for radiation therapy. In advance and independently of the HIP, the NHS has been planning a new regional cancer centre to be located at the new St. Catharines site. Citizens of Niagara are excited to be receiving cancer services in their own region. The review team acknowledges this as an important step forward for the NHS and Niagara.

The HIP also proposes establishing a stand alone interventional cardiology program at the St. Catharines site. Access times for Niagara patients in Hamilton today are satisfactory. They meet provincial standards for angiography and angioplasty and are better than standard for cardiac surgery. This too would represent a significant improvement in healthcare access for the people of Niagara. The review team does have concerns regarding the feasibility of a stand alone interventional cardiology program. As with some surgical services, interventional cardiology is highly specialized and physician recruitment can be challenging. The review team recommends that Hamilton Health Sciences Centre operate the interventional cardiology program as a satellite on the NHS St. Catharines site, both to facilitate human resource challenges and to ensure quality of care.

Mental health and addiction services are currently offered across multiple NHS sites. As with other programs, this is hindering the organization's ability to build quality infrastructure and services. The review team supports the HIP recommendation to create a mental health centre of excellence and consolidate inpatient mental health to the new St. Catharines site. The review team also agrees with the direction to establish a 24/7 region wide mobile psychiatric crisis team. Finally, the review team agrees with the HIP that addiction services are best provided in the community, in a non-hospital setting. Consolidation of the addictions program to a purpose built facility in St. Catharines is consistent with establishing a quality program. There are significant linkages with mental health and consolidation to a single site will allow development of multi-faceted treatment programs.

Both the mental health population and the addictions population are vulnerable and are more likely to experience difficulties accessing services. The review team recommends the NHS include mental health and addictions outpatient satellites as part of its ambulatory care programs in Niagara Falls, Welland, Port Colborne and Fort Erie.

## EVALUATION AGAINST QUALITY FRAMEWORK

### Access

The proposed model will improve Niagara citizens' access to cancer care, interventional radiology, crisis and outpatient mental health services as well as comprehensive addictions treatment programs.

### Efficiency

The proposed model is efficient and reduces unnecessary service duplication. The consolidation of inpatient mental health beds and adoption of standardized practices will improve mental health bed occupancy. Citizens of Niagara will spend less time travelling to Hamilton for cancer care and interventional cardiology.

### Effectiveness

The proposed model is effective. As with other programs, centres of excellence attract excellent perioperative professionals and lead to excellent patient care. The model recognizes clinical co-dependencies and maximizes existing expertise and infrastructure.

### Safety

The proposed model is safe. A new purpose built mental health unit will provide greater security for patients and staff. Strong linkages with McMaster University will ensure that the interventional cardiology program is properly supported.

### Patient and Staff Satisfaction

The proposed model is likely to lead to increased patient and staff satisfaction. Patients will be pleased with the access to quality cancer care and interventional cardiology in Niagara. Staff will appreciate working in new, purpose built facilities for cancer, interventional cardiology, mental health and addictions services.

#### f) Supporting Human Resources: Physicians, Nurses and Other Health Professionals

The NHS faces human resource challenges. Official nursing vacancy rates are approximately 8 percent. The Ontario Nurses Association has censured the NHS since 2002 due to concerns regarding workload and unresolved grievances. The NHS is having difficulty recruiting physicians and several medical leadership positions remain vacant. Most health professionals identify with a particular site rather than the NHS as a whole. Compounding this problem, health professionals continue to be recruited to specific sites rather than to the organization.

There are opportunities to improve the medical structure and its operations. Many physicians are dissatisfied with the selection process for Department Heads and Site Leads. Physician leaders' position descriptions and accountabilities are unclear, leading many to act in the interests of individual sites rather than the organization as a whole. Medical bylaws are outdated. Due to structural and process issues, there are likely some questionable medical protocols that remain unaddressed and there is a lack of standardized protocols across all sites. As an example, until this summer all cataract procedures performed at one site were done so under a general anaesthetic.

Many health professionals do not support the current NHS Hospital Improvement Plan. The MAC and the medical staff have not formally approved the plan. They were also not asked to approve the HIP development process. Some key physician leaders were not involved in developing the Hospital Improvement Plan. Physicians express a general lack of trust in the medical and administrative leadership. A substantial number of physicians feel that the new St. Catharines healthcare complex should be put on hold and moved to a more central location.

If the NHS is to successfully implement the HIP it must have the support of its nurses, physicians and other health professionals. The NHS must work to rebuild the trust relationship with its health professionals, beginning with effective communications and collaborative planning. The NHS must also address issues in its medical structure and operations to ensure equitable, transparent and effective management of physician issues. With renewed infrastructure, and a renewed commitment to collaborative working relationships, the review team feels the NHS will be able to attract and retain the health professionals necessary to support the Hospital Improvement Plan.

g) Financial Feasibility

The recommended Hospital Improvement Plan is a good clinical plan that addresses quality care, but it will not resolve the Niagara Health System's financial crisis.

The NHS has prepared an estimate of revenue and expenses for 2008/09 and beyond based on projected patient volumes by hospital site. The HIP acknowledges that cost and revenue impacts are high level and order of magnitude only and will be further refined in partnership with the HNHB LHIN. These estimates will ultimately change over time, taking into account the reviewers adjustments to the plan and as the final clinical configuration and detailed implementation plans are developed.

Based on the reviewers experience the costs reductions outlined in the HIP are very aggressive, both in terms of magnitude and time frames. Much of the costs savings are based on "best quartile" performance, and while these are laudable targets there are no detailed plans that would support them being achievable in the five year forecast.

The HIP highlights approximately \$31.8 million in cost reduction opportunities but much of this is not within management's control. The savings from the reduction of ALC

patients, \$9.7 million, is one such example. The NHS has initiated two external financial and operational reviews and has committed to implementing all feasible recommendations. As a result the detailed review by HCM consultants, NHS is in the process of reducing operational expenditures of approximately \$12.3 million. The initiatives to capture these saving are underway and have been reflected in the projected deficits for 2008/09 and 2009/2010. These targets are also aggressive and not likely to be fully achieved, at least not in the timeframes highlighted.

While the HIP outlines that there are capital costs and restructuring costs related to the HIP, there is no summary or detail of what these costs might be. These costs will be material and need to be estimated before an appropriate financial plan can be prepared.

There is not enough information to determine what impact this plan will have on community fundraising. While there may be a reduction in community support in the short term, once residents work collaboratively as one community towards a common vision for quality hospital care, the community support should improve.

There must be acknowledgement that the projected operating costs were based on 2007/08 dollars, and do not incorporate estimates for inflation.

*i) Concerns with Current Financial Situation*

As a result of accumulating annual operating deficit and capital investments, the NHS has a negative working capital position of \$116.8 million at March 31, 2008. It also has long-term debt totalling \$13.9 million.

The NHS depends on annual cash advances from the MoHLTC during the fiscal year to minimize the carrying costs of its debt. The MoHLTC cash advance is currently \$80 million. Current projections for 2008/2009 will mean that NHS will have to incur additional debt, either additional cash advance support from the MoHLTC or other financing. Without these MoHLTC advances it is not clear whether any financial institution would lend the NHS this level of funds without some provincial guarantee.

With acknowledgement from the MoHLTC, from time to time the NHS borrows from its funds restricted for capital. Given the current cash position and operational deficit projections there is uncertainty that these advances could be repaid should the funds be required to pay for the capital projects for which the funds were received.

Against most operational benchmarks the NHS appears above average compared to its peers. While there are areas for improvement, the NHS will not be able to count on substantial efficiency and productivity gains to contribute materially to its financial challenges. Preliminary review of MoHLTC funding suggests that it is lower than peer hospitals for their level of patient activity. Further analysis is required.

The shortage of cash has resulted in the deferral of plant and equipment expenditures. As commented earlier much of the capital infrastructure at NHS is in need of upgrading and

improvement. While some capital investments can be deferred they likely cannot be eliminated, and inappropriate business and clinical decisions may be made in the meantime.

Given the NHS's own financial projections and the reviewers comments on the both the HIP assumptions and capital requirements, it is not clear how the NHS can continue to manage its financial situation without a substantial permanent cash infusion.

h) Enablers

i) *Transportation*

Transportation has been identified as a key issue in the Niagara region. While the review team recognizes the transportation challenges facing Niagara, it does not feel that transportation should delay implementation of the Hospital Improvement Plan. The NHS must operate in the context of community services. It must ensure that implementation of the HIP does not further burden the transportation system, but it is not responsible for solving pre-existing transportation problems.

Citizens of Niagara are already travelling for hospital services. The communities of Fort Erie and Port Colborne do not currently have access to most specialty services. All citizens of Niagara currently travel to Hamilton or other centres for tertiary care including cancer care and interventional cardiology. In addition, many citizens of Niagara seek care outside the region because of the perception of poor quality.

The Hospital Improvement Plan will re-align services. In some cases patients will need to travel further for care, but in many cases, the Hospital Improvement Plan will bring care closer to home. Niagara residents will be able to access cancer care and interventional cardiology in St. Catharines. Citizens of Niagara will also be able to access centres of excellence within the region, rather than travelling elsewhere for quality services. The net impact of the HIP on transportation will not be as daunting as it is being portrayed to be. Specific transportation findings are outlined below.

#### EMERGENCY MEDICAL SERVICES AND FIRE SERVICES

Niagara EMS providers cover a geographic distance of 18,000 sq. km and operate 22 ambulances. In the Niagara region, 56% of paramedics are trained as advanced care paramedics, with EMS targeting a rate of 80%. Paramedics are trained in airway management and are able to provide valuable, time sensitive services such as administration of thrombolytic drugs in the event of myocardial infarction. Advanced care paramedics are also trained in endotracheal intubation.

Niagara EMS providers and Fire Departments were not consulted in the development of the Hospital Improvement Plan. Both groups raise concerns that increased program consolidation and changes to emergency department services will result in longer travel

time for ambulances. Increased time on task would reduce the number of ambulance rigs on the road, potentially increasing response time and reliance on Fire Services for first response.

The key changes with potential impacts on EMS are:

- The Douglas Memorial site and the Port Colborne General site no longer receiving ambulances;
- Consolidation of maternal child services and inpatient mental health to the new St. Catharines site. This will only impact EMS for transport of emergency maternal child and mental health patients. EMS providers report the expected impact is very small;
- The Welland Community site no longer offering orthopaedic services. This will only impact EMS for transport of emergency orthopaedic patients. EMS providers report the expected impact is very small.

Niagara EMS providers currently follow a hospital destination policy that aims to ensure patients are transported to “the most appropriate hospital emergency department capable of providing the medical care apparently required by the patient. The goal is to expedite time to definitive care.” In the case of CTAS Level 1 and Level 2 patients, Niagara EMS sometimes currently bypasses the DM site or the PCG site if those sites are unable to offer definitive care to the patient. Volumes of CTAS 1 and 2 ambulance visits to the DM site and the PCG site are relatively low at less than 200 trips per year. Increased time on task may be offset by corresponding reductions in the number of emergency department patients who must be transferred from the DM site or the PCG site to another full-service emergency department following initial arrival.

The key issue for EMS providers is ambulance off-loading time, particularly at the larger NHS sites. This is a concern for EMS providers and the NHS. The NHS should continue working with EMS providers and the provincial government to improve the ambulance off-load situation. The reviewers propose that EMS providers and the NHS consider innovative solutions to this problem, including paramedics assuming responsibility for more than one patient if multiple ambulances are in off-load delay. This would free paramedics to return to their ambulances to the road.

Fire Service officials expressed concern that longer travel times for ambulances would also have a direct impact on the Fire Service. Currently, Fire Service officials report that Fire personnel accompany paramedics to the destination hospital in approximately 50 percent of cases. This is to provide assistance to the lone paramedic riding in the back of the ambulance. The review team recommends that EMS and the Fire Service Departments review this practice with a view to reduce the current volume of accompanied transports.

## PUBLIC AND PRIVATE TRANSPORTATION

Niagara does not have a regional public transportation system. Services are managed by municipalities and are fragmented. The Niagara region has developed a regional transportation plan and is making slow progress towards improving regional transit, but a solution is years away. The majority of patients and families access hospital services using private transportation. Public transportation is a greater concern for the socio-economically disadvantaged, the physically challenged and the elderly. Public transportation is not used in emergency situations, but would be used by patients and their families for normal birthing situations, scheduled appointments and visitation.

While the review team does not feel the Hospital Improvement Plan will result in a net increased burden on private and public transportation, it does recognize that service delivery re-organization will impact individuals. Some individuals will travel less for care, but others will need to travel further, specifically for maternal child care, and to a lesser extent for ophthalmology, urology, orthopaedics and inpatient mental health. The review team is hopeful that existing capacity can be leveraged to address these needs. The review team also recommends that the province and appropriate funding bodies consider medical transportation needs when working with the municipalities on their regional transportation strategy. We are encouraged that by working together, as was done in addressing the transportation needs of Brock University students, measurable improvement can be achieved.

## NHS TRANSPORTATION

The NHS currently does not offer transportation between its seven sites. The Hospital Improvement Plan calls for re-location and consolidation of a variety of services. In an ideal scenario, experienced staff would transfer with the program. However, many professionals live close to their current workplace and may be reluctant to drive to a new location. In addition, NHS personnel must currently use their own vehicles to travel between sites. This can pose challenges for scheduling meetings, working at multiple sites and fostering corporate culture. The NHS should establish an inter-site transportation shuttle for staff, physicians, students and volunteers. The shuttle may be funded through reduced inpatient transportation needs arising from program consolidation.

### *ii) Primary Care*

Primary Care has been identified as an important enabler of the NHS Hospital Improvement Plan. Key issues include access to family physicians and community support services to prevent hospital visits and admission and access to long-term care beds.

The Niagara region, like many others, has a shortage of family physicians. Residents without family physicians sometimes use the Emergency Department to access primary care services. Some communities, like Fort Erie, have had success in recruiting family

physicians. They have done so by providing the infrastructure and support necessary for family physicians to establish rewarding practices and maintain a positive work-life balance. The review team feels that implementing the service delivery changes recommended in this report will aid in recruiting new family physicians to Niagara. The majority of new medical graduates are looking for opportunities that offer quality infrastructure, professional support and a reasonable work-load. The Hospital Improvement Plan will improve all three areas.

The review team is greatly concerned about the NHS's ability to address its alternative level of care issue. The Hospital Improvement Plan indicates the NHS expects to save approximately \$9.7M annually by reducing its percentage of alternative level of care patients from 24 percent to 11 percent through investments in community services such as aging at home. While the review team concurs that the NHS should strive to reduce its ALC volumes, the reviewers feel this goal is largely outside the NHS's control. Improvements to ALC will only be realized through appropriate action by the MoHLTC and the LHIN. The review team strongly recommends the MoHLTC and the HNHB LHIN work with the NHS to resolve its ALC issue.

### *iii) Electronic Health Technologies*

Electronic health technologies will assist the NHS with effective program consolidation and service delivery across all sites. The NHS currently operates Meditech as its electronic information health system. Common information systems enable seamless information transfer and are important for standardizing practice. The NHS should also explore opportunities to leverage distance technologies such as the Ontario Telemedicine Network and video conferencing. This would allow the NHS to establish satellite clinics and provide remote consultation. In addition, video conferencing could be used for multi-site rounds, continuing medical education and clinical and administrative meetings.

### *iv) Relationships with the Community*

Citizens of Niagara are passionate about their hospital health services. This passion can be a tremendous asset when working to transform local health services. Unfortunately the NHS's relationship with its communities is poor. Community members and leaders express a loss of trust in NHS leadership. They do not feel the relationship is collaborative.

The NHS Hospital Improvement Plan did not identify community support as an enabler to the HIP, but the review team feels this is essential for success. Despite the current difficulties between the NHS and its communities, the review team feels the relationship could become positive. Many community members expressed a desire to work with the NHS on improving hospital care for their communities. The NHS must begin to develop a collaborative working relationship with its communities. This must be a fundamental component of any Hospital Improvement Plan implementation.

#### **4) Recommendations**

The review team recommends that:

1. The NHS, the municipalities and the citizens of Niagara should support the vision for quality hospital care outlined in the HIP and this report and begin immediate work towards this goal.
2. The NHS leadership should engage an advisor to help the Board and senior management navigate the difficult issues facing the NHS.
3. NHS leadership must establish a robust quality measurement and improvement framework. This framework should be at the program level, be multidisciplinary, and be monitored by the Board of Governors.
4. The NHS, municipalities and citizens of Niagara identify challenges with the site of the new healthcare complex in St. Catharines and look for opportunities to overcome them.
5. The HNHB LHIN adopt a consistent approach to clinical services planning across its geography.
6. The NHS proceed with the concept of “Centres of Excellence” and consolidate key clinical services.
7. The Hamilton academic hospitals operate specialty programs as satellites on NHS property to support human resources and quality.
8. The NHS leadership must develop a HIP evaluation framework to measure the impact on quality, specifically: access, efficiency, effectiveness, safety and patient and staff satisfaction.
9. The Douglas Memorial site and the Port Colborne General site operate 24/7 Urgent Care Centres. The Urgent Care Centres will care for CTAS level 3-5 patients and will no longer receive ambulances.
10. The Douglas Memorial site and the Port Colborne General site perioperative services should be converted to ambulatory minor procedure units. The scope and volume of services will be determined in the broader surgical services plan of the NHS.
11. The Douglas Memorial site and the Port Colborne General site should no longer operate acute care inpatient beds. The NHS may operate complex continuing care beds at these sites, but should not proceed with the planned slow paced rehabilitation beds. Each site should operate a 3-6 bed monitored holding unit adjacent to the Urgent Care Centre. The unit would be designed for patients requiring a 24-48 hr observational length of stay. If patients require admission beyond this point they

would be transferred to one of the 3 larger NHS sites, with direct admission to an inpatient bed.

12. The NHS should work with community organizations and other health care providers to develop a chronic disease prevention and management strategy, particularly in Fort Erie and Port Colborne. Fort Erie and Port Colborne should serve as valuable spokes in a hub and spoke model.
13. The NHS must develop a detailed implementation plan for the HIP that is timely, includes the appropriate stakeholders and identifies the projected impact on service delivery, human resources, operating and capital costs. Elements of the HIP should be implemented immediately. The entire plan need not wait for construction of the new healthcare complex.
14. The maternal child program should be consolidated to the new St. Catharines healthcare complex. The NHS should adopt a formal planning structure that ensures all members of the care team are involved in planning and developing the consolidated maternal child program. The NHS should ensure that all professionals work towards their full scope of practice.
15. The NHS should develop a strong relationship with the academic hospital to support its paediatric program.
16. The NHS and the MoHLTC should work together to expedite re-development of the operating rooms at the Greater Niagara General site.
17. The NHS should proceed with the planned consolidation of perioperative services as outlined in the HIP with the exceptions described in recommendations 18, 19, 20, and 21.
18. Consolidated NHS surgical specialities must develop feasible coverage plans with a response time of 24 hours or less for alternate sites in the event an off-site inpatient requires consultation.
19. Urology should be consolidated to the Welland site, but must develop a coverage plan that addresses clinical dependencies with Gynaecology, to be located at the new St. Catharines healthcare complex and those services at the Greater Niagara General site.
20. Hamilton Health Sciences Centre should operate the Vascular Surgery program as a satellite on the NHS St. Catharines site, both to facilitate human resource challenges and to ensure quality of care.
21. The NHS should not operate a Thoracic Surgery program as it does not meet the provincial standards for Thoracic surgery.

22. Hamilton Health Sciences Centre should operate the interventional cardiology program as a satellite on the NHS St. Catharines site, both to facilitate human resource challenges and to ensure quality of care.
23. The NHS should include mental health and addictions outpatient satellites as part of its ambulatory care programs in Niagara Falls, Welland, Port Colborne and Fort Erie.
24. The NHS should proceed with the remaining service delivery improvements outlined in the Hospital Improvement Plan.
25. NHS leadership must work to rebuild the trust relationship with its health professionals, beginning with effective communication and collaborative planning processes.
26. The NHS must address issues in its medical structure and medical operations to ensure equitable, transparent and effective management of physician issues.
27. The MoHLTC will likely need to provide the NHS with a substantial and permanent cash infusion for the NHS to manage its financial situation and successfully implement the Hospital Improvement Plan.
28. Niagara EMS providers should ensure that advanced care paramedics are available in communities located greater distances from an Emergency Department.
29. The NHS should continue working with EMS providers and the provincial government to improve ambulance off-load times. Niagara EMS and the NHS should consider innovative solutions to this problem, including paramedics assuming responsibility for more than one patient if multiple ambulances are in off-load delay.
30. Niagara EMS providers and Fire Departments should review the current policy and practice of accompanied transport, with a goal to reduce the current volume of accompanied transports.
31. Niagara transportation stakeholders, including funders, should begin working together to address medical transportation needs as part of the greater regional transportation strategy. Hospital service redesign should happen in parallel with transportation improvements rather than subsequently.
32. The NHS should establish an inter-site transportation shuttle for staff, physicians, students and volunteers.
33. The MoHLTC and the HNHB LHIN must work with the NHS to drastically reduce the number of hospital beds occupied by alternative level of care patients (ALC).

34. The NHS should leverage distance technologies such as the Ontario Telemedicine Network and video conferencing to enable satellite clinics, remote consultation and multi-site meetings such as continuing medical education or program planning.
35. The NHS leadership must build a collaborative working relationship with the communities of Niagara.

## **Appendix A – Review Team Members**

Dr. Jack Kitts, Lead Expert Advisor, President and C.E.O., The Ottawa Hospital

Dr. Chris Carruthers, former Chief of Staff, The Ottawa Hospital

Mr. Gino Picciano, Senior Vice President, Chief Operating Officer, The Ottawa Hospital

Mr. Richard Wilson, Senior Vice President, Finance and Business Development, The Ottawa Hospital

Ms. Mary Boutette, Executive Consultant, Operations, The Ottawa Hospital

## **Appendix B – Stakeholder Consultation and Review of Documentation**

The Hospital Improvement Plan review included a process for stakeholder consultation.

The review team visited all of the current NHS sites, with the exception of Niagara-on-the-Lake. During these visits the review team had the opportunity to tour the physical facilities and interact with front line nurses, physicians and middle managers.

The mayors in the Niagara region organized four town hall forums to give the public an opportunity to voice their opinion on the HIP directly to Dr. Kitts and the review team. Dr. Kitts and the review team met with the mayor(s), and the mayors' invited guests immediately preceding the town hall forums to discuss meeting logistics and feedback regarding the Hospital Improvement Plan.

Town hall forums were held in:

- Fort Erie
- St. Catharines (also for the communities of Niagara-on-the-Lake, Thorold and Lincoln)
- Niagara Falls
- Port Colborne (also for the communities of Wainfleet, Welland and Pelham)

The review team met with numerous stakeholders to seek their feedback on the Hospital Improvement Plan. The following is a list of individuals and organizations consulted during the Hospital Implementation Plan Review process:

- Hamilton Haldimand Brant Local Health Integration Network
  - Board of Governors
    - Ms. Juanita Gledhill, Chair
    - Mr. Jack Brewer, Vice-Chair
    - Mr. Bill McLean
    - Mr. Bill Millar
    - Ms. Carolyn King
    - Ms. Janice Mills
    - Mr. Stephen Birch
    - Mr. Douglas Archibald
  - Senior Team
    - Ms. Pat Mandy, CEO
    - Ms. Marion Emo, Senior Director, Planning, Integration and Community Engagement
    - Mr. Alan Iskiw, Senior Director, Performance, Contract and Allocation
    - Ms. Trish Nelson Simmons, Senior Consultant, Community Engagement and Communications
    - Ms. Rosalind Tarrant, Senior Consultant Performance and Contract Management
    - Ms. Patricia Ciccarelli, Senior Consultant Funding and Allocation

- Niagara Health System
  - Board of Governors
    - Ms. Betty Lou Souter, Chair
    - Mr. Paul Leon
    - Mr. Mark Sherk
  - Senior Team
    - Ms. Debbie Sevenpifer, President and CEO
    - Dr. Bill Shragge, Chief of Staff
    - Mr. Frank Demiozio, VP Patient Services
    - Ms. Anne Atkinson, VP Patient Services
    - Ms. Su Bolibruck, Interim VP Patient Services
    - Ms. Donna Rothwell, Interim VP Patient Services
    - Ms. Angela Zangari, Chief Financial Officer
    - Ms. Linda Boich, VP Patient Services
    - Mr. Terry McMahon, VP Human Resources
- Physicians
  - Douglas Memorial Site Physicians
    - Dr. P. Teal, Ophthalmology
    - Dr. B. Dagiessh, Emergency
    - P. Spencer, Family Medicine
    - Dr. M. Csanadi, Family Medicine
    - Dr. Colorado, Emergency
    - Dr. R.J. Kamatoic, Family Medicine
    - Dr. H. Makin, Paediatrics
    - Dr. N. Jayawardene, Emergency
    - Dr. K. Scher, Family Medicine
    - Dr. M. Kim, Family Medicine
    - Dr. D. Henry, Family Medicine
  - Dr. A. Taylor, Head, Division of Ophthalmology
  - Dr. Kobylecky, St. Catharines General / Ontario Street Site Chief of Surgery
  - Dr. G. Bosey, Anaesthesia, St. Catherines General site
  - Dr. Cranford, NHS Chief of Surgery, Acting
  - Dr. Robichaud, Head Division of ENT
  - Dr. Faulkner, Chair Site Implementation Leadership Committee St. Catharines General / Ontario Street Site, St. Catharines General / Ontario Street Site Chief of ED
  - Dr. Brown, Head, Division of Urology
  - Greater Niagara site physicians, MAC meeting. Names not recorded
  - Dr. C. Muir, Department Surgery, past Head
  - Dr. Brar, Paediatrics
  - Dr. Vedova, Medicine, Welland Community site
  - Dr. Jackiewics, Obstetrics, GNG site

- Dr. G. Rungi, Chair, Site Implementation Leadership Committee, Port Colborne
  - Dr. M. Luterman, Head, ED, Southern Tier
  - Dr. K. Santher, Site Chief, Mental Health, GNG site
  - Dr. L. Flores, Head, Division of Orthopaedics
  - Dr. G. Harpur, Site Chief, Surgery, GNG site
  - Dr. P. Willard, President, Medical Staff
  - Dr. M. Gallagher, NHS Chief of Anaesthesia
  - Dr. C. Che, Chair, Site Implementation Leadership Committee, Fort Erie
  - Dr. R. Kamatovic, ED, Fort Erie
  - Dr. Offierski
  - Dr. K. Reddy, Urology
  - Dr. J. Viljoen, Obstetrics/Gynaecology
  - Dr. K. Greenway, Medicine
  - Dr. J. Kerr, Family Practice
  - Dr. A. Mehta, Diagnostic Imaging
  - Dr. J. McAuley, Emergency Medicine
  - Dr. M. Jany, Internal Medicine
  - Dr. J. Suhas, Laboratory Medicine
- Midwives
    - Ms. Carrie Seguin
    - Ms. Ali McCallum
    - Ms. Krystie Alexander
    - Ms. Anne Woodhouse
    - Ms. Kelly Stuart
- ONA Representatives
    - Ms. Pam Scheptenko, President, Local ONA
    - Ms. Lorrie Daniels, VP ONA, GNG site
    - Ms. Kathy Rutledge, VP ONA, PC site;
    - Ms. Sharon Phair, VP ONA SC site;
    - Ms. Cindy Forster, Labour Relations Officer, ONA
- Other Hospitals
    - Hotel Dieu Shaver Health and Rehabilitation Centre , Ms. Jane Rufrano, President and CEO
    - West Lincoln Memorial Hospital, Mr. David Bird, CEO
    - St. Joseph's Healthcare Hamilton, Mr. Kevin Smith, President and CEO
- Regional Government
    - Peter Partington, Regional Chair, Regional Municipality of Niagara
    - Bob Saracino, Regional Councillor, Regional Municipality of Niagara
    - Brian Baty, Regional Councillor, Regional Municipality of Niagara

- Mayors
  - Vance Badawey, Port Colborne
  - Ted Salci, Niagara Falls
  - Brian McMullan, St. Catharines
  - Henry D'Angela, Thorold
  - Damian Goulbourne, Welland
  - Gary Burroughs, Niagara-on-the-Lake
  - Dave Augustyn, Pelham
  - Barbara Henderson, Wainfleet
  - Bill Hodgson, Lincoln
  - Doug Martin, Fort Erie
  - Bob Bentley, Grimsby
  - Katie Trombetta, West Lincoln
  
- Municipal Councillors
  - Mr. Sandy Annunziata, Fort Erie
  - Mr. Jim Handley, Thorold
  - Mr. Rudy Warkentin, Wainfleet
  - Mr. Paul Grenier, Welland
  - Mr. David Alexander, Welland
  - Councillors in attendance at pre-town hall sessions
  
- Members of Provincial Parliament
  - Kim Craitor, MPP Niagara Falls
    - Ron Planche – EA, Queens Park
    - Kathy Fisher – EA, Niagara Falls
  - Peter Kormos, MPP Welland
  - Jim Bradley, MPP St. Catharines, Minister of Transportation
  
- EMS Leaders
  - Mr. Steve Van Valkenburg, Associate Director Niagara EMS
  - Ms. Lyne De Grasse, Manager of Operations Niagara EMS
  - Mr. Kevin Smith, Associate Director Niagara EMS
  
- Transit Managers and Leaders
  - Mr. David Alexander, Councillor, Welland
  - Mr. Dave Sherlock, General Manager, St. Catharines Transit Commission
  - Mr. Richard Werner, Chair, St. Catharines Transit Commission
  - Mr. Dave Stuart, General Manager, Niagara Transit
  - Ms. Carla Stout, Fort Erie
  - Mr. Martin Yamich, CAO, Pelham
  - Mr. Peter Senese, CAO, Port Colborne
  - Mr. Len Tapp, Port Colborne
  - Mr. Eric Flora, Niagara Region

- Municipal Fire Departments
  - Thomas Cartwright, Fire Chief, Port Colborne
  - Christopher Halliday, Fire Chief, Grimsby
  - Jim Douglas, Fire Chief, Fort Erie
  - Ken Eden, Fire Chief, Niagara-on-the-Lake
  - Ed Lajoie, Assistant Chief Support Services, St. Catharines
  
- Community Standing Committees of Fort Erie, Port Colborne and Niagara-on-the-Lake. Names not recorded.
  
- Community Leaders
  - Mr. Bill Auchterlonie
  - Mr. Larry Boggio
  - Ms. Marge Dempsey
  - Ms. Catherine Mindorff
  - Mr. Liz Palmmieri
  - Mr. Peter Papp
  - Mr. John Potts
  - Mr. Doug Rapelje
  - Mr. Ron Rienas
  - Mr. Marcel Castonguay
  - Dr. Robin Williams, Niagara Medical Officer of Health
  - Dr. John Cunnane, Director of Niagara EMS
  - Ms. Pat Frank

Key documents including the following:

- Association of Ontario Midwives (2008). Midwives and Interprofessional Care. June 2008. Available at [www.aom.on.ca](http://www.aom.on.ca).
  
- Canadian Association of Emergency Physicians (1998). Implementation Guidelines for the Canadian Emergency Department Triage and Acuity Scale (CTAS). December 1998. Available at [www.cjem-online.com](http://www.cjem-online.com)
  
- The City of Welland (2007). The Niagara Inter-Municipal Green System. Part B Detailed Proposal. August 14<sup>th</sup>, 2007
  
- Coulson & Associates (2008). Port Colborne-Wainfleet Community Response to the NHS Hospital Improvement Plan. October 6<sup>th</sup>, 2008.
  
- Government of British Columbia (2002). Standards of Accessibility and Guidelines for Provision of Sustainable Acute Care Services by Health Authorities.
  
- Joint Policy and Planning Committee (2006). The Core Service Role of Small Hospitals in Ontario. Report prepared by the Multi-Site/Small Hospitals

Advisory Group of the JPPC for the Ontario Ministry of Health and Long-term Care. December 2006.

- Niagara Region Public Health (2005). Hospital Destination Policy.
- Niagara Health System (2008). Hospital Improvement Plan. July 15<sup>th</sup>, 2008.
- Niagara Health System (2008). Hospital Improvement Plan Consultation Summary Report. October 2008.
- Teal, P. (2008). The Present and future vision of the Douglas Memorial Hospital. October 2008.
- Hundreds of emails, letters and submissions from municipalities, provider organizations, health care professionals, service groups and community members directed to:
  - Dr. Jack Kitts and the review team,
  - The Hamilton Niagara Haldimand Brant Local Health Integration Network,
  - The Niagara Health System, including all comments made on the HIP feedback website.
- Newspaper clippings including stories, editorials and letters to the editor.
- Local petitions and survey results.

## **Appendix C – CTAS Definitions**

### **Level 1 – Resuscitation**

Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate aggressive interventions. Usual presentations: code/arrest; major trauma; shock states; unconscious; severe respiratory distress.

### **Level 2 – Emergent**

Conditions that are a potential threat to life limb or function, requiring rapid medical intervention or delegated acts. Examples include: altered mental state; severe or high risk head injury; severe trauma; neonates ( $\leq 7$  days old); chest pain; overdose, CVA.

### **Level 3 – Urgent**

Conditions that could potentially progress to a serious problem requiring medical intervention. May be associated with significant discomfort or affecting ability to function at work or activities of daily living. Examples include: moderate head injuries and trauma including extremity fractures, mild to moderate asthma; acute pain; vomiting/diarrhea in patients  $\leq 2$  years.

### **Level 4 – Less Urgent**

Conditions that relate to patient age, distress, or potential for deterioration or complications that would benefit from intervention or reassurance within 1-2 hours. Examples include: minor head injury; minor trauma; vomiting and or diarrhea with no signs of dehydration (age  $\geq 2$ ); moderate pain.

### **Level 5 – Non Urgent**

Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration. The investigation or interventions for some of these illnesses or injuries could be delayed or even referred to other areas of the hospital or health care system. Examples include: sore throat; vomiting alone, diarrhea alone with no signs of dehydration and age  $>2$ .

### **Source:**

Implementation Guidelines for the Canadian Emergency Department Triage and Acuity Scale (CTAS). Canadian Association of Emergency Physicians. Dec 1998. Accessed on Oct 23<sup>rd</sup>, 2008. [www.cjem-online.com](http://www.cjem-online.com)