



ONTARIO
HOSPITAL
ASSOCIATION

CONTINUING TO LEAD IN HOSPITAL EFFICIENCY:

A PRELIMINARY REPORT OF THE HOSPITAL EFFICIENCY TASK FORCE

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“All is flux, nothing stays still.”

Heraclitus, Greek Philosopher

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Executive Summary

The Ontario Hospital Association (OHA), in collaboration with the Ontario Government, has launched a Hospital Efficiency Task Force (HETF). The HETF is comprised of representatives from hospitals, OHA, the Ministry of Health and Long-Term Care (MOHLTC) and the Ministry of Finance (MOF). The goal for the HETF is to recognize current hospital efficiency efforts, identify opportunities to achieve further efficiencies in the hospital sector and to develop action plans for implementation.

The work of the HETF is in its initial phase. In this preliminary report the task force seeks to communicate its early thoughts and the direction taken to date. The HETF invites feedback from hospitals and other stakeholders in order to validate its direction and to elicit further ideas for possible efficiency initiatives.

The Environmental Context

Ontario hospitals over many years, through many different measures, have proven that they are leaders in Canada in innovation and efficiency. All over the province hospitals have partnered and launched projects to continuously improve patient care in an accountable and cost-efficient manner. Some of these initiatives are major endeavours, requiring lock-step partnership with government and other health care providers to evoke needed change. Countless other initiatives are more “day-to-day”, reflecting hospitals’ on-going cycle of finding better ways to provide patient care. Some key innovations underway in Ontario hospitals and some system-wide projects in which hospitals participate, are documented in Appendix B of this report.

While moving forward with existing initiatives, and attempting to launch new ones, hospitals are operating in a severely challenging fiscal environment. The Ontario Government faces significant fiscal challenges that limit its ability to meet the rising costs of delivering patient care. While the province has made a significant investment in hospital operations for 2004/05, hospitals continue to face a severe funding shortfall that will increase in future years. The combination of the shortfall and the legal requirement to balance hospital budgets by 2005/06 creates tremendous pressure on hospitals and government to work together to find new, innovative and lower cost ways to deliver care.

At the same time, the province’s health system is about to undergo a major “transformation”. The Ontario Government has announced a series of initiatives to transform the health care system, including the promotion of public health, expansion of primary care, home care and long-term care, and the creation of Local Health Integration Networks (LHINs) that will be developed to help plan and coordinate the delivery of health care services.

The Work of the Hospital Efficiency Task Force

The HETF was launched as an effort to push even further for system-wide improvement in hospitals and to help moderate future cost increases, given the current fiscal environment.

With the help of an Expert Panel comprised of senior hospital representatives, the HETF considered numerous topics in order to select areas of opportunity for efficiency gains. The task force also considered a recent benchmarking report produced by the HayGroup for the MOHLTC, in selecting possible areas of focus.

In recognition of the fact that not all areas could be addressed at once, the task force sought: areas with significant savings possibilities; areas that can be addressed in a reasonable time period; and areas that are congruent with the government's transformation agenda.

The HETF selected four areas of focus to be addressed initially. For each area, the HETF has identified its overall role (more details are provided in the report).

- **Pharmacy:** Explore and develop opportunities for centralization of drug distribution and formulary management in preparation for implementation.
- **Laboratory:** Help advance implementation of lab reform by effectively working with hospital leaders and MOHLTC to enable key success factors.
- **Alternate Level of Care:** Work with key stakeholders to support identified shorter-term strategies and to develop further solutions to address process and capacity issues.
- **Supply Chain Management:** Actively support OntarioBuys' goal to accelerate the adoption of integrated SCM best practices for hospitals.

In addition, the task force recognizes that other projects with potential could be addressed in a subsequent phase. For example, the HETF will explore various ways it can support the provincial eHealth initiative, given its major importance in setting a new foundation for the health system. The area of payroll and benefits was also identified as a candidate for an efficiency project. The task force welcomes suggestions for further areas.

The next step is to continue over the coming months with the workplans that are in place for each project area. In doing so, the task force will involve the MOHLTC and other appropriate stakeholders and, identify incentives for, and barriers to achieving progress in each initial area. A final report on these initiatives will be produced in the Spring of 2005.

Preliminary Recommendations

The task force offers the following preliminary recommendations:

1. That the MOHLTC release the May 2004 HayGroup Report to all hospitals, along with detailed hospital-specific data, to allow hospitals to compare their own performance to that of their peers;
2. That the OHA develop a comprehensive web-based database of current best practices in hospital efficiency to profile hospital innovations and to help accelerate the sharing of best practices in Ontario;
3. That Ontario hospitals continue to implement integrated Supply Chain Management (iSCM) best practices by taking advantage of the substantial expertise already within the hospital sector as well as the funding and guidance now available from *OntarioBuys*;
4. That the Ontario Government provide funding assistance (e.g., through the \$1 billion Change Fund announced in the 2004 Ontario Budget) to help facilitate the implementation of the Hospital Efficiency Task Force initiatives for costs related to:
 - a. Initial startup;
 - b. Technology and infrastructure;
 - c. Professional consulting and legal advice; and
 - d. Transitional costs.
5. That the Hospital Efficiency Task Force continue with its mandate to actively pursue the next steps as outlined in the report, in partnership with the Ontario Government and other stakeholders.

Introduction

With numerous major, innovative projects underway, Ontario hospitals are already on the step-wise, continuous path of progress.

Ontario hospitals, over many years, through many different measures, have proven that they are leaders in Canada in innovation and efficiency. All over the province, hospitals have formed partnerships and launched projects to continuously improve patient care in an accountable and cost-efficient manner. Some of these initiatives are major endeavours, requiring lock-step partnership with government and other health care providers to evoke needed change. Countless other initiatives are more “day-to-day”, reflecting hospitals’ on-going cycle of finding better ways to provide patient care under the pressure of rising costs and funding constraints. With a range of small to large-scale efforts, Ontario hospitals are committed to an unyielding pursuit of greater efficiency and quality in all that they do.

The job is never complete, however. In an effort to push even further for system-wide improvement in hospitals and to help moderate future cost increases, the Ontario Hospital Association (OHA), in collaboration with the Ontario Government, has launched a Hospital Efficiency Task Force (HETF). The HETF is comprised of representatives from hospitals, OHA, the Ministry of Health and Long-Term Care (MOHLTC) and the Ministry of Finance (MOF). The goal for the HETF is to recognize current hospital efficiency efforts, identify additional opportunities to achieve further efficiencies in the hospital sector and to develop action plans for implementation.

While moving forward with existing initiatives, and attempting to launch new ones, hospitals are operating in a severely challenging fiscal environment. The Ontario Government faces significant fiscal challenges that limit its ability to meet the rising costs of delivering patient care. While the province has made a significant investment in hospital operations for 2004/05, hospitals continue to face a funding shortfall that will increase in future years. The combination of the shortfall and the legal requirement to balance hospital budgets by 2005/06 is creating tremendous pressure on hospitals and government to work together to find new, innovative and lower cost ways to deliver health care.

At the same time, the province’s health system is about to undergo a major “transformation”. The Ontario Government has announced a series of initiatives to transform the health care system, including the promotion of public health, expansion of primary care, home care and long-term care, and the creation of Local Health Integration Networks (LHINs) that will be developed to help plan and coordinate the delivery of health care services.

A systemic transformation effort, by definition, recognizes that care providers are inter-related. A provincial strategy that acknowledges critical success factors such as: the need for co-operation and new partnerships; new investments; and adequate time to implement, is needed. Ontario hospitals want to continue to play a leadership role in the success of the transformation of health care.

The work of the HETF, by helping to spur the next phase of system-wide efficiencies will contribute to advancing the state of health care in Ontario. In this preliminary report, the HETF seeks to communicate its early thoughts and the direction taken to date. The task force invites feedback from hospitals and other stakeholders in order to validate its direction and to elicit further ideas for possible efficiency initiatives.

A Sample of Innovations Underway in Ontario Hospitals

On many fronts, hospitals have joined forces with each other and with government and other stakeholders to achieve efficiencies and improve patient care.

The following list provides just some examples of the many types of initiatives that have already been implemented or are currently underway in Ontario hospitals. These initiatives have either been launched independently by hospitals, or, as in the case of some eHealth initiatives, for example, have been initiated and supported with funding from government and/or other key stakeholders.

Some detailed examples are provided in Appendix B. While some of these are major endeavours, many of the on-going improvements in operations and delivery of care occur at the program or departmental level in individual hospitals. While less visible and less well-documented than large-scale projects, in sum, these smaller types of initiatives result in steady and positive year-over-year change.

- eHealth
- Supply chain management initiatives
- Improved clinical utilization
- Consolidation and sharing of clinical and non-clinical programs
- Business office transformation projects
- Integration of hospital management personnel and other human resources
- Establishment of formal hospital partnerships for planning and operations
- Establishment of regional food services and laundry facilities
- Creation of the OHA Energy Efficiency and Alternative Energy Saving Program

The Current Environment

Benchmarking Ontario's Performance

According to two recent reports Ontario hospitals are national leaders in both clinical and operational efficiency, using their clinical and financial resources better than peer hospitals in other provinces:¹

- Ontario hospitals treat more of their patients on an ambulatory basis;
- Ontario hospitals have shorter lengths of stay;
- Ontario hospitals have a lower average direct cost per weighted case (a standardized measure of the cost of patients treated).²

¹ HayGroup, March 2004 (a) and (b).

² These differences in cost per case, multiplied by the total Ontario cases translates into a "savings" of \$89 million for teaching hospitals, \$140 million for large community hospitals and \$25 million for small community hospitals.

Steady changes in hospital practices have lead to a dramatic shift towards ambulatory-based care.

Other indicators further demonstrate the efficiency of Ontario hospitals:

- Among all the provinces, Ontario has by far the lowest number of hospital beds per capita at 2.7 per thousand.³ The number of inpatient beds (all types) in Ontario has declined 27% over the last ten years. Acute care beds have declined 29%⁴;
- Ontario hospitals have the second lowest utilization rate of inpatient services in Canada. When adjusting for the age structure of the population, for every 100,000 people in Ontario, there were 7,979 inpatient discharges from hospital in 2002/03. The Canada average is 8,500 discharges per 100,000 people.⁵
- The average acute care length of stay for Ontario hospitals declined from just under 8 days in the early 1990's to a low of 6.5 days in the late 1990's. Since then, the rate has steadily risen to just under 7 days, reflecting an increasing level of acuity.⁶

A recent study by the Conference Board of Canada⁷ prepared for Health Canada, reviewed the performance of provincial health care systems with respect to health status, health outcomes and health care utilization and performance. The results show that no one jurisdiction excels in all categories but that Ontario demonstrated the best overall performance.

Hospital Cost Pressures

Hospitals face many types of cost pressures. The key cost drivers are: a growing and aging population; wage increases and inflationary pressures; the cost of new drugs and medical supplies; staff recruitment and retention costs; and costs related to new technology and diagnostic equipment.⁸

Many pressures are beyond hospitals' direct control. Compensation and benefits, comprising 71% of expenditures, are largely affected by binding arbitration if a reasonable settlement cannot be reached. Other recent pressures include: increased requirements in infection control, a more prominent area since the SARS crisis; increased patient safety requirements; higher energy prices; costs related to compliance with management and accountability agreements; and an ever growing list of un-funded compliance and regulatory requirements.

³ Data Source: Canadian Institute for Health Information, 2003/2004.

⁴ Data Source: OHA, Policy and Research.

⁵ Data Source: Canadian Institute for Health Information, 2004. BC is lowest with 7,780 age-standardized inpatient discharges per 100,000.

⁶ Data Source: OHA, Policy and Research.

⁷ Conference Board of Canada, April 2004.

⁸ Provincial/Territorial Ministers of Health, August 2000.

The pattern of Ontario hospital funding in the last decade, mirrors that of other provinces. Since the late 1990's, Ontario hospitals have received increases in funding, on a per-capita, inflation-adjusted (real) basis. These increases, however, follow after a five-year decline in funding. The real per-capita funding in 2002 constant dollars was \$914 in 1992/93 and reached a low of \$679 in 1997/98. Since then it has risen steadily. The estimated level in 2003/04 is \$885, still below the 1992/93 level. The average annual increase in total operating funding since 1992/93 is three percent. Ontario is currently second lowest among the provinces in terms of per-capita hospital funding levels.⁹

Hospital Face Severe Challenges

For the current fiscal year, hospitals face a sizeable funding shortfall and will be required to balance their budgets in the next fiscal year.

For the current fiscal year, hospitals face a sizeable funding shortfall and will be required to balance their budgets in the next fiscal year. Government has directed that specific patient care programs, particularly those with long waiting lists in key areas, be protected. Hospitals will need to continue to pursue administrative and clinical efficiencies before cutting patient care services. Wherever possible, cost reduction strategies will need to be taken to minimize the impact on direct patient care.

In addition to the funding shortfall, hospitals also have significant working capital deficits. The combined gross working capital deficit for 2003/04 is \$1.1 billion¹⁰. Lack of working capital is a significant barrier to implementing medium to larger scale efficiency initiatives. Many hospitals do not have the ability to make the necessary investments in system change and will require up-front seed funding from government to pursue further efficiencies.

While the government transformation process will help reduce pressures on hospitals, by enhancing areas such as home care and primary care, the benefits of these changes will take time and investment. Any immediate measures that hospitals can take to improve existing levels of efficiency in either non-patient care or patient care areas, will fall well short of what is needed to bridge the funding gap.¹¹ The HETF believes that in order for investments to be made, hospitals' financial health, including working capital needs to be restored. It is also well understood that greater levels of capital investment will be needed to continue to achieve efficiencies, re-tool, and modernize the system.¹²

⁹ Data Source: OHA, Policy and Research.

¹⁰ Data Source: 2003/04 Hospital Year End Supplementary Operating Report Results. Gross working capital includes hospitals with negative working capital only. Net working capital includes hospitals with positive working capital. Working capital equals current assets minus current liabilities—the current portion of deferred contributions.

¹¹ Hospitals with deficits are not necessarily any less efficient than those without deficits. In fact, some of the most efficient hospitals in the province face deficits in order to meet growing patient care needs in their communities. The variation in hospitals' financial positions can be attributed to several factors, including continued historical inequities in hospital funding levels and increased demand for services.

¹² Ontario Hospital Association Capital Investment Working Group, November 2003.

Identifying Possible Efficiencies: The May 2004 HayGroup Report

The MOHLTC recently commissioned a benchmarking report¹³ in order to identify and quantify possible opportunities for improvement in specific areas of hospital expenditure. Produced by HayGroup, this May 2004 report stimulates discussion about where the industry can look to find further efficiencies.

While the report identifies a qualified “savings opportunity” of up to \$194.7 million, this figure is not a target or an estimate of the savings readily available to the system. The report does not identify individual hospitals or the practices of high performing hospitals. The report makes no recommendations on how the savings opportunity can be realized nor does it consider required investments or “payback” time period for any investments.

Methodology

The study reviewed spending in ten hospital departments (technically referred to as “functional centers”) that could be more readily shared between hospitals so to achieve savings through greater economies of scale. The functional centers were: clinical laboratories, communications, finance, food services, health records, human resources, materials management, pharmacy and systems support.

Hospitals were grouped according to similar size and operating characteristics and ranked within the group, using a performance indicator. Different performance indicators were used for each of the ten functional centers. For example, for pharmacy, the performance indicator was the “department net cost (excluding medical staff) per weighted case”. For food services, the indicator measures the daily food cost per patient. The methodology eliminated outliers and situations in which distance would prohibit feasible sharing of services.

Within each hospital group, and for each functional centre, the study determined the level at which the “best” performing hospitals were operating, according to the performance indicator. If all hospitals were to operate at the same level as the top 25% of hospitals, in all functional centers, the report estimates the “savings opportunity” to be \$194.7 million. If all hospitals were to operate at the same level as the top 33% of hospitals, in all functional centres, the report estimates the “savings opportunity” to be \$145.9 million.

Qualifiers and Caveats

The report contains several qualifiers and advises that as the MOHLTC proceeds further with investigating the potential savings, the accuracy of the data and consistency of reporting by hospitals should be confirmed. The report states that there is latitude in the data reporting guidelines and there are different organizational structures that may result in different data reporting conventions. These factors, they correctly state, can distort the comparisons and the estimated savings potential.

¹³ HayGroup, May 2004.

Hospitals recognize that there are limited opportunities to take monies out of non-core hospital services in the short term—that is, within the next 18 months.

As the report excludes hospital-specific information, a detailed review of data to identify top-performers and practices is necessary as a first step to gaining an accurate estimate of potential savings. It would be incorrect to extrapolate what is a more “favourable” cost structure in a few hospitals, to all hospitals.

It is important to note that *increased* spending in some functional centers may result in a more favourable bottom line. For example, unit-dose drug distribution requires higher staffing levels and therefore higher pharmacy costs, but results in safer practices that reduce the risk of re-admission and longer stays. Strategic *increased* spending on clinical and administrative information systems, may result in greater efficiencies. The goal should be to identify *bottom-line* financial and patient care improvements.

Ontario hospitals know that there are limited opportunities to take monies out of non-core services in the short-term, within the next 18 months. As well, challenges exist with respect to the degree of flexibility that hospitals have to address human resource issues.

Nonetheless, the quest for improvement is an on-going one. Hospitals need to identify now, areas where financial benefits, in terms of actual cost reductions or in terms of cost avoidance, can be achieved in the future. In this sense, the May 2004 HayGroup report may be used as a starting point to identify areas for further investigation. Hospital-wide distribution of the report, along with individual hospital rankings for each benchmark indicator, would be an important step in identifying and sharing best practices.

The Hospital Efficiency Task Force

The HETF was launched by OHA in the Spring of 2004 following a resolution by the OHA Board of Directors. The task force is comprised of representatives from hospitals, OHA, MOHLTC and the MOF.

The objectives of the HETF are to:

- Recognize current hospital efforts in leading the country in efficiency;
- Identify new opportunities for efficiency gains;
- Identify priority areas to target efforts to achieve the greatest provincial dividends;
- Review current best practices in the sector;
- Develop implementation action plans.

Notwithstanding the projects already underway in hospitals, the HETF, with the help of an Expert Panel comprised of senior hospital representatives, identified opportunities for further efficiency gains in several areas. The Expert Panel considered numerous topics including areas identified by the HayGroup report.

- Supply Chain Management
- Payroll and benefits processing
- Clinical lab
- Pharmacy/drug utilization
- Major medical capital equipment purchasing cooperation
- Coordinated re-processing of medical devices
- Electronic Health Record/networked information systems
- Improved Clinical Pathways
- Alternate Level of Care
- Disease Management
- Scope of practice
- Shared decision support
- Faster capital approval process
- More system Integration across providers
- Food Services
- GL Accounting
- Medical Records
- Laundry

In recognition of the fact that many hospitals have already made progress in a number of these areas and that not all areas with potential could be addressed at once, the HETF sought to select: areas with significant savings possibilities; areas that can be addressed in a reasonable time period; and areas that are congruent with the government's "transformation agenda".

Four areas were selected by the HETF to be addressed in its first phase of work:

- I. Pharmacy;
- II. Laboratory;
- III. Alternate Level of Care; and
- IV. Supply Chain Management.

Two areas, were selected by the HETF to be addressed in a second phase:

- V. eHealth; and
- VI. Payroll and Benefits.

The task force felt that in a subsequent phase, it would explore various ways it can support the provincial eHealth initiative, given its major importance in setting a new foundation for health system. In addition, the HETF identified the area of payroll and benefits as a candidate for an efficiency project.¹⁴

Each of these areas requires the HETF to assume a unique role. As the group proceeds with its work, "target" levels of results in each area can be more readily established.

¹⁴ See Appendix B for a description of a major Business Office Transformation project.

I. Pharmacy

Expenditure on pharmaceuticals is among the fastest growing area of health care costs. As new, more costly drugs have reached the market, volumes have increased as well. Joint hospital initiatives in the area of pharmacy, however, do not appear to be widespread.

The May 2004 HayGroup report states that there may *potentially* be \$27 to \$28 million in savings to hospitals if all hospitals were to operate at the 33rd and 25th percentile levels, respectively. In actual fact, the potential savings will most certainly differ from that calculated by the HayGroup. Hospitals with unit-dose systems (an acknowledged best-practice with respect to patient safety, leading also to “bottom line” cost-savings) will have higher pharmacy costs than those without. It is likely that hospitals at the benchmark performance levels for this budget line-item, do not have unit-dose systems.

Although a validated estimate of the true potential for cost savings or future-cost avoidance is needed, the opportunity to address hospital drug utilization, related distribution costs and patient safety as outlined in the Baker Norton study¹⁵, is believed to be significant.

The HETF has explored several possible initiatives for efficiency improvement in hospital pharmacies. Two feasible projects are described below.

Centralizing Drug Distribution and Purchasing Centres

The quality and safety of drug distribution processes could be enhanced by centralizing certain functions. While hospitals would maintain smaller pharmacies for immediate service, a larger centre could mass produce regularly scheduled medications based on a unit-dose system. This would potentially lead to cost avoidance related to the implementation costs of non-unit dose hospitals moving towards this system, as part of their patient safety initiatives.

Implementation would require a clear, long-term mandate for hospitals and investment in capital and operating infrastructure. Benefits would be realized in terms of improved patient safety and economies of scale for implementing high-cost drug distribution technologies (e.g. robotic medication delivery using bar-code technology). The Calgary Regional Health Authority recently implemented such a system.¹⁶

Centralized drug distribution systems also have the potential to more effectively use scarce human resources. This will assist the hospital sector in managing through the emerging skills shortages.

Group purchasing organizations already negotiate the best price for hospitals on drugs with generic alternatives. Additional savings on patent-protected products would be realized if a common formulary were developed.

¹⁵ Baker and Norton, 2002.

¹⁶ See www.crha-health.ab.ca/newslink/pharmacy.html for a description of initiative.

Pharmacy drug inventory has been traditionally managed by pharmacy technicians and varies widely based on prescribing practices. Centralizing this function may provide systemic benefits, beyond hospitals.

Centralizing Drug Formulary Management

High Cost Items

A relatively small number of high-cost drugs comprise a significant proportion of hospital drug budgets. Hospitals currently evaluate high-cost drugs for formulary status, independently. Centralized review of drugs using clinical evidence and pharmacoeconomic analysis will standardize the process and reduce costs.

By incorporating a funding mechanism with criteria-based recommendations (similar to the existing Cancer Care Ontario funding mechanism), utilization improvements will also lead to savings. With an appropriate mandate, this centralized function could be implemented if a limited number of high-cost items were targeted. Such an approach will strengthen the development of drug prescription standards across the hospital sector. These standards will indirectly lead to improved length of stay and therefore the direct cost of patient care.

Outpatient Formulary Management

Long-term, chronic outpatient therapy can be influenced by inpatient prescribing patterns. Centralized decision-making around these agents may enhance appropriate, cost-effective drug use with the transition to an outpatient setting. Centralizing this process, which involves a large number of drugs, would involve achieving agreement and compliance across institutional and community settings.

The Role of the Hospital Efficiency Task Force for Pharmacy

A sub-group of the HETF will lead the pharmacy initiative in its developmental phase. Over the next few months the sub-group will:

- Explore and develop opportunities for centralization of drug distribution and formulary management in preparation for implementation;
- Identify Canadian and international best practices;
- Conduct a review of Ontario hospital pharmacy costs;
- Establish a Pharmacy Implementation Working Group which will develop a business plan, extrapolating from the initial research of the HETF sub-group;
- Collaborate with the Council of Academic Hospitals of Ontario (CAHO) to determine the broader application of its plan to evaluate high expenditure pharmaceuticals;
- Collaborate with the MOHLTC and the Ontario Medical Association on any provincial efforts related to hospital pharmacy practices.

II. Laboratory

The May 2004 HayGroup report identified \$26 million in potential savings at the 33rd percentile level and \$42 million in potential savings at the 25th percentile level for hospital clinical laboratories. Of all areas identified by the report, this was the single largest area of potential savings. In order to achieve benchmark performance levels however, systemic laboratory reform is necessary. This complex process of reform has been in the planning stages since its initiation over a decade ago.

More recently, in Fall 2000, the Ontario Laboratory Services Planning Process began in nine provincial laboratory planning regions with the involvement of: hospitals, physicians, government and private sector medical laboratories. Non-government stakeholders, represented by the OHA, the Ontario Medical Association (OMA) and the Ontario Association of Medical Laboratories (OAML), together with the MOHLTC, comprise a Provincial Advisory Group (PAG) on Laboratory Reform.

The goal for laboratory reform is to implement regional plans, incrementally, in accordance with each region's state of readiness and ease of implementation. Currently, each regional plan has been approved by stakeholders and reviewed, though not necessarily approved, by the MOHLTC. In Ottawa and surrounding counties, 16 hospitals now have a shared services corporation and a funding agreement with the MOHLTC. Different areas of the province are in different states of implementation readiness. In at least one region, stakeholders are awaiting greater certainty regarding the LHINs, which may impact the plan.

Implementation of laboratory reform will:

- Modernize the system;
- Increase capacity;
- Improve quality;
- Achieve economies of scale;
- Address a worsening skill shortage of technologists and pathologists; and
- Promote improved alignment between public and private laboratories.

Lab reform is a high priority for the Ontario Government and the estimated system-wide potential is significant. The estimated annual per capita costs for lab testing in Ontario (including public and private laboratories) is \$102.¹⁷ While this is a provincial average, it may not be typical of the costs in every region of the province. Cost data for other provinces show B.C. at \$122, Manitoba at \$80 and Alberta and Saskatchewan at \$74.

¹⁷ Data Source: THiNC Health Inc., 2003.

The Role of the Hospital Efficiency Task Force for Laboratory

Given the duration of the planning phase of lab reform to date, and the expected benefits to the overall system and to hospitals, the HETF believes the time is right for a concerted effort to move to implementation.

The HETF can help advance laboratory reform by:

- Identifying decision-making methods to enable laboratory plans to be implemented across multiple hospital corporations;
- Working with MOHLTC to provide clear incentives to hospitals to spur implementation;
- Working with hospital leaders to achieve buy-in;
- Raising the profile of lab reform by communicating its importance and its benefits to hospitals;
- Exploring opportunities from the Federal Diagnostic Medical Equipment Fund;
- Identifying roles for the private sector;
- Work to understand the opportunities for Ontario, in terms of potential spending targets, given other provinces' experience.

III. Alternate Level of Care

Patients with an ALC designation are those who no longer require acute care and are awaiting placement in a more appropriate setting. Over half of ALC patients who are discharged from hospital, are admitted to either a chronic care or long-term care facility. Others are discharged home and receive home care, or are placed in a rehabilitation or palliative setting.¹⁸

The high number of ALC patient days in hospitals is a long-standing issue of significant importance to hospitals, the MOHLTC and ALC patients and their families. Province-wide, an estimated ten percent of acute care patient days are for ALC patients. In 2002/03 there were approximately 670,000 ALC patient days.¹⁹ Assuming a 95% occupancy level, this would translate to approximately 1,900 beds around the province.

In an effort to address this problem, some hospitals have created stand-alone ALC units, which can be operated at a lower cost than an acute care unit. In other instances, where there are no other options, ALC patients remain in medical units, which must be staffed at a more intensive level. In some hospitals, a reduction in ALC patient days could free up space for new acute admissions and reduce backlogs in the emergency department. (In this instance, hospital costs would increase due to admitting patients

¹⁸ Data Source: Ministry of Health and Long-Term Care.

¹⁹ Data Source: Canadian Institute for Health Information.

that require greater resources than ALC patients.) To reduce costs overall, hospitals would have to close beds after reducing ALC patient days.

The solutions for addressing the ALC issue will vary by locale. In some communities, the process of ensuring that people are discharged from hospital to an appropriate type and level of care, in a timely manner, is the more prominent issue. Addressing the “process issue” will involve solutions that span providers across the sector. In other instances, the major factor is insufficient capacity elsewhere in the system.

Currently, the MOHLTC is developing an ALC strategy to address process issues, given a fixed capacity, and to address short-term capacity issues for some ALC patients. The development of a Supportive Care Program is one short-term capacity strategy. Supportive Care is for individuals who no longer need acute care but are not yet ready for discharge home--their intended “discharge destination”. Supportive Care beds are to be developed in existing long-term care facilities. The ALC strategy, as it stands currently, does not address the issue of ensuring timely placement of people waiting for long-term care, complex continuing or chronic care, rehabilitation or home care.

The HETF recognizes that in addressing the identified need for greater capacity in a community does not necessarily mean the creation of more institutional places.

The Role of the Hospital Efficiency Task Force for ALC:

The ALC issue is of such sizable importance that the HETF wants to ensure that clear results in this area are achieved in a timely manner.

The HETF will:

- Support the MOHLTC's ALC strategy to address process issues and to add short-term capacity by developing a Supportive Care program;
- Work with the OHA ALC Working Group to address identified barriers and incentives/disincentives to appropriate, timely placement of ALC patients;
- Quantify the benefits of implementing concrete, “what would it take” local solutions in a sample of hospitals in specific communities;
- Work with the MOHLTC to identify solutions for longer-term capacity issues;
- Work with the MOHLTC to ensure timely implementation of local solutions.

IV. Supply Chain Management

The OHA, together with the Efficient Healthcare Consumer Response²⁰ (EHCR) launched a Supply Chain Management (SCM) Task Force, in 2001. In its report, the Task Force found that implementing SCM best practices in hospitals would:

A systemic commitment to supply chain management, including cooperation between hospitals, suppliers, physicians and government is a key ingredient for success.

- Achieve substantial savings through purchasing discounts, reduced inventory and improved handling of goods;
- Reduce medical errors, particularly medication errors;
- Improve patient care and patient satisfaction by reducing the time spent by front-line staff on materials management tasks.

The report concluded that achieving the true savings potential would require a broader, systemic commitment to SCM and that success depended on cooperation between stakeholders, those being hospitals, suppliers, physicians and government. Government was noted as being in a unique position to provide support through setting standards and through funding initiatives.

Ontario hospitals responded to the Report's findings in several ways. For example, hospital participation in *HealthPro* and *MedBuy*, Canada's two primary hospital group purchasing organizations, has grown substantially since 2001. The two electronic gateways – *CareNet* and *GHX* – have also seen significant growth in the volume of hospital commerce. Multi-hospital supply chain integration has also helped reduce costs and improve service at hospitals as diverse as Sunnybrook & Women's College Health Sciences Centre and Collingwood General and Marine Hospital and other hospitals have submitted proposals to government for funding.

A "Gordian Knot" of obstacles and complexities has made it difficult for most Ontario hospitals to fully implement the Report's recommendations. The HETF is pleased to see that the issues are being addressed through *OntarioBuys*,²¹ an Ontario Government initiative announced in the May 2004 Ontario Budget.

The mission of *OntarioBuys* is to "facilitate and accelerate the widespread implementation of integrated supply chain management best practices in the broader public sector, including Ontario's hospital sector." With *OntarioBuys* the Ontario Government wants to build on the success that has already been achieved through model initiatives such as Healthcare Materials Management Services (HMMS), created by hospitals in London, Ontario.²²

The HETF believes that the approach taken by *OntarioBuys* creates the potential for it to be highly successful. The program is "sector-driven", "government-guided" and "focused". Several expert working groups have been created to define the project scope and ensure the engagement of their organizations. Clear direction of government priorities is provided through *OntarioBuys* staff who encourage communication and

²⁰ The EHCR is an initiative of several private sector organizations whose common goal is to ensure an effective and efficient distribution of health care products.

²¹ See www.OntarioBuys.com.

²² Ontario Ministry of Finance, 2004.

sharing of knowledge and who insist on rapid voluntary integration of the system. In most hospitals, funding pressures have meant that expenditure on direct patient care has taken priority over investments in the supply chain function. With targeted funding of \$20 million in 2004/05, *OntarioBuys* is enabling investment in areas where people, equipment and information systems to improve the supply chain, are lacking. The HETF commends the Ontario Government for what so far has been an innovative and successful model for government-hospital engagement and accelerated system transformation.

The Role of the Hospital Efficiency Task Force for SCM

In full support of the *OntarioBuys*' goal to accelerate the adoption of integrated SCM best practices for hospitals, the HETF will:

- Promote the many benefits of adopting SCM best practices and integration to hospital management and clinicians to foster further implementation;
- Provide advice and perspective to *OntarioBuys* staff and institutional participants to help ensure its mission is accomplished as soon as possible.

V. eHealth

The HETF strongly supports the work of the OHA Hospital eHealth Council. Established in 2001, the Council's mission is to provide leadership in eHealth and to support the implementation of eHealth solutions that can improve health outcomes and the management and delivery of care across the entire health system.

In particular, the contribution of an electronic health record (eHR) is vital:

"Electronic health records are one of the keys to modernizing Canada's health system and improving access and outcomes for Canadians."

Roy Romanow, 2002

A report by the Hospital eHealth Council eHR working group stated:

*"eHealth, and the shareable electronic health record (EHR) are the key enablers to integrating health care stakeholders across the continuum of care. In today's environment, patients flow across organizations to manage their health and health care, however, the information required to support that care does not necessarily follow the patient from one place to another in consistent manner. Many hospitals, some physician offices, and some community agencies already maintain their own databases of patient information, but the ability to share this information is very limited within the current system."*²³

²³ Ontario Hospital eHealth Council eHR Working Group, 2003.

Investing in an integrated health care system through the adoption of eHealth solutions is a long-term vision and will have major direct and indirect gains. These include:

- Better access to care via shorter wait times, enabled by faster access to electronically delivered health information;
- Improved access to care by way of home-based health delivery programs in which patients can send and receive information to caregivers who can then provide care instructions by telephone, video link or computer;
- Less duplication and improved quality of care through the sharing of unique patient data across multiple health service providers, via a provincial client registry;
- Better use of health human resources and reduced diagnostic duplication through technologies such as Picture Archiving Communications Systems (PACS) and Laboratory Data Repositories;
- Enhanced patient safety through effective access to drug information systems; and
- Reduced system-wide costs and improved sharing of clinical and technical data through consistent data standards and interoperable technological platforms.

The Role of the Hospital Efficiency Task Force for eHealth

In full support of eHealth and the systemic efficiencies it will create, the HETF will:

- Support the vision of the Hospital eHealth Council, specifically with respect to the evolution of an eHealth Infrastructure to facilitate the creation of Electronic Health Records for Ontario;
- Support the development of a safe, accountable and patient-centered health care system for Ontario, and Canada, by way of regional information sharing amongst providers, supported by common data, technology and patient consent driven infrastructures;
- Ensure the work of the Efficiency Task Force is aligned with the Hospital eHealth Council;
- Collaborate on future projects where appropriate;
- Promote the achievements of the Hospital eHealth Council.

VI. Payroll and Benefits Processing

Ontario hospitals employ approximately 133,000 full time equivalent staff. Some groups of hospitals, representing large numbers of employees, already have, or are actively pursuing a shared services approach to payroll and benefits processing to reduce transactional costs. One initiative of the TAHSN/TEN/St. Joseph's Health System group of hospitals (see Appendix B—Business Office Transformation project) is one example. In other instances, larger hospitals have been able to provide processing services for smaller hospitals, at a lower cost to the smaller hospital. Such was the case with West Lincoln Memorial Hospital, Grimsby when it joined forces with Hamilton Health Sciences Centre. This area, if expanded to more hospitals, has potential for introducing efficiencies through standardization and consolidation of transactional processing.

The Role of the Hospital Efficiency Task Force for Payroll and Benefits Processing

The HETF will give greater consideration to this possibility in its second phase of work. As an initial step, the HETF will:

- Review ways in which to advance the wider adoption of best practices in additional hospitals.

Conclusion

As hospitals have worked over the years to innovate and become more efficient, in many ways, the HETF believes that there is little easily identifiable “low hanging fruit” to be harvested. Future efforts to achieve medium to large-scale efficiencies, will more frequently require systemic or regional/provincial initiatives, rather than individual hospital initiatives.

There will be costs to implementing change. Investment in terms of time and financial resources will be needed. Focused efforts involving even more collaboration and partnership with government will be necessary, in order to achieve mutually beneficial results.

Next Steps

The work of the HETF is in its initial phase. In this preliminary report, the HETF seeks to communicate its early thoughts and the direction it has taken to date.

The task force invites feedback from hospitals and other stakeholders in order to validate its direction and to elicit further ideas for possible efficiency initiatives.

The HETF will continue with its work plan over the coming months to advance the initial areas identified:

- Pharmacy;
- Laboratory;
- Alternate Level of Care; and
- Supply Chain Management.

In doing so, the task force will involve the MOHLTC and other appropriate stakeholders; and identify incentives for and barriers to achieving progress in each initial area.

A final report on these initiatives will be produced in the spring of 2005.

Preliminary Recommendations

1. That the MOHLTC release the May 2004 HayGroup Report to all hospitals, along with detailed hospital-specific data, to allow hospitals to compare their own performance to that of their peers;
2. That the OHA develop a comprehensive web-based database of current best practices in hospital efficiency to profile hospital innovations and to help accelerate the sharing of best practices in Ontario;
3. That Ontario hospitals continue to implement integrated Supply Chain Management (iSCM) best practices by taking advantage of the substantial expertise already within the hospital sector as well as the funding and guidance now available from *OntarioBuys*;
4. That the Ontario Government provide funding assistance (e.g., through the \$1 billion Change Fund announced in the 2004 Ontario Budget) to help facilitate the implementation of the Hospital Efficiency Task Force initiatives for costs related to:
 - a. Initial startup;
 - b. Technology and infrastructure;
 - c. Professional consulting and legal advice; and
 - d. Transitional costs.
5. That the Hospital Efficiency Task Force continue with its mandate to actively pursue the next steps as outlined in the report, in partnership with the Ontario Government and other stakeholders.

References

- Baker, G. Ross and Norton, Peter, "*Patient Safety and Healthcare Error in the Canadian Healthcare System: A Report to Health Canada*", 2002, online: <http://www.hc-sc.gc.ca/english/care/report/> accessed November 2004.
- Commission on the Future of Health Care in Canada, "*Building on Values: The Future of Health Care in Canada—Final Report*", November 2002.
- Conference Board of Canada, "*Acute Care Sector-Industry Analysis*", April 2004.
- Elson, Steve, "Regional Integration in Southwestern Ontario: A Profile of Regional and District Integration Initiatives and Networks", 2004.
- HayGroup, "*Clinical Efficiency: Comparisons of Hospitals in Ontario with Hospitals in Other Provinces*", March 2004 (a).
- HayGroup, "*Operational Efficiency: Comparisons of Hospitals in Ontario with Hospitals in Other Provinces*", March 2004 (b).
- HayGroup, "*Reducing the Cost of Hospital Operations in Ontario: An Overview Assessment of Opportunities to Improve Operational Efficiency Through Sharing of Services*", May 2004.
- Ontario Hospital Association, "Task Force Report on Supply Chain Management", 2001.
- Ontario Hospital Association Capital Investment Working Group, "*Capital Planning and Investment in Ontario Hospitals*", November 2003.
- Ontario Hospital eHealth Council "Analysis and Opportunities for Expanding Home Telehealth in Ontario", 2004.
- Ontario Hospital eHealth Council eHR Working Group. "*The Road to Electronic Health Records for Ontario: Enabling Regional Service Delivery*", 2003.
- Ontario Ministry of Finance, "*2004 Ontario Budget Paper E: A More Transparent and Accountable Budget*", 2004.
- Provincial Group on Laboratory Reform – Facilitator's Report to the Ministry of Health and Long-Term Care, June 2000.
- Provincial/Territorial Ministers of Health, "*Understanding Canada's Health Care Costs*", August 2000.

Appendix A: Hospital Efficiency Task Force and Expert Panel Members

Task Force Members

Chair

Warren Chant, CEO, Leamington District Memorial Hospital

Members

Gino Picciano, COO, The Ottawa Hospital

Eric Hanna, VP Corporate Services, Queensway Carleton Hospital

Rob Devitt, CEO, Toronto East General Hospital

Brian Edmonds, VP Finance, Trillium Health Centre

Debbie Sevenpifer, CEO, Niagara Health System

Paul Faguy, VP Human Resources and Hospital Services, Hamilton Health Sciences

Ken Deane, CEO, St. Joseph's Health Centre, Toronto

Hume Martin, CEO, Rouge Valley Health System

Dan O'Mara, CEO, MICS Group of Hospitals

Ex-Officio Members

John McKinley, Executive Director, Ministry of Health and Long-Term Care

Peter Finkle, Director, Hospitals Branch, Ministry of Health and Long-Term Care

Chris Terech, Manager, Ministry of Finance

Consultant

Dan Wright, Dexio Group

OHA Staff

Steve Orsini, Vice President, Policy and Public Affairs

Lou Reidel, Director (I), Policy and Research

Andrea Gabber, Senior Health Economist, Policy and Research

Michelle Caplan, Hospital Consultant, Policy and Public Affairs

Expert Panel Participants

Chair

Warren Chant, CEO, Leamington District Memorial Hospital

Facilitator

Dan Wright, Dexio Group

Participants

Gino Picciano, COO, The Ottawa Hospital

Eric Hanna, VP Corporate Services, Queensway Carleton Hospital

Rob Devitt, CEO, Toronto East General Hospital

Debbie Sevenpifer, CEO, Niagara Health System

Paul Faguy, VP Human Resources and Hospital Services, Hamilton Health Sciences

Peter Finkle, Director, Hospitals Branch, Ministry of Health and Long-Term Care

Chris Terech, Manager, Ministry of Finance

Lou Reidel, Director (I), Policy and Research

Andrea Gabber, Senior Health Economist

Caroline Brereton, VP, People Support Services, Trillium Health Centre

Michel Gagné, CEO, Carleton Place and District Memorial Hospital

Sandra Keating Coordinator, Nursing Decision Support, St. Joseph's Health Care London

Alan Katz, CEO, Formerly Deep River and District Hospital

Raymond Marshall, President and CEO, Brockville General Hospital

Sarah Jane Dumbrille, Trustee, Brockville General Hospital

Patricia Barbato, VP, Corporate Services and CFO, Providence Healthcare, Toronto

Sandy Nuttall, Manager, Ministry of Health and Long-Term Care

Sherry Kennedy, Formerly Vice President Finance, Support and Capital Development, Quinte Healthcare

Appendix B: A Sample of Innovations Underway in Ontario Hospitals

Ontario hospitals have implemented many initiatives to further enhance the efficiency of their operations and the quality of patient care. That these initiatives deliver results, is evident from the performance indicators presented in the body of this report. While information abounds as to how these results are achieved (hospitals detail all these initiatives and more, in regular reports to the MOHLTC) there is no single, comprehensive source of information or “reference library” that provides easily accessible documentation.

In order to better profile hospital innovations and to help accelerate the sharing of best practices, the HETF has made a recommendation that the OHA develop a comprehensive web-based database of current best practices in hospital efficiency. Efforts are already underway to implement this recommendation. In the interim, in this appendix, a small sample of innovations is profiled in order to present just some of the efforts underway. The various sources of information reviewed to obtain this sample, provided many more examples than could be included here.²⁴ These initiatives have either been launched independently by hospitals, or, as in the case of some eHealth initiatives, for example, have been initiated by, or supported with funding from government and/or other key stakeholders.

Although most of the examples profiled here, focus on the efficiency aspect of initiatives, some efforts do not fit neatly into an “efficiency” category. For example, efficiencies can be achieved as an indirect effect of integration, that first and foremost, aims to improve direct patient care.

1. Business Office Transformation (BOT) Project

The Toronto East Network²⁵ (TEN) and the Toronto Academic Health Science Network²⁶ (TAHSN), together with St. Joseph’s Health Centre, Toronto, have partnered in a project²⁷ with the following objectives:

- To achieve best practices in a number of administrative areas;
- To make affordable the investment in technology required; and
- To achieve efficiencies and savings in administrative costs.

²⁴ Information was gathered from a number of sources including public websites, hospital communications media, hospital reports and studies, and OHA documents.

²⁵ The TEN hospitals are: Lakeridge Healthcare; Markham Stouffville Hospital; North York General Hospital; Rouge Valley Health System; The Scarborough Hospital; Sunnybrook and Women’s College HSC; St. Michael’s Hospital; Toronto East General Hospital; York Central Hospital; and Southlake Regional Health Centre.

²⁶ TAHSN is a network of academic health organizations, providing research, teaching and clinical care. TAHSN membership is comprised of the University of Toronto and nine teaching hospitals: University Health Network; Centre for Addiction and Mental Health; The Hospital for Sick Children; Baycrest Centre for Geriatric Care; Bloorview MacMillan Children’s Centre; St. Michael’s Hospital; Mount Sinai Hospital; Toronto Rehabilitation Institute; and Sunnybrook and Women’s College Health Sciences Centre. TAHSN was formerly named TAHSC (Toronto Academic Health Science Council).

²⁷ For further information on this project, visit their website at: www.botproject.on.ca

The project is examining three separate streams of activity as follows:

1. Financial (General Ledger accounting, Financial Reporting, Fixed Assets, Billing and Accounts Receivable);
2. Payroll and Human Resources; and
3. Supply Chain (Purchasing, accounts payable and logistics).

This project, involving 18 hospitals, is the largest of its kind in the province. Significant investments have already been made in conducting a preliminary feasibility study of the opportunities and in doing the initial planning. Annual savings from the combined group of hospitals for the above processes are currently estimated to be between \$11.5 million and \$14 million. Estimated savings from improved pricing resulting from group buying are a further \$7.5 million to \$12.5 million.

In addition to the efficiency savings are the improved and standardized service levels across the 18 hospitals that will provide better and more timely information for decision-making and also create a better working environment for administrative staff. There has been under-investment in these administrative areas for a significant period of time.

The 18 hospitals are now preparing to launch the next implementation stage of the project which will involve setting up of a new non-profit organization to carry on the project, issue one or more Requests for Proposal for technology and/or services and to begin the transition to the new environment. This next stage is expected to take approximately 18 months.

2. Selected TAHSN Efficiency Initiatives

In addition to the Business Office Transformation project, TAHSN has begun work on a number of other collaborative projects. These projects, described below, may involve other partner organizations as they progress.²⁸

TAHSN Laboratory Service Collaboration Project

TAHSN CEOs have approved a proposal to create a consortium that will link three laboratory service delivery hubs: a downtown group, a north-east group and a Hospital for Sick Children (HSC) hub. The operational model features academic laboratories located in each hub, servicing local hospitals in the two geographic regions for adult populations, as well as servicing a pediatric population at the HSC hub. Hospitals in each group will have a business arrangement to purchase services from the academic laboratories to meet the needs of individual hospitals. This major project represents a re-design of Toronto laboratory services and will achieve economies of scale and standardization and enhance the platforms for research and training. Planning for this project is well underway.

²⁸ See <http://www.tahsc.ca>

IT Collaboration

TAHSN has established an IT Committee that is developing a plan to enable sharing of IT services and resources. The benefits of shared service delivery include common systems and support, consistent standards and controls, economies of scale and scope. Hospital participation is voluntary due to the varying individual benefits to be derived. Given the collaborative efforts already underway in the GTA, and the need to achieve a level of data sharing across provider catchment areas, the group is open to including other non-TAHSN partners on an initiative-specific basis.

Direct Patient Care Areas

TAHSN hospitals are developing joint plans to collaborate in the following areas:

- Child Development
- Orthopaedics
- Cataract Surgery
- Emergency Acute Mental Health & Addiction Services
- Neurosurgical Services
- Vascular Surgery Services

3. Supply Chain and Materials Management Initiatives

OntarioBuys

*OntarioBuys*²⁹ is a broader public sector initiative, financed by government involving colleges, universities, school boards and hospitals to facilitate and accelerate widespread implementation of integrated Supply Chain Management (iSCM) practices, leading to significant cost savings and process improvements. With \$20 million in targeted funding for 2004/05, *OntarioBuys* enables investment in areas where the people, equipment and information systems needed to improve the supply chain, are lacking. As an innovative new venture, *OntarioBuys* will build on the efforts hospitals have already made in areas such as: purchasing, contract management, logistics, equipment procurement; and standardized business practices.

Group Purchasing Organizations

For decades, hospitals have benefited from group purchasing practices. In the 1970's OHA created the Hospital Purchasing Program (HPP). In 1996, HPP merged with The Greater Toronto Purchasing Association to become *HealthPro*³⁰, a national organization that currently makes bulk purchases of more than half a billion dollars a year for hospitals. Hospitals also benefit from group purchasing power and ownership of *MedBuy*³¹, the largest national group purchasing organization in Canada.

²⁹ See www.OntarioBuys.com.

³⁰ See www.healthpro-ont.com.

³¹ See www.medbuy.com.

Selected Hospital Initiatives ³²

- **Healthcare Materials Management Services (HMMS)** was created in 1997 as a joint venture between London Health Sciences Centre and St. Joseph's Health Care, London to integrate and consolidate the functions of receiving and inventory management, purchasing and accounts payable. A significant model project, HMMS now provides services to many other health care organizations in Southwestern Ontario.
- **Shared Services West (SSW)** is a partnership between Credit Valley Hospital, Halton Healthcare Services, Trillium Health Centre and William Osler Health Centre. Its materials management mandate is to leverage coordinated logistics, purchasing, contracts management and equipment procurement across eight sites. The group uses state of the art just-in-time inventory management including bar coding, offsite warehousing and product standardization.

As well, a food services model, being designed for the new William Osler site, will have capacity to service other members of Shared Services West. In its first three years a conservative savings estimate totals \$12 million with \$5 million expected in 2004/05. Trillium Health Centre is also considering options to integrate non-core business office services as it redevelops its IT strategy. SSW has also collaborated in these areas: non-urgent patient transportation; the use of agency nurses in hospitals; administration of payroll and benefits services; and a joint privacy program.

- **Queensway-Carleton Hospital (QCH) and Kemptville District Hospital** have an agreement whereby QCH manages the purchase of medical and surgical supplies for both hospitals. The program leverages financial and human resources at both hospitals and standardizes business practices. Improved purchasing power, re-negotiated contracts, volume discounts and reduced staffing have lead to savings. QCH has commenced a similar integration strategy with Carleton Place and District Hospital.
- **Hamilton Health Sciences (HHS) owns and operates *Regional Logistics***, a comprehensive 35,000 square foot warehouse and just-in-time replenishment service. Located in Oakville, the warehouse is staffed and managed by Logihedron, a third party logistics provider. St. Michaels Hospital and West Lincoln Memorial Hospitals are customers. Supply chain costs have declined significantly with this new system. HHS also provides purchasing and contract management services to Joseph Brant Hospital, Groves Memorial Hospital, St. Joseph's Healthcare, St. Peters Hospital and West Lincoln Hospital. These services include: RFP development, group purchasing, product standardization and contract negotiations.
- **The SJHS Group Purchasing Organization** is a Brantford-based regional food and capital purchasing organization run by the St. Josephs Health System. Its "capital" membership is national in scope with over 170 members. Its food group is anchored with the volumes from Hamilton Health Sciences and St. Joseph's Healthcare, Hamilton and represents an excellent cooperative effort for the 24 Ontario members.

³² These are in addition to the Business Office Transformation project described above.

4. eHealth: an Efficiency Enabler

Ontario Hospital eHealth Council

The term “eHealth” is not a defined *program* or an initiative per se. Rather, eHealth *solutions* are initiatives that are implemented to enable the efficient delivery of projects that support, timely, and safe delivery of care.

The Ontario Hospital eHealth Council was established to provide hospital industry leadership in the identification and articulation of eHealth solutions, and to support the implementation of eHealth solutions, which can improve health outcomes and the management and delivery of care across the entire health system. Through the active participation of its hospitals, other providers, private sector, and government representatives, the Hospital eHealth Council serves as a sponsor and facilitator for research, advocacy and information sharing as well for results-based, strategic, health system-level projects.

Hospitals and other health care providers have already begun implementing eHealth solutions such as Picture Archiving and Communication Systems (PACS), Enterprise Master Patient Index (EMPI), electronic health record (eHR) or Telehealth. Shared laboratory systems as referred to below are another example of eHealth solutions.

PACS Initiatives

Picture Archiving and Communication System (PACS) technology uses digital imaging, rather than film, to view, store and transmit patient diagnostic images such as MRI and CT scans, and X-rays. Images can be viewed on a computer screen, eliminating the need to physically transport images from provider to provider. The technology: reduces costs; enables better management of scarce human resources, particularly of radiologists and technicians and greatly improves access for patients. Two of the three PACS examples described below, are in Ontario’s northern regions, greatly improving access for northern residents.

- **NORad** is a ten-hospital partnership in Northeastern Ontario, which has implemented a single database using PACS. The system has improved access to care for patients living in rural and remote communities by allowing access to a radiologist 24 hours a day, every day. The NORad network plans to expand to 17 hospitals through 2005 to include the areas of Sudbury, Timmins, North Bay & District and Sault Area & District.
- **The Northwest teleradiology** system’s hub is located at Thunder Bay Regional Health Sciences Centre. The system links all the regional hospitals in Ontario’s Northwest with a centralized PACS and allows images to be viewed electronically from anywhere in the region and from any other partners on the North Network System.
- **The Digital Imaging Network Project** is one initiative of the eight-hospital Thames Valley Hospital Partnership³³. Planning is now underway for this shared imaging project to extend to the 38 sites of the 22 Southwestern Ontario hospital corporations. Once completed, this project will be one of the world’s largest shared diagnostic imaging implementations.

³³ The partnership includes: Alexandra Hospital; Four Counties Health Services; London Health Sciences Centre; St. Joseph’s Health Care, London; St. Thomas-Elgin General Hospital; Strathroy-Middlesex General Hospital; Tillsonburg District Memorial Hospital; and Woodstock General Hospital.

Regional Electronic Health Record Projects

- **The electronic Child Health Network (eCHN)** is Canada's first functioning, integrated and shared electronic health record (eHR). Launched by the Hospital for Sick Children in 1999, eCHN was designed for children from birth to age 18. The goal of eCHN is to ensure that a paediatric patient's integrated chart is available to healthcare providers wherever the patient may be – in hospitals, clinics, doctors' offices, and chronic or rehabilitation sites. As well, eCHN strives to create an eHR that will integrate data from many different information systems, at many different locations, into a single, integrated, shared view. Having an electronic health record with eCHN means reduced repeat tests for children, improved patient outcomes and lower costs. It is also a model for future electronic health records for adults. The MOHLTC has been a major supporter of eCHN, with an investment to date of \$21 million.
- **The North Eastern Ontario Network (NEON)**³⁴ began when its members, from Northeastern Ontario, collaborated to address the challenge of "Y2K". The group later expanded to include a shared information system that would provide clinicians and staff with an electronic patient record showing relevant patient data from all NEON sites, leading to better patient care, less duplication of diagnostic testing and faster access to clinical information. The benefits shared by NEON partners include access to an integrated patient record, internet access for network users, increased purchasing power, hospital-wide fax solution, central vendor negotiation, "state of the art" data centre, shared Helpdesk services, and healthcard validation.
- **The Niagara Health System (NHS), together with Hotel Dieu Health Sciences Hospital** provide an example of a developing regional eHR. The hospitals are developing a Regional Master Patient Index and a Regional Provider Registry to cover all Niagara region physicians. Also being developed is a software interface to enable physicians to access their patients' discharge summaries. Applications shared by all partners include financial, personnel, payroll and accounting software, as well as clinical, registration, scheduling, diagnostic, ordering, reporting and secure remote access.

Enterprise Master Patient Index

An Enterprise Master Patient Index (EMPI) is a registry of demographic information used to identify individual patients. Using a shared EMPI streamlines the process of registering patients, and tracking patient movement across a clinic, hospital, region, or province. An EMPI allows for the unique identification of individual patients, and is foundational to the evolution of an electronic health record.

- **The Capital Health Alliance**³⁵ is implementing the Oacis Clinical Data Repository, currently used by The Ottawa Hospital, as the platform for the Eastern Ontario Electronic Health Record. In pursuit of this strategy, "view-only" access of the Ottawa Hospital electronic health record has been implemented at ten additional health care organizations

³⁴ NEON partners are: Chapleau Health Services, Englehart and District Hospital, Kirkland and District Hospital, Northeast Mental Health Centre, Smooth Rock Falls Hospital, Sudbury Regional Hospital, Temiskaming Hospital, and Timmins and District Hospital

³⁵ The Capital Health Alliance includes hospitals and other provider organizations in Ottawa and surrounding area.

across the Eastern Ontario region. The goal for this project is to extend the view-only access to the next logical project plateau and build an electronic registry of the information included for patients across the spectrum of different institutions. This EMPI linkage will then allow for the building of a repository containing access to all of the relevant patient information across organizations – the eventual Regional eHR.

Telemedicine Networks

Telehealth can be defined as

“... the use of information and communication technology (ICT) to deliver health services, expertise and information over distance. It includes Internet or web-based ehealth and video-based applications, and can be delivered real-time (live) or through store-and-forward (record now, view later) mode.”³⁶

Telehealth supports innovations in health, as well as in healthcare delivery, health education, and distribution of health-related information such as medical records. Telehealth can change the way we think about health and deliver healthcare around the world.

- **Care Connect** is a telemedicine program linking 27 partners at 39 sites. Members include hospitals and other health care institutions and agencies in Southeastern and Eastern Ontario.
- **VideoCare**, serving Southwestern Ontario has introduced a fifty-seven-site videoconferencing network, located in the hospitals of Southwestern Ontario. This network is designed to extend both existing and proposed medical services across the entire region through video consultation
- **North Network** is a consortium of over 70 organizations from both the public and private sector. It has expanded to over 80 telemedicine sites in Northeastern and Central Ontario, with referral centres in Toronto, Timmins, Sudbury and Thunder Bay Ontario. Participants include hospitals, education organizations, private industry, provincial and federal governments and First Nations Communities.

5. Energy and Utilities Management Initiatives

Hospitals have made big strides in energy efficiency through retrofit projects and awareness programs. This has been spurred in part through the OHA Efficiency and Alternative Energy Saving Program, which is a joint effort of OHA, Natural Resources Canada's (NRC) Office of Energy Efficiency (OEE), and the Canadian College of Health Services Executives (CCHSE). Its purpose is to assist hospitals with implementing energy saving solutions. Through this program and other OEE programs, hospitals have accessed a range of services, tools and

³⁶ Ontario Hospital eHealth Council, 2004.

financial incentives to reduce energy use, diverting more monies towards patient care. The environment also benefits from fewer greenhouse gas emissions. The following examples demonstrate some of the projects hospitals have launched.

- **The Ottawa Hospital**, with financial help provided by an NRC program, will invest \$17 million in infrastructure to achieve \$2.7 million in annual savings--on a \$14 million utility budget. Natural gas use will drop 40%, electricity by 18%, steam by 23% and water by 5%.
- **Montfort Hospital in Ottawa** saved \$3,500 per year through small retrofit projects including new lighting and controls, steam traps, water saving toilets and showerheads.
- **Royal Ottawa Healthcare Group** implemented a \$1.8 million energy retrofit project saving \$300,000 annually. Using an energy performance contract, the contractor provided capital funding that was repaid out of the hospital's annual savings.
- **Queensway-Carleton Hospital (QCH)** has formed a strategic alliance with Johnson Controls Inc. to introduce several energy performance improvements. The \$6 million project includes a new cogeneration unit. The savings projected from this MOHLTC "approved own funds project" suggest a return on investment of less than seven years.
- **Kingston General Hospital** identified \$200,000 in annual energy savings for a capital investment of \$1 million. One project forecasts \$95,000 in savings and a reduction in greenhouse gas emissions of 500 tonnes annually.
- **Pembroke General Hospital** reduced natural gas use by 56% following a power plant retrofit. Annual savings are \$470,000.
- **Headwaters Health Care Centre** will upgrade building controls to save \$150,000 annually. The hospital also received a \$16,000 rebate for reduced natural gas use over the past year.
- **University Health Network** achieved widespread savings from improved energy use since 1997, to enable repayment of a bond issue that raised over \$280 million. The bond money raised was used to refurbish facilities and construct new ones.
- **Hamilton Health Sciences** launched a cogeneration project to use natural gas to produce electricity and to use waste heat for heating and cooling. The project is owned and financed by the Bay Area Health Trust (a commercial business Trust that seeks business opportunities outside of core hospital business – Trust earnings are returned to the hospital.)
- **London Health Sciences Centre and St. Joseph's Health Care** earned a 2004 National CCHSE/OEE Energy Management award for energy use reduction and energy efficiency awareness campaign. Since the 1970's the two hospitals achieved an annual combined savings of \$1.6 million, which is predicted to increase to \$2.1 million by the spring of 2005.

6. Laboratory Initiatives

Many hospitals have streamlined or consolidated laboratory services over the years. A province-wide lab reform initiative, discussed in the body of this report, aims to implement regional plans, to achieve greater benefits than can be obtained on a more local basis. There are different states of implementation readiness across the lab planning regions. The example from Eastern Ontario describes a regional lab reform initiative that has recently advanced while the Hamilton example demonstrates an integrated approach that exists in Hamilton hospitals. A Toronto initiative, **the TAHSN Laboratory Service Collaboration Project** is described above in section two.

Eastern Ontario Regional Lab Association (EORLA)

The Eastern Ontario Regional Lab Association (EORLA) is a voluntary, integrated hospital-based regional laboratory system comprised of 16 hospitals representing 19 laboratories. A shared service governance structure was approved in 2003 and a voluntary governance management structure was formally adopted. The hospitals' laboratory funding envelopes will be redirected to the new corporation in 2005/06.

Lab reform activities have included: consolidation; standardization of equipment across all hospitals; standardized testing protocols; and development of a lab information system architecture. Outcomes include savings achieved through group purchasing and the completion of a \$5.5 million capital equipment initiative that standardized major instrumentation platforms. To date, overall savings have been realized in the range of \$2 million for the region and an anticipated final savings target of 6% on \$55 million.

The Hamilton Regional Laboratory Medicine Program

Hamilton Regional Laboratory Medicine Program began in 1972 as a collective approach to the provision of laboratory services in Hamilton. The program, comprising all the Hamilton hospitals and the Faculty of Health Sciences at McMaster University: coordinates and provides laboratory medical education; services local physicians, hospitals and community laboratories; and provides regional access to more complex "reference" testing facilities.

The creation of appropriate laboratory space, the installation of a single Laboratory Information System, the centralization of specialized tests, resolution of human resource issues to provide the flexibility for such an integrated program, are current challenges. The Program participates actively in exploring opportunities to further collaborate and integrate the academic, community hospital and private laboratory services.

The budget for the participating hospital labs is administered globally with no inter-hospital billing for tests. Annually, over seven million tests are conducted across 13 locations. With over 650 staff and over 60 physicians and scientists, this is one of the largest joint efforts of its kind in Canadian hospitals.

7. Hospital Integration and Planning Partnerships

Many hospitals have established formal alliances in order to streamline planning and operations. Going well beyond the notion of sharing services and consolidating programs, however, hospitals are increasingly taking an integrated, systemic approach to enhancing patient care and becoming more efficient. While integration activities are occurring all over the province, the case of Southwestern Ontario is one example demonstrating how hospitals and others team up in many ways, to the overall benefit of the system.³⁷

The Southwestern Ontario Example

An extensive network of hospitals, other health care organizations and planning bodies exists in Southwestern Ontario. The most prominent network in the area is the ***Integrated Strategic Alliances and Networks (ISAN)***, created by London Health Sciences Centre (LHSC) and St. Joseph's Health Care (SJHC), London. ISAN facilitates the integration of healthcare systems in Southwestern Ontario, together with many partners including hospitals and other providers, from Windsor to Woodstock and north to Tobermory. ISAN is involved in several initiatives including³⁸:

- Southwest Ontario Digital Imaging Network Project
- Regional Partnerships
- Continuity of Care
- The Regional Patient Transfer Project
- Regional Perinatal Services
- Regional Stroke Strategy
- Southwestern Ontario Emergency Services Network (SESN)
- VideoCare, Southwestern Ontario Telehealth Network (SWOT-N)

As well, ***The Regional Health Planning Partnership (RHPP)***, which is a collaborative health system planning group in Southwestern Ontario including District Health Councils, the MOHLTC Regional Office, and ISAN, meets regularly to coordinate regional health planning initiatives to support regional priority setting and decision making.

Other organizations that formally participate in ISAN projects, have also launched separate initiatives. Some examples are described below.

³⁷ Information on Southwestern Ontario is documented in a 2004 report "Regional Integration in Southwestern Ontario: A profile of Regional and District Integration Initiatives and Networks" by Steve Elson of ISAN.

³⁸ See www.lhsc.on.ca/isan.

- **The Thames Valley Hospital Planning Partnership** which is an eight-hospital voluntary effort is working to integrate many services including: clinical care; diagnostic imaging; laboratory services; and capital planning.
- **London hospitals have integrated materials management services** (described above in section three), human resources, laboratory services and share leadership positions to ensure common planning objectives and outcomes. Windsor hospitals' integrated services include laboratory and MRI. Windsor hospitals also share an Integrated Chief Financial Officer and an Integrated VP of Clinical & Diagnostic Services, as well as a Joint Medical Advisory Committee.
- **An integrated medical laboratory exists in the three Essex County hospitals** (Windsor Regional Hospital, Hotel Dieu Grace Hospital and Leamington District Memorial Hospital) with one lab director, a single information system and standardized equipment. The three hospitals are working on further integration with information services, pharmacy, PACS and business office initiatives.
- **Fully integrated or merged hospital systems exist in Chatham-Kent and Sarnia-Lambton.** Many other networks exist to improve services or collaborate in the planning and coordination in the areas such as mental health, cardiac care, geriatric care, community care and medical education.