

Rouge Valley Health System and The Scarborough Hospital Facilitated Integration Process

Due Diligence Workbook: Laboratory Services (DRAFT)

A Facilitated Process of the Central East LHIN

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1. Current State Assessment & Leading Practice Review

1.1. Overview of Services/Programs

Use the following table to document the high-level profile of the services/programs within the area of focus, including key quality and performance metrics.

<p>Location of Service/Program</p> <p><i>Where are the services/ programs delivered? At both hospitals? At specific sites?</i></p>	<p>Rouge Valley Health System (RVHS)</p> <ul style="list-style-type: none"> • two full service core labs at Rouge Valley Health Center – Centenary (RVHS-C) & Rouge Valley Health Center – Ajax (RVHS-A) • Phlebotomy at both sites • Limited microbiology – blood culture only at Ajax site (incubation) • Cytology at RVHS-C only • Platelet distribution hub for the Central East Local Health Integration Network (CE LHIN) • Antibody investigation all done at Ajax site • External lab service provider for esoterics and micro and immunohistochemistry • One at each site – two full histology labs • Done at an outside facility – renal biopsy; muscle biopsy • Point of care program at both sites – more widespread at Centenary
	<p>The Scarborough Hospital (TSH)</p> <ul style="list-style-type: none"> • Two Full service core labs • Phlebotomy at both campuses • Histology consolidated at Birchmount and cytology; immunohistochemistry • Microbiology – shared Hospital Lab except Blood culture testing and rapid testing done on site. • Consolidation of low volume tests • Antibody investigation at General • Hepatitis testing at Birchmount • Hematology – bone marrow at General • Hemoglobin electrophoresis at General

	<ul style="list-style-type: none"> • Protein electrophoresis chemistry at General • Electrocardiogram (ECG) services for both campuses • Point of care
<p>Volume of Activity</p> <p><i>What is the current volume of activity? (e.g. service levels, patient volume) Are there important trends? (e.g. growth, decline)</i></p>	<p>RVHS</p> <ul style="list-style-type: none"> • 4.6 million procedures
	<p>TSH</p> <ul style="list-style-type: none"> • 4.2 million procedures
<p>Mode of Delivery</p> <p><i>How are the services/programs delivered? (e.g. inpatient, ambulatory)</i></p>	<p>RVHS</p> <ul style="list-style-type: none"> • Support clinics, preadmission clinics, inpatients • Contracts with external lab providers; esoteric, microbiology • Phlebotomy – except in Emergency Department (ED) and Critical Care at RVHS-C and ED at RVHC-A • Point of care testing (POCT) • Transfusion safety officer (TSO)
	<p>TSH</p> <ul style="list-style-type: none"> • Support clinics / inpatient • Point of care testing • Phlebotomy – except in ED and Critical Care Center (CCC) (evenings/nights) • Ontario Nurse Transfusion Coordinators Provincial Blood Conservation Program (OnTrac Nurse)
<p>Innovations Planned and/or Underway</p> <p><i>What changes are planned or in-progress to improve the service/program?(e.g. new model of care, investment in new technology)</i></p>	<p>RVHS</p> <ul style="list-style-type: none"> • In histology – slide and cassette printers • Pathology Laboratory Information System (LIS) • Document control program • New hematology equipment

	<ul style="list-style-type: none"> • Connecting Greater Toronto Area (cGTA), Ontario Laboratory Information System (OLIS) • Microbiology interface
<p>Key Metrics</p> <p><i>Identify and describe the key metrics that capture the quality and performance of the services/programs.</i></p>	<p>TSH</p> <ul style="list-style-type: none"> • Lab automation at General • Chemistry/Hematology/Immunoassay and Coagulation at both sites <ul style="list-style-type: none"> • Ontario Lab Accreditation (OLA) • Quality Management Program – Laboratory Services (QMPLS) – quality measurements • Turnaround times • Financial Accountability – balanced budget (sick & overtime) • Blood product wastage • Cancer Care Ontario (CCO) reporting guidelines • Rejected specimens / mislabelling
<p>Other Information</p> <p><i>Provide additional service/program information (if required)</i></p>	<p>Unique Staffing</p> <ul style="list-style-type: none"> • LIS coordinator – RVHS • Point of Care coordinator – RVHS • Business Manager – RVHS • TSO functions - RVHS • Quality Manager – TSH • OnTrac Nurse – TSH (Ministry funded) <p>Medical Staff/Physician Expertise - Unique</p> <ul style="list-style-type: none"> • Clinical (PhD) Microbiologist – TSH/Shared Lab • Clinical Biochemist – TSH <p>Other</p> <ul style="list-style-type: none"> • RVHS Pathology response time to operating room specimens/quick sections is perceived as a problem

1.2. Patient Profile

Use the following table to document the high-level patient profile related to the services/programs.

<p>Patient Value Statement</p> <p><i>Identify the purpose of the service/program area and the value-added benefit that it offers from the perspective of the patient.</i></p>	<ul style="list-style-type: none"> To provide the best patient care experience by providing accurate, timely information to improve outcomes through excellent service.
<p>Patient Characteristics</p> <p><i>Describe the key patient characteristics; consider factors such as demographics, geography, complexity, etc.</i></p>	<ul style="list-style-type: none"> Lab services are provided to the same patient population as the broader hospital services Differences/specialized/regional services e.g., Cardiology at RVHS and Nephrology at TSH; paediatric oncology at RVHS
<p>Population Need</p> <p><i>Describe the key factors driving population need; consider factors such as social determinants of health, incidence/prevalence rates, demand (e.g. wait lists, people travelling outside CE LHIN for service/program), etc.</i></p>	<ul style="list-style-type: none"> New immigrant and refugee population - haven't had the same access to primary care potentially resulting in more testing to determine health status Scarborough's population distribution is younger than northern Central East LHIN areas, but not as young as higher growth Durham areas Scarborough demographics include a large South East Asian population which has a propensity to be diabetic

1.3. SWOT Analysis

This section should summarize the SWOT analysis using the following table. For each Strength, Weakness, Opportunity and Threat identified, indicate the organization(s) to which it applies by placing an X in the appropriate box.

	RVHS	TSH
<u>Strengths</u>		
• Strong personnel / clinicians and administrative	X	X
• Ontario Lab Accreditation (OLA) / Cancer Care Ontario (CCO) – High Quality	X	X
• Equipment Refresh – new capital equipment	X	X
• Full Core Lab Services across all four sites	X	X
• Experience in external partnerships	X	X
• Experience in creating internal efficiencies	X	X
• Referral Centre (revenue generation)		X
• Bar Coding System for histology positive patient identification (PPID)		X
• Quality Improvement driven perspective	X	X
• POCT and Transfusion expertise (TSO)	X	
• Pathology TAT on colonoscopy specimens leads the LHIN at 100% within benchmark	X	
• Institution's Commitment to Education	X	X
<u>Weaknesses</u>		
• Health Human Resources Shortages	X	
• No dedicated POCT and LIS		X
• Shortage of LIS support	X	X
• Lack of expertise in biochemistry	X	

	RVHS	TSH
<ul style="list-style-type: none"> Reliance on Public Health Ontario (turnaround time during outbreaks e.g. influenza) 	X	X
<ul style="list-style-type: none"> Lack of positive Patient Identification (ID) at bedside – patient safety 	X	X
<ul style="list-style-type: none"> No computerized physician order entry system (CPOE) which limits ability to control ordering practices 	X	X
<ul style="list-style-type: none"> Insufficient space (General Campus) 		X
<ul style="list-style-type: none"> Insufficient space (cytology) 	X	
<u>Opportunities</u>		
<ul style="list-style-type: none"> Repatriation/relocation of some tests – shared services 	X	X
<ul style="list-style-type: none"> Shared clinical expertise 	X	X
<ul style="list-style-type: none"> Testing capacity 	X	X
<ul style="list-style-type: none"> Improved understanding of Lab service contribution to case costing – implement best practice and increase/monitor funding (e.g., Ontario Renal Network (ORN) & Oncology) 	X	X
<ul style="list-style-type: none"> Opportunity to compare methods, tests, policies, procedures to align with evidence based best practice 	X	X
<u>Threats</u>		
<ul style="list-style-type: none"> Increase in volumes despite decreases in funding 	X	X
<ul style="list-style-type: none"> Continued increased costs of new tests 	X	X
<ul style="list-style-type: none"> Loss of personnel and expertise 	X	X
<ul style="list-style-type: none"> Legal risk / patient safety challenges (patient ID systems bed side) 	X	X
<ul style="list-style-type: none"> Cost of integration 	X	X
<ul style="list-style-type: none"> Insufficient space for potential merger 		X
<ul style="list-style-type: none"> Lack of systems to monitor over-utilization 	X	X
<ul style="list-style-type: none"> Collective Bargaining Agreements (CBA) limit flexibility in staff reallocation 	X	X

1.4. Environmental Scan

This section should contain a summary of key external factors (i.e. influences/trends) that should be considered in the due diligence process. At minimum, Working Groups should consider using a PESTLE framework for identifying external factors – **P**olitical, **E**conomical, **S**ocial, **T**echnological, **L**egal, **E**nvironmental. Note: Complete only for the sections of the framework that are relevant to your Working Group area of focus. For each of the sections that are relevant, focus on the key 2-3 external factors that are most important to consider.

<p><u>Political</u></p> <p><i>Factors that include provincial strategies and/or programs, LHIN priorities/directions and other government trends</i></p>	<ul style="list-style-type: none"> • Cancer Care Ontario (CCO) / College of Physicians and Surgeons of Ontario Quality Management Partnership – seeks to regulate and potentially narrow the ability of pathologist to work in various sub-specialties • Teaching hospitals are lobbying Royal College to discontinue training in general pathology • CCO – wait time initiatives to define minimum and maximum volumes e.g. colorectal/Ontario Breast Screening Program (OBSP) • Ontario Action Plan for Health Care initiatives will move services to community providers
<p><u>Economical</u></p> <p><i>Factors that include fiscal realities, funding models and other economic trends</i></p>	<ul style="list-style-type: none"> • Lab Medicine Funding Formula Agreement (LMFFA); salary subsidization for pathologists • Changes in funding formula – Health System Funding Reform/Quality Based Procedures/Health Based Allocation Model – as volumes move, funding changes • Increasing volumes in clinic activities for which funding is not provided
<p><u>Social</u></p> <p><i>Factors that include demographics, socio-cultural trends, social determinants of health and other social/community trends</i></p>	<ul style="list-style-type: none"> • Increased high profile patient safety errors result in increased negative media coverage • Increased demand on quality initiatives, resulting in staffing and technology expertise without funding • Uncommon disease presentations due to unique demographics of local population • Increase in patient advocacy and patient driven care; patient expectations

<p><u>Technological</u></p> <p><i>Factors that include information management and information technology trends, globalization, innovations in patient care and other technical trends</i></p>	<ul style="list-style-type: none"> • Advances in diagnostics / testing driving costs • Technology advances present learning curve for mature health care professionals • Improving efficacy of automated testing • On site rapid testing – molecular • eHealth – slow implementation of initiatives / low return on investment
<p><u>Legal</u></p> <p><i>Factors that include relevant legislation and other legal trends</i></p>	<ul style="list-style-type: none"> • Hospital Services Accountability Agreement (H-SAA) requirement to balance
<p><u>Environmental</u></p> <p><i>Factors that include attitudes towards “green” or ecological products/resources, corporate social responsibility trends and other environmental trends</i></p>	<ul style="list-style-type: none"> • Greener initiatives in purchasing initiatives to reduce waste • Regulations regarding disposal of waste – environmentally responsible • Paperless e.g., Reporting

1.5. Leading Practices

This section should contain a summary of leading practices, as relevant to the area of focus. Note: KPMG support will be provided for the leading practice review.

Appendix: Leading Practice Summary (KPMG)

The purpose of this section is to highlight and identify high-level leading practices themes for the purpose of assisting in the due diligence review. The themes that have been identified in this document are from several sources and are meant to provide Working Group members with a broad view of the themes related to leading practices for **Laboratory Services**. These sources include KPMG's own experience, global thought leadership and external sources (where identified).

The below tables summarizes leading practices themes for Laboratory Services.

Leading Practice Themes	
<p>Increased use of Digital Pathology or Telepathology Services</p>	<ul style="list-style-type: none"> Recent literature points to the wider adoption of using digital pathology for routine diagnoses, in addition to its use in education and research. The use of digital pathology for primary diagnoses on a routine clinical basis is limited to a few experiences, particularly in European countries. Whole Slide Imaging (WSI) technology provides pathologists with high resolution digital images that can be viewed over a full range of magnification as per light microscope. As long as good quality histologic sections are placed on slide scanners, diagnostic quality images can be expected. The main advantages of WSI technology includes the ability to work anywhere, anytime; enhanced access to expert opinions from specialists, and the ability to collect multiple opinions, and obtain better measurements.¹ One of the goals of telepathology is to enhance services for underserved remote sites regardless of whether they are located in urban or rural locations. Clinical and economic benefits exists for hospitals who scale their telepathology services to include remote or multiple facilities; while there continue to be benefits for smaller scale scenarios whereby a hospital utilized frozen section wet reads from the OR for example.² The Department of Pathology and Arizona Telemedicine Program at the University of Arizona is a leader in the telepathology research field. A recent study published by the University discusses the advances in telepathology technology and notes that Whole Slide Imaging Technology coupled with dynamic robotic telepathology has been emerging as the preferred digital imaging system. The study notes that the commercialization of these systems may encourage more pathologists to incorporate them into their labs. In addition, the technology provided by the WSI-enhanced dynamic robotic technology may assist in providing

¹ Canadian Licensure for the Use of Digital Pathology for Routine Diagnoses

² KPMG Global Centre of Excellence

Leading Practice Themes	
	<p>pathology services to the world's underserved areas; thus contributing to effective patient-centred healthcare delivery.³</p> <ul style="list-style-type: none"> • The Department of Pathology at Loyola University Medical Centre in Illinois performed a study on the use of Tablet PCs to remotely diagnose dermatology cases. A high resolution video camera mounted on a microscope was used to transmit digital video of a slide to an Apple iPad at the pathologist's remote location via live streaming. They found that 92.5% of cases were diagnosed on immediate viewing, with the average time to diagnosis at 40.2 seconds. Of the cases diagnosed immediately, 98.9% of the telediagnoses were concordant with the original. The study concluded that the use of TabletPCs as a novel and cost-efficient solution for those institutions that may not have the capital to purchase either a dynamic robotic system or a virtual slide system.⁴ • The Laval University Integrated Health Network (LUIHN) is experimenting with the use of telepathology for core diagnostic services in the absence of a local pathologist. This is perceived to be the only study of its kind in Canada, and aims to offer small hospitals in rural or sparsely populated areas with intraoperative frozen section service, and to evaluate the benefits associated with this practice. The over-arching goal of this study is to determine the benefits to be obtained by deploying a large telepathology system and help decision makers and authorities design systems with optimal workflow to take advantage of telepathology.⁵
Laboratory Information Systems Implementation of Built in Decision Support	<ul style="list-style-type: none"> • Implementation of a Laboratory Information System (LIS) enables health care providers to view lab test results, regardless of where the test was performed. • When a patient is tested at a clinic, hospital, or other facility, the LIS will enable laboratory technicians to enter the results into a database accessible to authorized healthcare providers. Test results are linked to individuals' electronic health records, providing additional resources for diagnosing and treating patients.⁶
Utilization Management⁷	<ul style="list-style-type: none"> • Utilization Management strategies ensure that laboratory testing is appropriate with the goal of providing high quality cost-effective patient care. Utilization Management is effective in delivering benefits to the patient whereby they receive better care, more timely diagnosis and fewer needle pricks. Benefits to the lab from implementing Utilization Management strategies include an improved ability to control costs and sustain cost savings. <p>Effective Utilization Management best practices at each stage in the</p>

³ Reconciliation of diverse telepathology system designs. Historic issues and implications for emerging markets and new applications, Weinstein et al. Dept of Pathology and Arizona Telemedicine program, University of Arizona, 2012

⁴ Mobile Teledermatopathology: Using a Tablet PC as a Novel and Cost-Efficient Method to Remotely Diagnose Dermatopathology Cases, Department of Pathology, Loyola University, 2013

⁵ The effects of a regional telepathology project: a study protocol, Trudel et al. BMC Health Services Research 2012

⁶ <https://www.infoway-inforoute.ca/index.php/programs-services/investment-programs/laboratory-information-systems>

⁷ KPMG Global Centre of Excellence

Leading Practice Themes

	<p>process:</p> <ul style="list-style-type: none"> • Pre-Analytic/ Test Ordering <ul style="list-style-type: none"> • Physician orders test from smart phone or computer • All background information about tests is readily available and Test ordering guidelines and algorithms are built into ordering process • Requisition forms are standardized and designed for ease of use • Testing & Result Reporting <ul style="list-style-type: none"> • Build in restricted access to certain expensive or esoteric tests whereby approval by pathologist is a requirement of the ordering process • Complete expensive follow up tests once results of initial testing are known • Test results reporting includes additional interpretive information and follow-up testing information • Post Analytic <ul style="list-style-type: none"> • Analyze test results to determine clinical efficacy of tests and usage patterns • Develop physician report cards describing their utilization of laboratory services and include the price of the tests • Identify problematic utilization patterns and deliver targeted education (i.e. Vitamin D testing)
<p>New Equipment Platforms and Methodologies that have made great improvements in microbiology</p>	<ul style="list-style-type: none"> • At a hospital in Texas, a study was performed to determine if mass spectrometry technology coupled with antimicrobial stewardship can provide a substantially improved alternative to conventional laboratory methods. The study used MALDI-TOF technology which is a new method for identifying gram-negative organisms within minutes. By testing specimens taken directly from positive blood cultures has been reported to decrease the time required for antimicrobial susceptibility testing results. Early diagnosis of bloodstream infections caused by gram-negative bacteria can improve patient care outcomes while decreasing health expenditures. By integrating the use of this technology with antimicrobial stewardship, the study resulted in a decrease in mean hospital length of stay, and mean hospital costs per patient.⁸ • KIESTRA lab automation BV has created an automatic system that covers the end to end microbiology process from inoculation to identification. The system is customizable and can be tailored to each lab's specific needs. Essentially, the sample automatically moves through the system from inoculation to the incubators and can be completed with a throughput rate of 400 inoculations per hour. An effective management system is also in place whereby a monitor dashboard allows supervisors to determine the

⁸ Integrating Rapid Pathogen Identification and Antimicrobial Stewardship Significantly Decreases Hospital Costs, Perez et al. Archives of Pathology & Laboratory Medicine, 2012

Leading Practice Themes	
	<p>number of digital reads that need to be completed per hour. Kiestra also recommends the use of an iPhone application to check on cultures remotely.⁹</p> <ul style="list-style-type: none"> DynaLIFE is a reference laboratory for the Alberta Health Services (AHS) providing public healthcare lab services to AHS' community based labs and four hospitals based rapid response labs in Edmonton. Their goal was to implement more automation into their laboratory processes, and they decided to deploy the VANTAGE solution which includes bar-coding and workflow technology and staining platforms across their five sites. Results from implementation were positive; in the first month of service they were able to absorb a 15% spike in volume without any disruption to their tight turnaround times. Additional improvements include an estimate of 5,000 hours saved per year by eliminating the need to match case items together to ensure case integrity, savings of 1,000 to 2,000 hours per year by eliminating for a four-way case verification process, and savings of 500 hours per year by eliminating the need for a manual master log sheet.¹⁰
Integrated Lab Services¹¹	<ul style="list-style-type: none"> Hamilton Health Sciences and St. Joseph's Healthcare have been operating the HRLMP Core Laboratories since 1996. The lab is a full-service reference and testing facility and provides advanced testing services to both hospitals, as well as to private physician practices and research clinics The HRLMP Core Laboratories began operation in 1996 to provide centralized laboratory services of the highest quality for the Hospitals in the Hamilton -Southwestern LHIN 4 region and affiliated Physicians.
Implementing Lean continuous improvement to eliminate waste, decrease defects, and improve practice efficiency¹²	<ul style="list-style-type: none"> A Laboratory department at a US hospital used Lean methodology and tools to redesign their molecular laboratory process. The team focused on the value added process around lab results while eliminating non-value-added waste involved in specimen handoffs between internal and external suppliers and customers. Results from Lean improvement included: <ul style="list-style-type: none"> Improvement in total molecular diagnostic time for a tissue-based molecular assay from an average of 2.7 days to an average of 1.5 days (45% improvement) Improvement in the total testing cycle time from an average of 64.8 hours to an average of 36.5 hours (43% improvement) As a result of these improvements, and the short turnaround time, pathologists are now able to rapidly integrate molecular diagnostic test results into case reports and thus ultimately serve the patients' needs.
Implementation of	<ul style="list-style-type: none"> Halton Health Services had a concerning rate of errors in their specimen

⁹ <http://www.medgadget.com/2011/11/kiestra-lab-automation-new-advanced-technologies-in-microbiology-diagnostics.html>

¹⁰ Case Study: Key Success Factors in Laboratory Automation: Lessons from a Canadian Health System, Ventana Medical Systems, 2012

¹¹ <http://www.hhsc.ca/body.cfm?id=391>

¹² The Henry Ford Production System: LEAN Process Redesign improves service in the molecular diagnostic laboratory, Journal of Molecular Diagnostics

Leading Practice Themes	
<p>Positive Patient Identification System¹³</p>	<p>collection, and decided to implement an electronic system using barcodes to ensure positive patient identification (PPID). The PPID system uses barcodes to connect the patient to the sample throughout collection, transportation, and reporting of patient tests; thus decreasing the possibility of errors in sampling.</p> <ul style="list-style-type: none"> • As a result of this implementation, the specimen identification error rate has decrease from 3-3.5 errors per 1000 patients to 0.02 -0.04 errors. Additional efficiencies such as reduced turnaround time and a decreased need to repeat procedures have also been reported. • Patient satisfaction has improved, and the culture in the lab has shifted to be more collaborative as a result of this initiative.
<p>Facilitating Patient Access to Electronic Health Records¹⁴</p>	<ul style="list-style-type: none"> • In British Columbia, patients who visit a participating lab for tests can register online to login and view their lab results online. Patients can then print and share the results of their tests with members of their healthcare team, and play a more active role in managing their own health. This system is offered by Excelleris and more than 350,000 British Columbians have subscribed to use this service. • Benefits for patients and providers include: <ul style="list-style-type: none"> • Accessing results as soon as they are released from the lab • Web portal access, and smartphone app capabilities • Available in four languages, leading to better patient comprehension • Facilitated communication between patients and their community of care • Improved patient outcomes due to greater patient involvement in healthcare management

¹³ <http://www.accreditation.ca/en/LeadingPractice.aspx?id=2231>

¹⁴ <http://www.excelleris.com/>

2. Opportunity Assessment

2.1. Overview of Opportunities

This section should provide an overview of the portfolio of potential opportunities identified by the Working Group. Opportunities should be numbered for ease of reference to Detailed Opportunity Assessment section.

Reference	Opportunity
1	Sharing of Clinical Expertise
2	Sharing of Service, Repatriation of Specialized Tests and/or Test Relocation
3	Health Human Resource Flexibility
4	Critical Mass for New Lab investments
5	Increased ability to influence investment

2.2. Opportunity Assessment

For each of the opportunities identified in Section 2.1, complete the table on the following page.

Facilitation Tip: Prior to assessing the potential opportunities, work together as a Working Group brainstorming the possibilities. Encourage Working Group members to consider different ideas and different types of integration scenarios (e.g. consolidation, outsourcing).

Opportunity 1: Sharing of Clinical Expertise

Overview:

Description	<ul style="list-style-type: none"> Shared use of existing clinicians across all campuses. For example, clinical biochemist, Point of Care Coordinator, Transfusion Safety Officer
Anticipated Alignment to Guiding Principles <i>Shade the relevant guiding principle(s)</i>	<ul style="list-style-type: none"> Collaboration Accessibility Sustainability Excellence

Potential Benefits and Risks:

Potential Benefits	
<i>Identify the most significant potential benefits. Where relevant, consider the following perspectives when identifying benefits: Patient, Community, Organization, Clinicians & Staff.</i>	
Patient	<ul style="list-style-type: none"> • Improve standardization of clinical practice <ul style="list-style-type: none"> ○ biochemist, point of care testing (POCT) and transfusion • Reduced wait for services for POCT • Introduction of new tests and clinical abilities <ul style="list-style-type: none"> ○ removal of obsolete tests
Community	<ul style="list-style-type: none"> •
Organization	<ul style="list-style-type: none"> • Reduced wait for services for POCT • Introduction of new tests and clinical abilities <ul style="list-style-type: none"> ○ removal of obsolete tests • Reduced Costs
Clinicians & Staff	<ul style="list-style-type: none"> • Improve standardization of clinical practice <ul style="list-style-type: none"> ○ biochemist, POCT and transfusion • Reduced wait for services (POCT) • Introduction of new tests and clinical abilities <ul style="list-style-type: none"> ○ removal of obsolete tests

Potential Risks	
<i>Identify the key risks that must be considered (e.g. high impact and high probability). For each risk identified, provide a proposed risk mitigation strategy.</i>	
Risk	Mitigation Strategy
<ul style="list-style-type: none"> • Burnout of Scarce Clinical Expertise 	<ul style="list-style-type: none"> • Use of IT to optimize 'presence' of clinical expert across sites
<ul style="list-style-type: none"> • Reduced Availability of Clinical Resource Experts 	<ul style="list-style-type: none"> • Deep assessment of current workload demands of clinical experts
<ul style="list-style-type: none"> • Succession Planning 	<ul style="list-style-type: none"> • Define Site Leads- developing local expertise by the senior experts
<ul style="list-style-type: none"> • Person covering service must be responsible for the service not just the coverage 	
<ul style="list-style-type: none"> • Expertise not shared equally across all four sites 	Sharing of services must be equal between the two hospitals and all four sites

Benefit Realization:

Estimated Timeline <i>Shade the estimated timeline (choose only one)</i>	<ul style="list-style-type: none"> • Short-term (up to 1 year) • Medium-term (1-2 years) • Long-term (3-5 years)
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Key Metrics to Measure Benefits	<ul style="list-style-type: none"> • Physician satisfaction • Staff satisfaction • OLA Compliance and Performance • Education Provided
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Feasibility Assessment:

Key Metrics to Estimate High-Level Financial Impact	
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Required Investments – Operating and Capital (if applicable) <i>Identify the key financial investments (e.g. one-time costs) required to realize the benefits.</i>	
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Analysis	
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Anticipated Financial Impact <i>Indicate the order or magnitude financial impact (stated in the \$100,000).</i> <i>Is this opportunity a financial investment or savings?</i>	
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Opportunity 2: Sharing of Service, Repatriation of Specialized Tests and/ or Test Relocation

Overview:

<p>Description</p>	<p><u>Relocation of Tests to the most appropriate location, including but not limited to:</u></p> <ul style="list-style-type: none"> • Insourcing tests that are currently outsourced due to lack of available technology within one organization but is available at another organization • Insourcing tests that are currently low volume at both organizations but together would create critical mass • Consolidation of testing to one site to improve turnaround time (TAT) and efficiency • Outsourcing highly specialized and low volume tests, where external service providers can provide higher quality, improved turnaround times and at a better price point
<p>Anticipated Alignment to Guiding Principles</p> <p><i>Shade the relevant guiding principle(s)</i></p>	<ul style="list-style-type: none"> • Collaboration • Accessibility • Sustainability • Excellence

Potential Benefits and Risks:

<p>Potential Benefits</p>	
<p><i>Identify the most significant potential benefits. Where relevant, consider the following perspectives when identifying benefits: Patient, Community, Organization, Clinicians & Staff.</i></p>	
<p>Patient</p>	<ul style="list-style-type: none"> • Faster results mean patients are diagnosed, treated more quickly
<p>Community</p>	
<p>Organization</p>	<ul style="list-style-type: none"> • Faster results will help with patient flow within the organization • Reduced costs associated with lower cost/test
<p>Clinicians & Staff</p>	<ul style="list-style-type: none"> • Faster results for informing patient results

<p>Potential Risks</p>	
<p><i>Identify the key risks that must be considered (e.g. high impact and high probability). For each risk identified, provide a proposed risk mitigation strategy.</i></p>	
<p>Risk</p>	<p>Mitigation Strategy</p>
<ul style="list-style-type: none"> • Contractual commitments to external service providers 	<ul style="list-style-type: none"> • Review contracts to understand current commitments – may have to be a gradual repatriation
<ul style="list-style-type: none"> • Switching costs including cost of scaling up; 	<ul style="list-style-type: none"> • Complete business case analysis

staffing and expertise, reagent, IT interface, construction	
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Benefit Realization:

Estimated Timeline <i>Shade the estimated timeline (choose only one)</i>	<ul style="list-style-type: none"> • Short-term (up to 1 year) • Medium-term (1-2 years) • Long-term (3-5 years)
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Key Metrics to Measure Benefits	<ul style="list-style-type: none"> • Turnaround time • Cost/Test • Sample Transport Incidents
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Feasibility Assessment:

Key Metrics to Estimate High-Level Financial Impact	<ul style="list-style-type: none"> • Consolidation of Microbiology Volumes: improved efficiency • Improved Purchased price of outsourced specialized tests: Lower cost of laboratory testing • Molecular testing – Dollar savings can be generated as a result avoiding three – four isolation days per influenza patient, because of faster Turnaround Times.
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Required Investments – Operating and Capital (if applicable) <i>Identify the key financial investments (e.g. one-time costs) required to realize the benefits.</i>	<ol style="list-style-type: none"> 1. Consolidation of Microbiology Volumes One time initiation fee of \$300K to join SHL 2. Better prices for outsourced highly specialized tests Bi-directional interfaces and mapping so that orders and results are seamless (no dollar value quantified) 3. Acquire ability to do molecular testing for Influenza in-house \$59K in ongoing operating costs
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Analysis	<ul style="list-style-type: none"> • Consolidation of Microbiology Volumes Examined the incremental cost for SHL to provide the service, and the
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	<p>transportation cost to RVHS to courier the samples</p> <ul style="list-style-type: none"> • Better Prices for outsourced specialized tests Examined the estimated discount on price that could be obtained from consolidated outsourcing • Molecular testing: examined a) the incremental cost of in-sourcing molecular testing, b) resulting savings from avoiding isolation costs (3-4 isolation days per influenza patient), and 3) the freed up potential for private accommodation revenue
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<p>Anticipated Financial Impact</p> <p><i>Indicate the order or magnitude financial impact (stated in the \$100,000).</i></p> <p><i>Is this opportunity a financial investment or savings</i></p>	<p>1. Consolidation of Microbiology Volumes \$150K reduction in operating expenses and \$35K incremental transportation costs, amounting to net savings of \$115K</p> <p>2. Better prices for outsourced highly specialized tests \$133K to \$152K in savings</p> <p>3. Acquire ability to do molecular testing for Influenza in-house</p> <ul style="list-style-type: none"> • Savings achieved by avoiding the high cost of isolation days: \$141K to \$188K (net savings of \$82K to \$130K after factoring in the ongoing cost of in-sourcing the testing) • Increased private accommodation revenue achieved from freeing up rooms with single beds \$180 to \$240K • Cost avoidance due to Tamiflu discontinuation is estimated at \$30K • <i>Note: influenza was the example quantified however is a conservative estimate as this can also apply to other molecular infection control testing (ie. VRE, RSV, C-diff, etc.)</i>
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Opportunity 3: Health Human Resources Flexibility

Overview:

Description	<ul style="list-style-type: none"> • Improved flexibility of staff to support clinical needs across site and proactive collaborative succession planning
<p>Anticipated Alignment to Guiding Principles</p> <p><i>Shade the relevant guiding principle(s)</i></p>	<ul style="list-style-type: none"> • Collaboration • Accessibility • Sustainability • Excellence

Potential Benefits and Risks:

Potential Benefits	
<i>Identify the <u>most significant</u> potential benefits. Where relevant, consider the following perspectives when identifying benefits: Patient, Community, Organization, Clinicians & Staff.</i>	
Patient	<ul style="list-style-type: none"> Ensures continuous service by maximizing and sustaining human resources
Community	
Organization	<ul style="list-style-type: none"> Improved reliability, accessibility and sustainability
Clinicians & Staff	<ul style="list-style-type: none"> Work enrichment opportunities for staff Ensures continuous service by maximizing and sustaining human resources Mitigation strategy to alleviate staff burn out

Potential Risks	
<i>Identify the <u>key risks</u> that must be considered (e.g. high impact and high probability). For each risk identified, provide a proposed risk mitigation strategy.</i>	
Risk	Mitigation Strategy
<ul style="list-style-type: none"> Limitations imposed by collective bargaining agreements 	<ul style="list-style-type: none"> Phased in approach over long term
<ul style="list-style-type: none"> Lack of standardized equipment and clinical practices at different sites 	<ul style="list-style-type: none"> Education Standardization of clinical practices to evidenced based practice Standardized LIS and document control
<ul style="list-style-type: none"> Management oversight over staff working at multiple sites 	<ul style="list-style-type: none"> Communication strategies and feedback mechanisms

Benefit Realization:

Estimated Timeline <i>Shade the estimated timeline (choose only one)</i>	<ul style="list-style-type: none"> Short-term (up to 1 year) Medium-term (1-2 years) Long-term (3-5 years)
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Key Metrics to Measure Benefits	<ul style="list-style-type: none"> Sick Time Over Time Staff satisfaction
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	<ul style="list-style-type: none"> Standardized clinical practices
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Feasibility Assessment:

Key Metrics to Estimate High-Level Financial Impact	
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Required Investments – Operating and Capital (if applicable) <i>Identify the key financial investments (e.g. one-time costs) required to realize the benefits.</i>	
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Analysis	
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Anticipated Financial Impact <i>Indicate the order or magnitude financial impact (stated in the \$100,000). Is this opportunity a financial investment or savings?</i>	
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Opportunity 4: Critical Mass for New Lab Investments

Overview:

Description	<p>Four physical hospital campuses brings together four active emergency and inpatient departments, in addition to clinics which may allow the Laboratory to reach a critical mass for increased purchasing power to acquire new technology such as:</p> <ol style="list-style-type: none"> a. Molecular testing b. Positive patient identification (PPID) c. IT interface opportunities d. Computerized physician order entry (CPOE) and feedback mechanisms to
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	monitor lab utilization and ordering practices
Anticipated Alignment to Guiding Principles <i>Shade the relevant guiding principle(s)</i>	<ul style="list-style-type: none"> • Collaboration • Accessibility • Sustainability • Excellence

Potential Benefits and Risks:

Potential Benefits	
<i>Identify the most significant potential benefits. Where relevant, consider the following perspectives when identifying benefits: Patient, Community, Organization, Clinicians & Staff.</i>	
Patient	<ul style="list-style-type: none"> • Increased patient safety – b. PPID, c. IT interface • Improved turnaround times and patient flow - a. molecular testing, c.IT interface, d. CPOE and utilization • Appropriate testing at the right time – d. CPOE & utilization
Community	<ul style="list-style-type: none"> • Improved satisfaction from clinicians and patients will increase community satisfaction
Organization	<ul style="list-style-type: none"> • Reduced costs by improving patient flow barriers (isolation) – a. molecular testing • Reduced costs by decreasing unnecessary testing (redundant or obsolete) - d. CPOE & utilization
Clinicians & Staff	<ul style="list-style-type: none"> • Improved turnaround times and patient flow - a. molecular testing, c.IT interface, d. CPOE and utilization • Decrease in manual labour of transcription of results into LIS – c.IT interface • Reduced risk of transcription errors - c.IT interface • Increased staff satisfaction c.IT interface • Improved efficiency - c.IT interface

Potential Risks	
<i>Identify the key risks that must be considered (e.g. high impact and high probability). For each risk identified, provide a proposed risk mitigation strategy.</i>	
Risk	Mitigation Strategy
<ul style="list-style-type: none"> • Cost-Benefit and Sustainability to acquire and maintain the operating cost of new investments in the laboratory (a. molecular testing, b. PPID, c.IT interface, d. CPOE) 	<ul style="list-style-type: none"> • Business Case • Negotiating power based on the critical mass

<ul style="list-style-type: none"> • Access to expertise and resources (a.molecular testing) 	<ul style="list-style-type: none"> • Recruitment • Education
<ul style="list-style-type: none"> • Physician buy-in for d. CPOE and utilization 	<ul style="list-style-type: none"> • Evidence-Based practice literature • Engagement, Education and Transparency
<ul style="list-style-type: none"> • Change Management – Cultural differences between organizations, resistance to change, learning curves 	<ul style="list-style-type: none"> • Project Plan • Due diligence • Engagement, Education and Transparency

Benefit Realization:

<p>Estimated Timeline</p> <p><i>Shade the estimated timeline (choose only one)</i></p>	<ul style="list-style-type: none"> • Molecular testing - Medium (1-2 years) • Positive patient identification (PPID) - Medium (1-2 years) • IT interface opportunities - Medium (1-2 years) • Computerized physician order entry (CPOE) and feedback to monitor utilization and ordering practices - Long-term (3-5 years)
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<p>Key Metrics to Measure Benefits</p>	<ul style="list-style-type: none"> • Cost for supplies and labour - c. IT interface, d. CPOE and utilization • Turnaround times - a. molecular testing, c. IT interface, d. CPOE and utilization • Utilization assessment of ordering practice - d. CPOE and utilization • Transcription errors - c. IT interface • Performance audits - b. PPID • Efficiency - c. IT interface, d. CPOE and utilization • Patient flow - a. molecular testing, c. IT interface, d. CPOE and utilization • Isolation Time - a. molecular testing • Physician and staff satisfaction - a. molecular testing, b. PPID, c. IT interface, d. CPOE and utilization
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Feasibility Assessment:

<p>Key Metrics to Estimate High-Level Financial Impact</p>	<ul style="list-style-type: none"> • Positive patient identification (PPID) <ul style="list-style-type: none"> • specimen mislabelling incident rate • Decreased errors, increased efficiency • Computerized physician order entry (CPOE) <ul style="list-style-type: none"> • Reduction in redundant tests
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<p>Required Investments – Operating and Capital (if applicable)</p> <p><i>Identify the key financial investments (e.g. one-time costs) required to realize the benefits.</i></p>	<ul style="list-style-type: none"> • Positive patient identification (PPID) – <ul style="list-style-type: none"> • One-time investment of \$781,000 (implementation and capital) • Ongoing costs of \$114,000 per year (software and device maintenance fees) • Cost avoidance: Litigation costs, rework, incident investigation to be determined. • Computerized physician order entry (CPOE): <ul style="list-style-type: none"> • See IM/IT workbook
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<p>Analysis</p>	<ul style="list-style-type: none"> • PPID: obtained investment cost estimate from business case for TSH, and extrapolated to RVHS • Computerized physician order entry (CPOE): estimated reduction in the cost of redundant lab tests • <i>Note: Both these technologies are not limited to the Lab, i.e., other departments, for example, Pharmacy would also benefit from them</i>
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<p>Anticipated Financial Impact</p> <p><i>Indicate the order or magnitude financial impact (stated in the \$100,000).</i></p> <p><i>Is this opportunity a financial investment or savings?</i></p>	<ul style="list-style-type: none"> • Positive patient identification (PPID) – No financial savings - improved safety and workflow that results from reduced mislabelling • Computerized physician order entry (CPOE) 2%-5%reduction in lab utilization, resulting in 2% reduction in laboratory supplies \$60-150K
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Opportunity 5: Increased Ability to Influence Investment

Overview:

Description	<ul style="list-style-type: none"> A potential new physical hospital in Scarborough would allow the Laboratory to occupy new space
Anticipated Alignment to Guiding Principles <i>Shade the relevant guiding principle(s)</i>	<ul style="list-style-type: none"> Collaboration Accessibility Sustainability Excellence

Potential Benefits and Risks:

Potential Benefits	
<i>Identify the most significant potential benefits. Where relevant, consider the following perspectives when identifying benefits: Patient, Community, Organization, Clinicians & Staff.</i>	
Patient	<ul style="list-style-type: none"> Improved patient safety
Community	
Organization	<ul style="list-style-type: none"> Improved Ontario Laboratory Accreditation performance
Clinicians & Staff	<ul style="list-style-type: none"> Increased staff safety Ability to purchase state-of-the art technology without limitations due to space restrictions Improved staff satisfaction

Potential Risks	
<i>Identify the key risks that must be considered (e.g. high impact and high probability). For each risk identified, provide a proposed risk mitigation strategy.</i>	
Risk	Mitigation Strategy
<ul style="list-style-type: none"> Interruption of laboratory service to relocate 	<ul style="list-style-type: none"> Communication & project plan Due diligence Back-up equipment – run equipment in parallel
<ul style="list-style-type: none"> Moving of existing equipment 	<ul style="list-style-type: none"> Communication & project plan Due diligence Plan with vendors Back-up equipment – run equipment in

	parallel
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Benefit Realization:

Estimated Timeline <i>Shade the estimated timeline (choose only one)</i>	<ul style="list-style-type: none"> • Short-term (up to 1 year) • Medium-term (1-2 years) • Long-term (3-5 years)
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Key Metrics to Measure Benefits	<ul style="list-style-type: none"> • Patient Safety • Ontario Laboratory Accreditation (OLA) Performance • Staff satisfaction
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Feasibility Assessment:

Key Metrics to Estimate High-Level Financial Impact	
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Required Investments – Operating and Capital (if applicable) <i>Identify the key financial investments (e.g. one-time costs) required to realize the benefits.</i>	
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Analysis	
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Anticipated Financial Impact <i>Indicate the order or magnitude financial impact (stated in the \$100,000).</i> <i>Is this opportunity a financial investment or savings?</i>	
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2.3. Stakeholder Engagement Information

Hospital Services Facilitated Integration Stakeholder Engagement Summary

Working Group:
Version Date:

Laboratory Services
RVHS-TSH v3 September 24, 2013

Item	Date	Summary of Feedback Received	Working Group Response (Accepted, Rejected, Modified, No Action)	Comment/Rationale
1	8/19/13	<ul style="list-style-type: none"> Is there an opportunity to send our Immunohistochemistry to TSH? 	Accepted	Included in opportunities as shared services
2	8/19/13	<ul style="list-style-type: none"> Can we share TSH's clinical biochemist? 	Accepted	Included in opportunities as shared clinical expertise
3	8/19/13	<ul style="list-style-type: none"> Can we send our Microbiology to TSH? 	Accepted	Included in opportunities as shared services
4	8/19/13	<ul style="list-style-type: none"> Are there any layoffs expected? 	No Action	Not relevant to the current process
5	8/20/13	<p>Suggest the following additions to the workbook</p> <ul style="list-style-type: none"> RVHS pathology response time to OR specimens/quick sections is perceived as a problem RVHS in midst of implementing a specimen labelling system which will improve patient safety Pathology TAT on colonoscopy specimens leads the LHIN at 100% within benchmark 	Accepted No action Accepted	To be added to other in section 1 Included in workbook under innovations planned and/or underway To be added to current state strengths in workbook

6	08/21/13	<ul style="list-style-type: none"> Sensitive troponin leads to more stent procedures (as observed at Sudbury which used OCD sensitive cTnl) which leads to less bypass surgery, decreased overall cost and better patient care 	Modified	Specific example of best practice- concept expanded and included in opportunities - Opportunity to compare methods, tests, policies, procedures to align with best practice
7	8/27/13	<p>Does Rouge Valley have a Blood Transfusion/Conservation Committee??</p> <p>How often do they meet?</p> <p>Do they track blood use from their surgeons?? Prostates and Joints?</p> <p>Do they use preprinted order sets for Octaplex?</p> <p>Do they use Meditech order sets- for Octaplex and Massive Transfusion protocols??</p> <p>Nursing education- how is that done for new staff or new products or new order sets??</p> <p>Physician education- how is that done?</p>	No Action	<p>Responses below, however this level of detail will be re-visited once decisions have been made.</p> <p>Rouge Valley has Blood Transfusion Committee that meets quarterly. RVHS does not track blood use from their surgeons but can if requested. Yes, preprinted order sets are used for Octaplex</p> <p>RVHS does not use Meditech order sets - for Octaplex and Massive Transfusion protocols. Nursing education includes a presentation at orientation every month and continuous in-services</p> <p>Physician education includes in-services when requested or needed.</p>
8	9/11/13	<p><u>Benefits:</u></p> <ol style="list-style-type: none"> Enumeration of different resources Similarities and differences in services provide External influences are pointed out. LIS, utilization management, positive patient identification systems as a leading practice theme <p><u>Risks</u></p> <ol style="list-style-type: none"> External political influences Threat to practice as a general pathologist Increased volumes in specimens with lack of funding Some differences as strengths versus weakness were disclosed on one side more openly than the other Immunohistochemistry; no mention on number of tests available, quality or TAT I don't agree with what was mentioned as quick section TAT as a problem/weakness as no parameters were put in place to gauge it. The opportunity of sharing personnel is not realistic as every person has their full schedule, how will it be divided 	No action	Excellent questions but questions that would only warrant being addressed once a decision to merge, or not, is made. Issues will not be lost.

		<p>among different campuses without creating shortages? <u>Suggestions, Opportunities, Ideas</u> An overview of a hypothetical future setup was not discussed. On a day-to-day basis, sharing of personnel was discussed as opportunity, but not feasibility and practicality as well as transport system of specimens and it's TAT.</p> <p><u>Additional Comments</u> Is this a merger or integration? If so what is the difference? Is it being discussed as a potential or a decision has been made for implementation and it's just a matter of time? What is the main single benefit of the process?</p>		
9	9/19/2013	<ul style="list-style-type: none"> No real benefit in the content of this workbook Risk of increasing lab errors and higher wait times due to consolidation of services at one site vs. another. Already this is a problem between two sites at TSH. Certain specimens have to be transferred from one site to another for processing, increasing the possibility of misplaced specimens, labelling errors and definite increased processing times. <p>If the argument is that services are not to be consolidated, then there is no value in looking at integration.</p> <p>Likely to cost money to set this up with no cost savings unless staff are laid off.</p>	No action	Concerns will be considered once decisions are made and due diligence is complete.
10		<p>Risks</p> <ul style="list-style-type: none"> Sharing of services must be equal between the two hospitals Person covering service, i.e. biochemist, must be responsible for the service not just the coverage 	Accepted Accepted	Added to the Potential Risks under Opportunity 1: Sharing of Clinical Expertise
11	9/23/2013	<ul style="list-style-type: none"> It is a very comprehensive, easy-to-understand document. Perhaps having statistics about test volumes broken down by discipline or service might better guide your decisions vs. just an overall sum. You briefly mentioned a “response time” initiative on page 5. I think that you might consider using more 	No action No action No action	N/A High-level analysis at this point High-level analysis at this point; TAT to be reviewed as decisions are made

		<p>quality indicator information to support your direction.</p> <ul style="list-style-type: none"> There doesn't appear to be any mention of the institution's commitment to education throughout the document, and from our perspective, you are very supportive of that mandate. 	Accepted	Add institution's commitment to education to SWOT: Strengths
12	9/22/2013	<p>I found the leading practice themes interesting and many of the points are actually things that we currently are exploring but there is no tie into what the future plans would be or financial impacts to the pos/neg or the ROI on any investments that would enhance service.</p> <p>It seems a common theme of critical mass and potential for test adoption, repatriation etc. I understand the context of the document development and the "sales approach" this document is taking. If this merge occurs and then the synergies or ideas are then tracked, I think it is important to ensure that you have some form of out... i.e. complete external operational review (like we did before) to define opportunities, synergies, cost savings etc. I do not see anywhere stated that a cost benefit analysis should be done to determine even if repatriation is financially justifiable – but again this may not be necessary. I say this as you know repatriation or setting up niche laboratory testing would need to take into consideration potential capital expense, human resource demographics into the full costs. I don't see a reversal analysis of are there tests that should be taken out of the system and sent out vs. held onto. I know that this is not the case for RVHS but can't speak for Scarborough.</p> <p>Finally, I noticed the below in the document which I am wondering how you see the horizon on this as being accepted to put into the document. Please comment on this as I am also wondering if there is a potential for reversal. There is new legislation for Microbiology and potential capital costs for HVAC, also, based on IHC volumes could this be done at a quicker TAT and lower overall cost that current state at TSH?</p>	<p>No action</p> <p>No action</p> <p>No action</p>	<p>High-level analysis at this point, to be reviewed as decisions are made</p> <p>High level analysis at this point, more detailed analysis including cost benefit analysis would be undertaken. Reversal analysis at both hospitals has been considered and will be further reviewed once decisions are made.</p> <p>Accepting IHC and Micro to TSH meant that these opportunities would be explored and not that a decision has been made. All options will require further analysis and due diligence.</p>

		<ul style="list-style-type: none"> Is there an opportunity to send our Immunohistochemistry to TSH? Accepted Included in opportunities as shared services Can we send our Microbiology to TSH? Accepted Included in opportunities as shared services 		
13		Is digital pathology a feasible opportunity that should be considered?	No Action	Emerging technology, not yet validated

3. Recommended Integration Opportunities

3.1. Alignment to Guiding Principles

For each of the recommended opportunities, complete the table on the following page. Specifically, for each of the recommended integration opportunities, Working Groups must clearly articulate a rationale that describes the degree to which the integration opportunity supports each of the Guiding Principles. In building this rationale, the Working Groups will use the most relevant measures/indicators based on the service/program.

Recommendation 1: Shared Clinical Expertise

Description:

Shared use of existing clinical expertise across all campuses. For example, clinical biochemist, Point of Care Coordinator, Transfusion Safety Officer

Alignment to Guiding Principles:

	COLLABORATION <i>We believe that collaboration will lead us to better solutions.</i>	ACCESSIBILITY <i>We believe in providing accessible patient care to our community.</i>	SUSTAINABILITY <i>We believe that we must find new solutions to sustain our health care system.</i>	EXCELLENCE <i>We believe that we must never waver from our responsibilities to provide quality patient care and to be accountable to our stakeholders.</i>
Rationale	<ul style="list-style-type: none"> Collaboration opportunity leads to filling the gaps of expert resources 	<ul style="list-style-type: none"> Reduced wait for services through increased delivery of testing at the bedside for which clinical expertise such as Point of Care Coordinator will be required Access to specialized professionals from a greater workforce 	<ul style="list-style-type: none"> Pooling of resources enables organizations to meet quality standards while remaining within current fiscal constraints. 	<ul style="list-style-type: none"> By combining the shared pockets of excellence of two separate organizations, a new improved standard of excellence can be delivered to our patients. Improve standardization of clinical practice Sharing of Clinical Experts allows for specialization of services and professionals
Measures/ Indicators	<ul style="list-style-type: none"> Staff Satisfaction 	<ul style="list-style-type: none"> Wait Time Reduction Patient Satisfaction 	<ul style="list-style-type: none"> Operating Budget 	<ul style="list-style-type: none"> Accreditation Score Patient Outcomes Hospital Reputation

Recommendation 2: Sharing of Service, Repatriation of Specialized Tests and/or Test Relocation

Description:

Relocation of Tests to the most appropriate location, including but not limited to:

- Insourcing tests that are currently outsourced
- Insourcing tests that are currently low volume at both organizations but together would create critical mass
- Consolidation of testing to one site
- Outsourcing highly specialized and low volume tests

Alignment to Guiding Principles:

	COLLABORATION <i>We believe that collaboration will lead us to better solutions.</i>	ACCESSIBILITY <i>We believe in providing accessible patient care to our community.</i>	SUSTAINABILITY <i>We believe that we must find new solutions to sustain our health care system.</i>	EXCELLENCE <i>We believe that we must never waver from our responsibilities to provide quality patient care and to be accountable to our stakeholders.</i>
Rationale	<ul style="list-style-type: none"> Consolidation of testing to one site to improve turnaround time (TAT) and efficiency Insourcing and outsourcing of tests that are currently low volume at both organizations but together would create critical mass 	<ul style="list-style-type: none"> Consolidation of testing to one site to improve turnaround time (TAT) and efficiency Insourcing and outsourcing of tests that are currently low volume at both organizations but together would create critical mass Improved Patient Flow, Care Access, Outcomes 	<ul style="list-style-type: none"> Consolidation of testing to one site to improve turnaround time (TAT) and efficiency Insourcing and outsourcing of tests that are currently low volume at both organizations but together would create critical mass Pooling financial resources for greater buying and negotiating power for outsourced tests <p>One-Time Set-up Costs: \$300K</p> <p>Operational Savings & Revenue:</p> <ul style="list-style-type: none"> Potential testing savings \$248K-267K Isolation avoidance savings \$82-130K Potential Preferred Accommodation Revenue \$180-240K Potential savings due to decreased Tamiflu use \$30K 	<ul style="list-style-type: none"> Consolidation of testing to one site to improve turnaround time (TAT) and efficiency Insourcing and outsourcing of tests that are currently low volume at both organizations but together would create critical mass Improved of Patient Flow, Access and Care.
Measures/ Indicators	<ul style="list-style-type: none"> TAT Cost per case Cost per test 	<ul style="list-style-type: none"> TAT Patient Outcomes 	<ul style="list-style-type: none"> Cost per case Operating budget Cost per test 	<ul style="list-style-type: none"> TAT Patient Outcomes Lost Specimen

Recommendation 3: Critical Mass for New Lab Investments

Description:

Four physical hospital campuses bring together four active emergency and inpatient departments, in addition to clinics which may allow the Laboratory to reach a critical mass for increased purchasing power to acquire new technology such as:

- a. Molecular testing
- b. Positive patient identification (PPID)
- c. IT interface opportunities
- d. Computerized physician order entry (CPOE) and feedback mechanisms to monitor lab utilization and ordering practices

Alignment to Guiding Principles:

	COLLABORATION <i>We believe that collaboration will lead us to better solutions.</i>	ACCESSIBILITY <i>We believe in providing accessible patient care to our community.</i>	SUSTAINABILITY <i>We believe that we must find new solutions to sustain our health care system.</i>	EXCELLENCE <i>We believe that we must never waver from our responsibilities to provide quality patient care and to be accountable to our stakeholders.</i>
Rationale	<ul style="list-style-type: none"> • PPID/CPOE common unless otherwise stated • Greater cost benefit ratio over a larger organization-economies of scale • Both technologies not limited to the Lab (i.e. Pharmacy, DI, etc.) 	<ul style="list-style-type: none"> • Greater size of organization improves consideration of newer technologies • Real-time clinician ordering • Faster turnaround time and patient flow (TAT for CPOE) • Appropriate testing at the right time (CPOE) 	<ul style="list-style-type: none"> • Greater cost benefit ratio over a larger department • Improved ability to negotiate capital/contract costs through larger organization • Monitoring of appropriate utilization (CPOE) • Reduce redundant testing (CPOE) <p>PPID: One-time Costs: \$781K Operating Costs: \$114K Operational Savings: TBD</p> <p>CPOE: One-time Costs & Operating Costs: TBD by IT/IM Lab Operational Savings: \$60K-\$150K</p>	<ul style="list-style-type: none"> • Improved patient safety (PPID & CPOE) • Monitor compliance with best practice guidelines (CPOE)
Measures/ Indicators	<ul style="list-style-type: none"> • Stronger RFP Submission 	<ul style="list-style-type: none"> • Reduced TAT • Improved staff and provider satisfaction • Improved Patient flow 	<ul style="list-style-type: none"> • Improved staff productivity (reduced incidents) 	<ul style="list-style-type: none"> • Number of critical incident reports • # of instances of misdrawn or mislabelled specimen/transcription errors • Improved MD and staff satisfaction

4. Workbook Sign-Off

Identify the individuals that were involved in the completion of the Workbook.

Organization - Program	Team Member:
TSH- CNE and VP of Interprofessional Practise	Signature Rhonda Seidman-Carlson Date
TSH- Laboratory	Signature David Wu Date
TSH- Laboratory	Signature Dr. Dhun Noria Date
RVHS- Laboratory	Signature Dr. Dina El-Sahrigy Date
RVHS- Laboratory	Signature Dr. Haile Meskel Date
TSH- Laboratory	Signature Dr. James Samsoundar Date
RVHS- Laboratory	Signature Dr. Nahed Gaid Date
TSH- Laboratory	Signature Dr. Saira Ansari Date
TSH- Laboratory	Signature Gloria Clarke Date
RVHS- Laboratory	Signature Joanne Fernandes Date
TSH- Laboratory	Signature Jun Shanks Clancy Date
RVHS- Infection Control	Signature Paula Raggiunti Date
TSH- Laboratory	Signature Petra Sheldrake Date
RVHS- Laboratory	Signature Sharon Howe

Organization - Program	Team Member:
	Date
TSH- Laboratory	Signature Stephen Ip Date
TSH- Laboratory	Signature Dr. Judit Zubovits Date
RVHS- Laboratory	Signature Iva Internicola Date
RVHS- Laboratory	Signature Dr. Soran Abdulkarim Date
TSH- Innovation and Performance Improvement	Signature Alfred Ng Date
VP- Financial Services	Signature Cara Flemming Date