St. Paul’s Hospital

Ambulatory Clinical Service Plan 2012

Final Report
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The majority of the Clinical Service Plan is written to focus on the new ambulatory tower as a whole, and an intentionally standardized and collaborative approach to care. It is therefore important to consider the entire document to get the full picture of future service delivery. However, to help you navigate to program-specific sections of the report, please refer to the table of relevant page numbers below.

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Detailed clinic information is also available in the appendices.
EXECUTIVE SUMMARY

St. Paul’s Hospital is beginning a major Renewal Project which will dramatically improve the site over the next seven years. During phase one of this project, there will be a consolidation of 95% of ambulatory services in a new ambulatory building at the corner of Comox and Thurlow streets. The purpose of this document is to describe how ambulatory services will be delivered in this new building when the doors open in 2017. Ultimately, the goal is to identify opportunities to improve the care experience for both patients and providers.

At present, ambulatory services are provided from more than 60 diverse clinical services, by many different care providers. It was therefore essential to engage each individual area to be able to capture both the most current and accurate information available, along with the opinions and expertise of the relevant stakeholders. Innovative techniques for engagement included group working sessions, site visits, and web-based technologies. A second and equally important aspect of the approach was to engage evidence wherever possible to support decision-making. As such, hard data, simulation modeling, and research into successes and failures of other ambulatory centres formed important tools in the development of the Clinical Service Plan.

Through the combination of research, stakeholder consultation, and simulation modeling a short-list of future state ideas has been developed, tested and built into the Clinical Service Plan. There was significant support for each of the short-listed ideas amongst Providence stakeholders. Based on this, and the additional evidence of the value of each idea generated through the simulation modeling and research, the future state was built up to include:

- **Central Registration** to streamline registration activities for patients and providers
- **Patient-Centred Scheduling** to ensure visits are set up in a manner that works best for patients
- **Electronic Patient Record** to minimize the need for paper charts and provide better access to information
- **Patient-Provider Flows** to improve the flow of people in the building and provide common provider working areas
- **Patient-at-the-Centre** to reduce requirements for patient movement throughout the system
- **5 more ideas...**
These ideas have been used to develop future state processes for patients and providers, and to model the anticipated future experiences in the new building. Some of the key features of the patient and provider experiences are the following:

**Patients:**
- The overall care experience is easier for the patient
- The patient is better prepared for their treatment
- Visits result in less anxiety for patients
- The patient is empowered in their own care
- The patient feels like visits are more integrated and comprehensive

**Providers:**
- Care providers have the tools to be more efficient and effective
- Less time is spent by care providers on non-value add tasks
- Communication is quick and easy with both patients and other providers
- Care providers have easy access to accurate information
- A multi-disciplinary approach is encouraged and facilitated

Planning efforts for the new tower will continue over the coming months and years until construction of the new building is complete. The ideas will evolve over time as we learn more, but to be successful in the implementation of this Clinical Service Plan it is essential that we refer back to these ideas throughout this period. The key differences from the current state that we are aiming to achieve need to be kept in mind, so that we iterate towards a future state that works for both our patients and ourselves as providers.

The next stage in planning for the new ambulatory building will be Functional Programming, which will build on this plan to develop more detailed space and functional requirements as a key input for the conceptual building design. The approach for this Clinical Service Plan has intentionally been designed to feed into the Functional Program through assets including the following:

- Simulation modeling of future state processes
- Visualization of conceptual floor plan and room layouts
- Detailed clinic-level information on current and future states
- Reference Clinical Service Plans to demonstrate learnings from other planning attempts
- Research into innovation at other ambulatory centres

We appreciate your significant and valued contributions to the Clinical Service Plan, and your ongoing support and understanding as we undertake the next important phases of work in the Renewal Project for St. Paul’s.
MESSAGE FROM THE PLANNING TEAM

St. Paul’s Hospital has a strong history of delivering healthcare for a diverse range of patient needs. However, it is essential that we enhance our clinical services to improve the care experience for our patients, and the working environment for ourselves as providers. The Renewal Project presents a vital opportunity to consolidate, standardize and most importantly enhance outpatient care through the development of a new ambulatory building on the corner of Comox and Thurlow streets.

It became immediately clear in the early stages of this project, that there are incredibly divergent views on Clinical Service Plans in terms of what should be their scope, level of detail, and format. Ideally, there would have been an organizational Corporate Clinical Plan to guide the development of our Clinical Service Plan. However, due to this not being the case, and time being of the essence, the decision was made to do the best we can in the situation. As such, it was agreed by the Planning Team, that for St. Paul’s the key aim will be to paint a picture of what outpatient services will look like in our new facility. Consequently, there is a significant focus on the future, in terms of the ideas and innovations around which the building will be constructed, and the standardized process around which we will base our operations.

Recognizing the diversity, breadth, and expertise of St. Paul’s internal and external stakeholders, it was acknowledged that the plan would need to capture the voices of the each individual outpatient service, and at the same time, incorporate the most current and accurate information available. The project approach was therefore intentionally developed to be inclusive and evidence-based. More than 100 Providence stakeholders have been heavily involved in data gathering, idea development, and final future state design.

We have received tremendous support and feedback throughout the process, so we thank you for your numerous and valued contributions. With your help, we feel that we have developed a plan that, amongst many things, will guide the continued planning efforts, architectural design, and construction of the new ambulatory building that will enable us to provide better care experiences for our patients and a better working environment for our care providers.

Finally, we recognize that as healthcare leaders, you are extremely busy. We have therefore written this document in a format that is intended to be easy to read, supported by visual representations, and clearly explains the important messages. We therefore encourage you to read and refer back to this document over the coming years to ensure that the plan is acted upon and ultimately realized.

Thank you again for your continued support in this process, and we look forward to taking this plan forward and improving the way ambulatory services are provided at St. Paul’s in the future.

The Planning Team

Note: The Planning Team for the Clinical Service Plan includes Darlene MacKinnon, Bonnie Maples, and William Findlay, and has been supported throughout by AnalysisWorks Inc.
INTRODUCTION

Planning Context
Over the next seven years, St. Paul’s will undergo a major Renewal Project. This project will include the following efforts:

- Consolidating ambulatory services in a new building
- Creating additional ambulatory care capacity
- Ensuring more efficient service delivery
- Relocating mental health beds into the inpatient tower
- Modernizing operating rooms
- Improving existing building infrastructure

The New Ambulatory Building
Construction of the new ambulatory building falls into Phase 1 of the Renewal Project, and will be undertaken between 2014 and 2017. The building will be constructed at the corner of Comox and Thurlow streets, and will replace older facilities on the site and allow St. Paul’s to consolidate more than 95 per cent of ambulatory services into one location.

The intention is to bring together clinical care, teaching and research in the building, and to place emphasis on inter-professional care models focusing on PHC’s six Populations of Emphasis. The environment will be designed to create a seamless and efficient journey for each patient by reducing wait times and providing quick access to care providers. It will enable care providers to work side-by-side with researchers, so that continuous transfer of knowledge is actively encouraged.

The new building is currently planned to encompass approximately 21,000m². It is anticipated that services will be distributed over 10 floors above grade and one floor partially below grade, with 3 floors of underground parking. The lower floors will be aligned with the existing Providence building to maximize flexibility and the efficient flow of patients, care providers and materiel.

Location of New Ambulatory Building
How does this Clinical Service Plan fit into the Renewal Project?

This Clinical Service Plan is one aspect of the early stages of planning. It is entirely focused on the new ambulatory building, and will form part of the business case being put forward to the Ministry of Health. The following timeline shows an approximate outline of the full planning process:

Given St. Paul’s immediate goal of submitting the business case for the Renewal Project by June 2013, the main objectives of this Clinical Service Plan are to:

1) Describe how ambulatory services will be delivered in the future
2) Identify the biggest opportunities to improve patient care and operational effectiveness

As described previously, the new ambulatory building is intended to provide a more integrated and standardized approach to care across all clinical services. The Clinical Service Plan is intentionally being developed to describe the future state at a global level. This is supported by key program-level considerations (i.e. reporting by exception on why they may be different from the standard) and detailed clinic-level information in the appendices.

Furthermore, the objective of the Clinical Service Plan was to collect detailed information on each individual ambulatory clinical area, in a standardized format, for the Functional Program which will follow this stage of work.
Engagement Approach
As described previously, the goals of this Clinical Service Plan are to 1) describe how ambulatory services will be provided in the future, and 2) identify the biggest opportunities to improve patient care and operational effectiveness. In order to meet these goals, there are a number of key themes around which the approach for this engagement has been developed:

- Taking an evidence-based approach to recommendations (i.e. “this is what other organizations are doing that actually works”)
- Building on existing internal expertise and using outsider perspective to drive for improvement
- Engaging diverse groups of stakeholders with a suite of consultation tools to obtain input from a wide range of clinicians
- Utilizing analytical tools and simulation models to test out and prove ideas for the future
- Developing recommendations in collaboration with stakeholders that will actually end up using the new facility

The Clinical Service Plan has been developed in an expedited timeframe between July and November 2012 (see timeline below), and the approach described above has proven essential to achieving a plan that we can have confidence in, and incorporates design ideas that are strongly desired by stakeholders for their impact on both the patient and provider experience.

The following pages provide further information on the significant efforts involved throughout the development of the Clinical Service Plan.
Information Gathering

More than 60 clinical areas and services will be moving to the new ambulatory building. There is a significant amount of information about each of these areas that it was essential to understand and incorporate into the Clinical Service Plan. This information includes hard data about how they currently operate (e.g. hours of operation, patient volumes, etc.), but also the knowledge currently held by all of their diverse stakeholders (e.g. clinicians, clerical staff, etc.).

Given the need to collect this information quickly, accurately, and comprehensively, several innovative approaches were used:

- Site visits and interviews with stakeholders
- In-person working sessions with clinicians from closely related clinics to encourage active discussion
- Online through a web-based system (i.e. the Knowledge Integration (KI) System – see page 10)

The questions asked about each clinic were intentionally designed to provide the required details for the Clinical Service Plan itself, but also to 1) provide the necessary process and flow data for simulation modeling, and 2) provide an extensive database of standardized information for the Functional Programming phase of the work.

Identification of Future State Ideas

A key stage of the work was developing a short-list of ideas for improving the future patient experience and/or the operational effectiveness of services in the new ambulatory tower. Initially, this involved putting together findings from the following sources:

- Ideas generated through consultation with Providence stakeholders
- Extensive investigation into other ambulatory centres through site visits and online research (e.g. ORBIS (Netherlands), Jim Pattison Outpatient Care and Surgery Centre (Surrey), and Massachusetts General)
- Research into healthcare best practices from Canada and abroad

Ideas were generated and evaluated for how they could work at St. Paul’s, their potential benefits, and any implementation challenges that would need to be their overcome. Shortlisted ideas were then discussed in detail by more than 100 Providence stakeholders at further working sessions (Oct 17 and Nov 8, 2012) and through online forums.

Based on this investigation, the Future State Ideas were refined, further researched and then taken forward for testing through simulation modeling (see page 11). Once greater certainty was established around the impact of these design decisions, standardised processes were developed and the future state plan written up into this Clinical Service Plan.
The Knowledge Integration System

The Knowledge Integration System helps people work together in collecting their ideas and input as a team, without having to meet face-to-face. The following shows a visual of the Knowledge Integration System in this process:

**Setting up the system**

- The **planning team** identifies the information needed for the Clinical Services Plan.
- The **planning team** sets up a unique account for each clinic.

**Providing input**

- The **clinic team** access the account for their clinic and decide who in their team should respond to each section.
- Input is provided by team members 24 x 7.

- The **clinic team lead** does a final review and approves the content to be included in the plan.

**Summarizing the info**

- The **planning team** summarizes the process information for the simulation modeling.
- The **planning team** summarizes the information into the Clinical Services Plan.

All source information is kept intact and included in the Appendices of the Clinical Services Plan.
Simulation Modeling

System Inputs:
- Process flow, patient, and staffing data supplied to the KI System
- Information gathered from interviews, group sessions and research

Integrated Simulation Models:
- **Current State** model reflects how clinics currently work at SPH. The animation is based on real floor plans so distances and travel times closely reflect reality.
- **Future State** model represents how clinics could work in the new tower. It incorporates key future state ideas into the logic, and is animated using conceptual floor plans and approximate building footprint, and newly designed future processes.
- **Patient streams, staffing levels, and the number of rooms are kept at current state levels so the impact of future ideas can be fairly assessed.**

Scenario Analysis:
- **Over 200 simulation runs** were used to test the impacts of modeling assumptions and system variability.
Introduction … Key Take Away Messages

- A new ambulatory building is planned for St. Paul’s, which will consolidate 95% of all ambulatory services at the site
- This Clinical Services Plan forms a part of the business cases that will be put forward to the Ministry
- The main objectives of the Clinical Service Plan is to describe how ambulatory services will be delivered in the future with a focus on improving patient care and operational effectiveness
- Our evidence-based approach has engaged a diverse group of stakeholders and been supported by analytical tools, simulations models and extensive research into best practices in ambulatory care
CURRENT STATE

Summary of Current Ambulatory Care Delivery
Ambulatory care has evolved organically at St. Paul’s into what it is today. The purpose of this section is to provide an overview of how clinics currently operate, and to describe the key strengths of this system (that should be taken forward into the new tower) and the most significant challenges currently being faced (that should ideally be overcome).

Which ambulatory services are currently provided?
At present, ambulatory services are provided through more than 60 individual clinics/departments. These services are provided from over 19 locations across the campus. For the purposes of planning, ambulatory services have been grouped into 61 clinical areas. In general, they fit into the following categories:

- Heart Centre
- Medicine
- Mental Health
- Renal
- Respiratory
- Surgery (Interventional)
- Surgery (Clinics)
- HIV/AIDS/Urban Health
- Elder Care
- Rehab Services
- Support Services (SPD, Medical/Diagnostic Imaging, Outpatient Lab, Outpatient Pharmacy)

Which patient populations are currently served?
The ambulatory services described above are currently provided to a diverse range of patient populations. Given the downtown location of the hospital, and high level of clinical expertise available, many patients currently being served fall into the following areas:

1) Patients with complex mental health issues and/or addictions
2) Patients with long-term chronic disease
3) Elderly patients requiring frequent outpatient appointments
4) Patients requiring highly specialized services
5) Patients requiring day surgery and surgery follow-up

Many of these patients are complex in nature and require ongoing care from multiple providers.
In general, how do clinics currently work?
Many of the different clinical areas are currently operating largely independently of each other. This is partly due to the disjointed physical layout of ambulatory care throughout the hospital, but also significantly contributed to by the processes and systems currently in place.

At the program-level, there are some examples of well-integrated services (e.g. Pacific Lung Health Centre), that incorporate multiple clinics around a central intake and streamlined processes such as scheduling and registration. However, the following describes the current processes in a typical clinic:

**Before the Visit**

- **Patient** is contacted by each clinic to schedule separate visits
- Some **providers** personally call patients to remind them about their visit

**On Arrival**

- The **patient** enters the hospital through one of many entrances
- **Providers** are typically required to direct patients to their clinic
- The **patient** registers at the clinic and typically waits adjacent to the desk
- The **provider** retrieves the paper chart to complete the registration process

**During the Visit**

- The **patient** meets with clinicians in exam room or office
- **Providers** confirm and document patient information on paper charts
- When seen by multiple providers, **patients** typically have to wait
- **Providers** complete other tasks in clinic space between patients (e.g. dictation)
There is some variation between these processes from clinic to clinic which are detailed for each clinical area in the appendices.
What are the Current Strengths?

The Current Strengths represent the most important aspects of St. Paul’s that we must endeavour to bring forward into the new tower. They were identified through the planning process as features of how things currently work that set St. Paul’s apart from other similar organizations. While many strengths were mentioned, it was recognized that they typically fall into the following areas:

- Teamwork
- Resourcefulness
- Quality of Care

Teamwork

“A place where people work together as a team”

In general, people at St. Paul’s Hospital (SPH) contribute towards building and maintaining a collaborative working environment. In particular, teamwork is encouraged within clinical areas, and care providers chip-in where necessary to make things work more smoothly (e.g. physicians pushing stretchers to help improve flow). This interprofessional and collaborative approach helps to ensure a better experience for patients and a more collegial and supportive working environment.

Resourcefulness

“People make the best of what they have”

People who work at SPH are exceptionally resourceful and have a “can-do” attitude towards getting things done. Care providers work around challenges on a day-to-day basis often with great resourcefulness and flexibility, which helps them make the most of scarce space, inadequate layouts and other limited resources such as people and equipment. People take advantage of the situation they are in (e.g. their close proximity to each other) to improve things for the patients (e.g. better communication) and for themselves as providers (e.g. minimizing unnecessary movement).

Quality of Care

“A care team that are great at what they do”

From highly effective clerical staff to physicians that are leaders in their field, the care providers at SPH have the ability to provide exceptional care for their patients. As a teaching and research hospital with a number of highly specialized services and experienced care providers, SPH provides a high quality of care to both the local community and patients from across BC and the Yukon.
What are the Current Challenges?

The Current Challenges represent the most significant issues at St. Paul’s that we must endeavour to resolve in the new tower. While many challenges were mentioned throughout the planning process, the most common concerns voiced included:

- Physical Layout
- Supporting Infrastructure
- Patient Access and Wayfinding

Physical Layout

“We work around the building rather than the building working for us”

SPH comprises several old buildings that make life difficult for both patients and providers. Rooms are typically too small and inflexible for what they have to be used for. If they are big enough, rooms do not typically have a layout that supports how providers would ideally set them up in order to streamline processes and patient flows. Overall, ambulatory clinics are widely dispersed over multiple locations in SPH, which makes for longer journeys for patients and inefficient communication between providers. Physical space constraints end up compromising patient privacy, confidentiality and infection control.

Supporting Infrastructure

“Systems and equipment that don’t work well”

The technology and equipment used on a daily basis is described as outdated and insufficient. The care team relies heavily on paper-based documentation (rather than an EPR) which results in human error, wasted time, duplicate documentation, and inefficient usage of space. There is also a lack of backup for key resources such as SPD elevators and surgical equipment, and a lack of facilities that would improve the working environment (e.g. lockers and showers).

Patient Access and Wayfinding

“It’s difficult to provide appropriate access”

Access is difficult for patients both in terms of 1) waiting too long for appointments due to insufficient capacity to meet demand, and 2) getting to St. Paul’s affordably (i.e. expensive parking). In addition, wayfinding to individual clinics within the hospital is frequently cited as a concern (i.e. poor signage and inadequate elevators). These issues are exacerbated by difficulties in scheduling patients effectively across multiple clinics, and the growing levels of demand for the majority of ambulatory services.
Program-Level Current State

The following pages describe further detail on the current clinical setup, and strengths and weaknesses for each of the following program areas:

- Heart Centre
- Medicine
- Mental Health
- Renal
- Respiratory
- Surgery (Interventional)
- Surgery (Clinics)
- HIV/AIDS/Urban Health
- Elder Care
- Rehab Services
- Support Services (SPD, Medical/Diagnostic Imaging, Outpatient Lab, Outpatient Pharmacy)
- Other Services (e.g. Pastoral Care, Dieticians, etc.)
Heart Centre

The Heart Centre at St. Paul’s is a unique resource in the province providing complete care for a wide range of heart diseases. The Heart Centre operates numerous clinics from locations including the Main and 4th Floors of the Burrard Building, the 5th Floor Providence Building, and 1033 Davie Street.

Which ambulatory services are provided?
Services include heart disease prevention and reversal, a variety of diagnostic services, and treatment, care and rehabilitation. For planning, Heart Centre ambulatory services are grouped as follows:

- **PACH** (includes Cardiac Obstetrics, Congenital-Pulmonary Hypertension & Marfan Syndrome)
- **Electrodiagnostic Lab** (includes ECG, Holter Monitors & Exercise Testing)
- **Healthy Heart Program** (includes Prevention, Cardiac Rehabilitation & Atherosclerosis Specialty Lab)
- **Heart Function**
- **Heart Rhythm Services** (incl. Pacemaker/ Defibrillator, Atrial Fibrillation, Arrhythmia & Inherited Heart Rhythm)
- **Heart Transplant** (includes Pre-Transplant, Ventricular Assist Device (VAD) & Post-Transplant)
- **Echocardiology Lab** (Diagnostic)
- **Transcatheter Valve**
- **Burrard 4 Clinic**

Current Strengths and Challenges
In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with Heart Centre stakeholders include the following:

**Strengths:**
- Working together as a team both within clinics and across the spectrum of cardiac care
- Being renowned for the level of education and expertise of cardiac care providers
- An interdisciplinary approach to care that improves outcomes for patients

**Challenges:**
- Lack of appropriate space and resources (both clinical areas and staff offices)
- Difficulty accessing and sharing patient information
- Scheduling of patient visits across multiple clinical areas

**Key Staff**  PD: Janis McGladrey  |  PPD: Dr. Andy Ignaszewski  |  OL: Cindy Lawlor, Jean Carne, Julie Carleton, Melodie Yong
Medicine Program

At St. Paul’s there are a larger number of clinical areas that provided medical services to a wide range of diverse patient populations. The Program has outstanding academic and clinical staff, bringing a range of clinical, research, teaching and administrative skills. Clinics are performed in many locations including clinics on multiple floors in the Providence Building.

Which ambulatory services are provided?
Services include a wide range of different services which are provided in mixed multi-speciality clinic areas or in specialised clinic areas. For planning, Medicine ambulatory services are grouped as follows:

- Medical Short Stay Unit
- Rapid Access Clinic (includes Thyroid-Endocrinology and a number of other mixed multi-speciality clinics)
- Diabetes Clinic
- Hemophilia/Hemoglobinopathy (BC Inherited Bleeding and Red Cell Disorders Program – Adult Program)
- EEG/EMG (includes Neurology services such as EEG & EMG)
- Home Enteral and Parenteral Nutrition Clinic
- Home IV and IV Therapy

Current Strengths and Challenges
In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with Medicine stakeholders include the following:

**Strengths:**
- Highly specialized staff with certifications in practice
- Some clinics have reduced wait lists through flexible and efficient staff members
- Development of excellent relationships with frequent visitors and urban populations

**Challenges:**
- Booking and scheduling is a manual process with no integration to other systems
- Patient and staff privacy, comfort, confidentiality, storage, and access is poor
- Patient visits are often extended due to difficulties coordinating services

Key Staff  PD: Janice Victory  |  PPD: Dr. John Kelsall  |  OL: Anita Skihar
Mental Health Program

The Mental Health Program at St. Paul’s provides inpatient and outpatient Mental Health services to adults and seniors. Their ambulatory services operate primarily out of the Burrard Building on the 2nd and 4th floors. General Psychiatry is the largest service within the Mental Health Program, providing care through community, outpatient, inpatient, and consultation services.

Which ambulatory services are provided?
Services include, but are not limited to, the Complex Pain day program, outpatient and follow-up clinics, Reproductive Psychiatry, mood disorders, ECT, Inner City Youth, general group program, Refractory Psychosis, and the Provincial Specialized Eating Disorders Program. For planning, Mental Health ambulatory services are grouped as follows:

- Mental Health and Wellness Clinic
- Complex Pain Centre
- Eating Disorders

Current Strengths and Challenges
In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with Mental Health stakeholders include the following:

**Strengths:**
- Intake nurse in the Mental Health and Wellness Clinic facilitating rapid access to outpatient services
- Continual working effort to ensure scarce clinical resources are working to their full capacity and capability
- Multidisciplinary approach including Social Work, Occupational Therapy, Physiotherapy, Nursing, Psychiatry, Psychology, and Dieticians

**Challenges:**
- The size, layout and physical environment are not conducive to improving the emotional well being of patients or providing efficient services
- Lack of an outpatient patient charting strategy makes it difficult to know previous care a patient has received
- Lack of consistency in booking practices for clinic visits. Each clinic typically books their patients in a manner that works best for themselves.

Key Staff  PD: Jennifer Duff  |  PPD: Dr. Maria Corral  |  OL: Yasmine Marion, Patty Yoon
The Renal Program at SPH provides access to a multi-disciplinary team offering a variety of prevention and treatment programs for people living with chronic kidney disease in British Columbia and the Yukon. Renal services are located on the 6th floor of the Providence Building.

**Which ambulatory services are provided?**

A variety of ambulatory services, programs and units are provided to meet the care needs of patients living with kidney disease. For planning, Renal ambulatory services are grouped as follows:

- Kidney Function Clinic *(includes Integrated Care Clinic)*
- PD Clinic
- Transplant Clinic
- Vascular Access Clinic

**Current Strengths and Challenges**

In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with Renal stakeholders include the following:

**Strengths:**

- Co-location of all renal clinics, which enables staff to flow between clinics and other associated areas (including inpatient services)
- Patient access to the multidisciplinary team including dietary, pharmacy, social work, Nephrologists and RNs during visits
- A program which helps transition patients smoothly into other patient streams, including non-Renal services (e.g. Cardiac, Dermatology)

**Challenges:**

- Physical space constraints which compromise patient privacy and comfort, which are below expected standards
- Poor patient/provider flows within clinics cause additional strain, particularly in terms of additional travel
- Limited number and size of treatment rooms, which also lack the required infrastructure (e.g. no sinks) and adequate access to supplies

**Key Staff**

- PD: Warren Hart
- PPD: David Landsberg
- OL: Clay Gillrie, Michele Trask
Respiratory Services

At St. Paul’s as part of the Pacific Lung Health Centre respiratory services are provided to those with breathing difficulties through multiple different specialised clinics. Clinics use a multidisciplinary team approach, provides ongoing assessment and treatment to both inpatients and outpatients. Clinics are located on the 8th floor of the Providence Building.

Which ambulatory services are provided?

Services include respiratory services, asthma education and pulmonary diagnostics. For planning, Respiratory ambulatory services are grouped as follows:

- Adult Cystic Fibrosis (CF) Clinic (includes out-reach clinics)
- COPD Clinic (includes out reach services to COPD patients)
- Asthma Clinic (includes diagnosis and management of patients)
- Pacific Lung Health Clinic (PLHC) (includes initial triaging and subsequent treatment in subspecialty, scleroderma & other clinics)
- Pulmonary Function Lab (PFC)
- Interventional Respirology Suite / Bronchoscopy
- Cardiopulmonary Exercise Testing
- Respiratory Patient Education

Current Strengths and Challenges

In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with Respiratory Services stakeholders include the following:

**Strengths:**
- Strong research focus, involvement in clinical trials, network of activity within BC, and training leadership
- Adopting a multidisciplinary approach with good integration between clinics
- Offering a wide breadth of clinical services, with a high level of specialty services.

**Challenges:**
- Delays and lost information through poor flow of information within and between clinics
- Patient flow is disjointed and the current ambulatory space limits ability to further serve patients
- Patients register at each individual clinic during a visit and therefore have to repeat tasks more than once

**Key Staff**
PD: Janis McGladrey  |  PPD: Dr. Don Sin  |  OL: Anita Skihar  |  PPL: Liz Jolley
Surgical Program (Interventional)

The Surgical Program at St. Paul’s provides ambulatory interventional procedures to meet the needs of the local and regional populations. In addition, the program is also a provincial referral centre for specialty surgical services. Interventional procedures are performed in several locations including the Main and 3rd floors of the Providence Building, and 3rd floor of Burrard Building. The Surgical Program also provides inpatient services for surgical patients.

Which ambulatory services are provided?

Services include different level of interventional procedures along with pre and post intervention care for the patient. For planning, Surgical Program Interventional ambulatory are grouped as follows:

- **Day Care Surgery** (includes Surgical Day Care: Pre and Post Op, Operating Room & Post-Anesthesia Care Unit)
- **Gastrointestinal Clinic** (tertiary referral centre for assessment and treatment of GI disorders)
- **Minor Procedures** (includes Cystoscopy, Colposcopy, and minor procedures to support diagnosis and treatment)

Current Strengths and Challenges

In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with Surgical stakeholders include the following:

**Strengths:**
- Increasing throughput of patients by being flexible and making the most of the available space
- People who work in surgery have a “can do” attitude and deal with challenges and obstacles on a daily basis
- Proximity to other surgical areas, including Satellite Sterile Processing, which increases staff efficiency and communications between areas

**Challenges:**
- Manual paper-based documentation which reduces staff efficiency and access to information
- Due to physical space constraints, patient privacy, comfort and confidentiality is below expectations (e.g. lack of private admitting areas)
- The flow of patients, staff and equipment causes delays and issues, particularly in terms of additional non-value add activities and congested areas

**Key Staff**
- PD: Cheryl Bishop
- PPD: Dr. Jock Reid
- OL: Sandy Grimwood, Anastasia Elworthy, Jeanette Kuper
Surgical Program (Clinic Areas)

The Surgical Program at St. Paul’s provides ambulatory clinics to meet the needs of patients who require pre/post operative care. This service is provided by a multi-disciplinary team which includes nurses, physicians, physiotherapists and other Allied Health Professions. Clinics are performed in several locations including the OPD clinic on the 3rd floor of Burrard Building, along with further clinics on the Main and 3rd floor of the Providence Building.

Which ambulatory services are provided?
Services include a wide range of different clinics serving a varied population with both Pre-Admission and Post Surgical care. For planning, Surgical Program Clinic ambulatory services are grouped as follows:

- Surgical Outpatient Department: OPD (includes General Surgery, Orthopedic, Urology, Gynecology, etc.)
- Pre-Assessment Clinic (includes OR Booking)
- Ophthalmology Clinic (includes general and specialty clinics)
- Maternity Clinics (includes Fetal Monitoring, Maternal Fetal Medicine, Obstetrics & Maternity Pre-Admissions)
- Ear, Nose and Throat Clinic (Diagnosis/treatment for out-patients & Otolaryngology-Head and Neck Surgery)
- Audiology Clinic (includes Diagnostic Audiology testing, Vestibular Testing and Management, Dizzy Clinic, etc.)

Current Strengths and Challenges
In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with Surgical stakeholders include the following:

**Strengths:**
- Highly motivated people that deal with challenges and obstacles on a daily basis
- Established centres of excellence for many provincial services, including being the only referral centre for multiple services (e.g. Sinus Centre)
- Proximity to other surgical areas which increases efficiency and communication

**Challenges:**
- Manual paper-based documentation which reduces staff efficiency and access to information
- Maintaining patient privacy, comfort, and confidentiality due to physical constraints
- Having insufficient resources (i.e. staff and equipment) to meet demand or provide additional services to improve care

**Key Staff**
PD: Cheryl Bishop  |  PPD: Dr. Jock Reid  |  OL: Sandy Grimwood, Anastasia Elworthy, Jeanette Kuper, Jacqueline Koufie
HIV/AIDS/Urban Health

The Immunodeficiency Clinic provides primary and specialty care for HIV positive patients out of the 5th floor of the Burrard Building. In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with relevant stakeholders include:

**Key Staff**  PD: Scott Harrison  |  PPD: Julio Montaner  |  OL: Julie Kille

### Strengths:
- Expanded Inter-professional service delivery helping patients be seen in a timely manner and enabling better collaboration
- Patient friendly environments for patient populations who have difficulties accessing medical care

### Challenges:
- Lack of adjacency to Pharmacy services creates poor patient flow and additional patient travel
- Lack of user-friendly EPR limits ability to improve patient care

### Elder Care

At St. Paul’s there is a significant focus on providing care for the elderly. Comprehensive assessment by an inter-disciplinary team is performed out of the 9th floor of the Providence Building. In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with Elder Care stakeholders include:

**Key Staff**  PD: Heather Mak  |  PPD: Janet Kushner Kow  |  OL: Simin Tabrizi

### Strengths:
- Multi-disciplinary framework for patient assessments that enables comprehensive assessment and treatment
- Care teams are trained and specialized to meet the needs of unique patients groups (e.g. dementia, multiple chronic diseases)

### Challenges:
- Access to and from Elder Care is difficult for patients (including getting to the clinic and coordinating departure)
- Limited ability to communicate patient information easily within SPH and an inability to interface with Vancouver Coastal systems
Rehab Services

Rehab Services includes both Physiotherapy for a number of different clinics, and Occupational Therapy for patients experiencing a decline in their functional abilities. These services primarily operate out of the 3rd floor of the Burrard Building. In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with relevant stakeholders include:

**Strengths:**
- PT clinic space is well suited to individual and group treatment and education of patients
- OT department is centralized which allows for quick communication and efficiency in prioritizing patient referrals

**Challenges:**
- Inadequate space for the storage of equipment and supplies
- Patient treatment space could be improved to be more efficient and handle multiple patient groups

**Key Staff**
PPL: Gabriele Yoneda (PT) | Remy Lim (OT)
Support Services

At St. Paul’s there are a number of specialised support services that provide services for both inpatients and outpatients in diagnosis and treatment. Support Services are performed in several easily accessible locations including the Main and 3rd floors of Providence Building. Support Services include:

- Outpatient Laboratory Services (includes blood collection, routine and specialized testing)
- Outpatient Pharmacy Services (includes providing clinical pharmacy services and medication distribution)
- Medical Imaging (includes Radiology, Nuclear Medicine, Ultrasound)
- Sterile Processing Department (SPD) (includes central SPD area and satellite areas)

In addition to the strengths and challenges for ambulatory services at St. Paul’s as a whole, some notable themes from consultation with stakeholders of these services include the following:

Outpatient Laboratory Services

**Strengths:**
- Usage of Lean and evidence-based practice to support process improvement and decision making
- Laboratories handling of patients from HIV, Renal and Cardiac Clinics

**Challenges:**
- Inadequate physical space in the outpatient waiting area
- Poor layout design of current space in terms of testing areas and dedicated office space

**Key Staff**  
PPD: Enid Edwards  |  PD: Rose Clarke

Outpatient Pharmacy Services

**Strengths:**
- Inclusion of clinical pharmacists in clinic teams, which have been shown to improve patient outcomes
- Use of evidence-based information on patient outcomes for successful decision-making

**Challenges:**
- Lack of Clinical Pharmacy Services in many other PHC Clinics
- Due to clinics being widely spread out it is challenging to distribute supplies and provide clinical pharmacy services

**Key Staff**  
Director (PHC Acute Care): Luciana Frighetto  |  PPL: Stephen Shalansky
Medical Imaging

**Strengths:**
- Extended hours for outpatients to allow them to come outside regular working hours
- Collaborative work environment between staff and other clinics (e.g. Foot and Ankle, OR, GI)

**Challenges:**
- Poor departmental layout with services in multiple different locations makes it difficult to create efficiencies
- Travel to and from related areas can be difficult due to proximity and unreliable elevators

**Key Staff**
- PD: Jennifer Elliott  |  PDH: Jonathon Leipsic

Sterile Processing Department

**Strengths:**
- Usage of Satellite SPD and specialized processes to increase efficiency and integration with clinic areas
- The growing use of new technologies which can reduce manual cleaning requirements

**Challenges:**
- Flow of equipment should be improved with better separation of dirty, clean and sterile areas
- Lack of appropriate secure storage space and appropriate infrastructure for conducting sterile operations

**Key Staff**
- PD: Cheryl Bishop  |  OL: Diane Trudeau
Other Groups

A number of other groups were consulted during the development of this Clinical Service Plan, including the following:

- Patient Partners
- Dieticians
- Pastoral Care
- Social Work
- Speech-Language Pathology
- Cardiovascular Prevention Research
- Center for Excellence in HIV
- Institute for Heart + Lung Health
- COPD Outreach
- Professional Practice
- Infection Prevention and Control
- IMIS
- THINK PHC
- Administrative Decision Support
### Current State ... Key Take Away Messages

- A wide range of ambulatory services are currently provided at numerous locations across St. Paul’s, which serve a diverse range of patient populations.

- The current state of ambulatory care could be improved both in terms of the patient and provider experience.

- The key strength of St. Paul’s is the people who work at the site. St. Paul’s has innovative and resourceful staff that work together to ensure that patients receive exceptional care.

- A universal challenge experienced at St. Paul’s is a lack of space, issues associated with working with the existing physical layout, and inability to meet patient demands for services. This is further compounded by a lack of appropriate infrastructure, in particular the lack of an Electronic Medical Record.
FUTURE NEEDS

The purpose of this section is to describe key considerations that we need to be aware of when planning the new ambulatory tower, both at the site-level and at the program-level.

What emerging trends do we need to be aware of?
The new tower is being designed with the next 20 to 40 years in mind. It is therefore essential that we understand what is likely to change over that time period, and what we need to be planning for. The following section provides some of these key considerations:

Population
The BC population is experiencing significant growth, and overall it is expected to grow by 28% by 2035. The population growth in the Lower Mainland, where the majority of the St. Paul’s Hospital patients comes from, is projected to be even higher at 33%. Further to this population growth, there is a changing demographic which is being largely contributed to by immigrants and an elderly population. As an example, the percent of population with age 65 and over will grow from 16% in 2012 to 24% in 2035.

The following charts show the population growth in BC versus Lower Mainland both for overall population and for population aged 65 and over.¹

Chronic Disease
There is a rise in chronic conditions such as diabetes, and as these populations grow, more traffic will be directed to ambulatory care centres such as St. Paul’s. The evidence shows that populations associated with higher risks include immigrant families and elderly citizens, and these groups will contribute to higher utilization of ambulatory care. In other jurisdictions, it has been noted that the number of unique visits per patient with age 65 and over is approximately 33% higher than overall average number of unique visits per patient. The availability of more life-extending treatments means that many chronic diseases will be managed for longer periods of time, and more often, on an outpatient basis. Another example of growing incidence rates is in HIV, which will also increase the utilization of ambulatory services per capita.

Inpatient vs. Outpatient

There has been a long-term movement from inpatient to outpatient services. One study reported that the total outpatient visits per 1,000 population doubled in 20 years from 1987 to 2007 in the USA. There have also been similar trends in British Columbia, and as an example, the chart to the right shows the historical shift from inpatient to day care surgery over a recent period².

In addition to changing demographics and higher incidence and prevalence rates, one of the key drivers for this change is the financial pressure on care delivery, which increases each year. Less costly outpatient settings require a refined care delivery model and new facilities that can handle the increasing demand for such services.

Clinical Practice Changes

Clinical practice changes are accelerating the shift from inpatient to outpatient settings, especially in surgical services. Technology has made surgeries less complex with reduced risk, and there are also new methods in the delivery of anesthesia, which enables patients to regain consciousness quickly with fewer side effects. Minimally invasive and non-invasive procedure rates for laser surgery, laparoscopy, and endoscopy are increasing, and many of these procedures can be performed at outside surgical centers rather than in a hospital setting. Other trends include bariatric surgery programs to include weight management, minimally invasive surgery and treatments such as angioplasty, and advanced pharmaceuticals. All of this will only increase the demand for ambulatory care services and need to be planned for accordingly through forward-thinking design and alignment with future needs.

Ambulatory Design

As for the facility design, there are few factors that need to be kept in mind. Due to rapid-change nature of ambulatory care facilities, multi-specialty clinics are becoming more popular where services are rotated with a number of practices sharing one facility. This arrangement can be cost-effective for the healthcare practices and diagnostic groups working within the clinic, and can also be more convenient for patients. This model provides an integrated care approach which research has shown also contributes to improved outcomes.

New facilities typically have a significant focus on improving accessibility, and technology is also shaping ambulatory facility design and individual space requirements. For example, the use of kiosk and smart card technology as well as electronic records is reducing the square footage needed for administrative functions and transforming the traditional waiting rooms into patient/caregiver resource areas.

² Source: HealthIDEAS (last accessed Nov 22, 2012)
**Future Program-Level Considerations**

There are a number of critical adjacencies, key layout and infrastructure considerations for the new tower. For each program area we have highlighted some key issues, which need to be considered in parallel with the Future State Plan.

**Heart Centre**

- The physicians’ supervise tests (e.g. ECG) from their offices, so close proximity or space is required to facilitate medical supervision of testing in the department.
- Dark and quiet rooms are required for Echocardiology.
- Strong physical separation of the Heart Transplant clinic from areas with infectious diseases.
- The majority of OP ETTs are combined ETT-MIBIs, so there must be an ETT lab adjacent to Nuclear Medicine.
- Further consideration of requirements for inpatient and outpatient services (e.g. Cardiology and Echo Labs), and proximity of key staff (e.g. Techs) is required prior to finalizing plans for the number and location of Cardiac Diagnostic Labs.

**Medicine Program**

- Clinics require close proximity to the Outpatient Laboratory and in particular Transfusion Medicine (blood bank).
- EEG and EMG require a quiet area to provide proper testing for patients.

**Mental Health**

- For the health, safety and security of patients and care providers the Mental Health clinic areas should be located on a lower floor level in the building.
- Elevators should be supplemented by good stairway access in the interest of security and to reduce anxiety for patients with claustrophobia.
- Close proximity to security services is essential.
- Safe, appropriate interview rooms with double doors are required.

**Renal Program**

- Due to the interconnectivity, patient transfer between and resource sharing of the Renal Clinics, it is important they are located next to one another.
- Outpatient Hemodialysis would ideally be located on one of the lower floors of the building due to large volumes of patients arriving at same time, and potential constraints with elevators.
- Renal clinics should be located next to food services as patients frequently arrive early in the morning for fasting blood work and then need to eat while they are waiting for their results and assessment by the interdisciplinary team.
HIV/AIDS/Urban Health

- IDC patients prefer an environment away from heavy public foot traffic for privacy.
- Access to food for patients taking medication, and processes should encourage some movement of patients between areas.

Respiratory Program

- Clinics should be located to promote easy access for elderly patients with breathing difficulties.
- Respiratory clinics should be located in close proximity, particularly as some testing may increase shortness of breath, which may require urgent consults with on-call Respirologist.
- There should be a physical separation from any areas with strong smells.
- Bronchoscopy rooms need to maintain room/access to minimum air-exchange requirements to meet guidelines for the prevention of transmission of TB.
- Infection control rooms (e.g. for CF) which patients can immediately access upon clinic arrival.

Surgical Program (Interventional and Clinic Areas)

- The main Operating Rooms would ideally be located on the 3rd floor to ensure access to critical surgical areas on the 3rd floor of the Providence 1 Building.
- It is essential that main SPD area for Outpatient Tower be located in close proximity to the Ambulatory Operating Rooms to ensure safe and quick access to sterile supplies.
- The endoscopy suite also has a critical adjacency with SPD. Ideally the Endoscopic area should have its own Satellite SPD area, similar to the current arrangement.
- Appropriate infrastructure is required for interventional rooms (e.g. Drains for Cystoscopy Rooms).

Elder Care

- Group meeting areas are needed that are physically isolated for privacy and patient focus.

Rehab Services

- PT and OT should be located together and require “Cashier” services for patients paying for services and equipment.

Support Services

- Direct access is required to the infrastructure required for SPD operations (e.g. steam and water, hvac, etc) and access should be available to enable maintenance operations.
- In order to meet standard MDRD guidelines, there must be a physical separation of sterile, clean and dirty areas to eliminate the possibility of cross contamination.
- Outpatient Laboratory should be in an area that is easily accessible to patients (for code blue).
- A pharmacy satellite area should be located away from the lobby due to storage of medication.
Future Needs ... **Key Take Away Messages**

- The demand for Health Care services is expected to continue to increase as a result of an aging population and a rise in chronic conditions.

- Long-term trends are showing a continued shift from inpatient services to outpatient services. Contributors for this change include increasing financial pressure on care delivery, and “de-medicalization” of the patient experience.

- There is continuing development of new technologies (e.g. kiosks and smart cards) and changing approaches towards flexible multi-speciality clinics.
FUTURE PLAN

The purpose of this section is to paint a picture of how things will work in the future, starting with the opportunities identified, describing the ideas around which the tower will be built, and finally describing the impacts on patients, providers and individual programs.

What are our biggest opportunities?
The planning process involved many consultations with St. Paul’s stakeholders to identify the biggest improvement opportunities. Many more ideas have been discussed and considered, but the most commonly occurring themes fall into the following categories:

- Flexible Physical Space
- Effective Documentation System
- Improving Efficiency and Safety

Flexible Physical Space
“Space should be flexible and ‘future-proof’”
The majority of rooms at St. Paul’s are no longer the ideal size or shape, and do not provide the infrastructure for new technologies and equipment. The new tower provides a blank canvas to construct the physical space to meet both current and future ambulatory care needs. Future levels of demand, trends in technologies and practices, and potential unforeseen changes need to be accommodated through a flexible and spacious design.

Effective Documentation System
“We want one reliable source of information”
It is acknowledged as essential that in the future, there is a better strategy for maintaining and accessing patient information. This will likely involve an Electronic Patient Record, which will also free up storage space, reduce non-value-add work and increase patient safety by ensuring that the right information is always available to the right people throughout St. Paul’s when and where they need it. Information sharing within/between clinics should be automated and instant.

Improving Efficiency and Safety
“Let’s improve processes and flows for patients and providers”
The opportunity should be taken to design the building around improved processes and flow of patients, providers and information. By incorporating one-way circular flows it will be possible to reduce congestion, minimize unnecessary travel for patients and providers, maintain a higher level of patient confidentiality, and create an environment that is conducive to improved infection control practices.
Future State Ideas

Based on the opportunities identified on the previous page, the current strengths and challenges of St. Paul’s, and significant research into other care facilities, a number of ideas for the future have been put forward and discussed. Based on these efforts, 10 future state ideas have been identified around which the new tower will be developed. The following pages provide more detail on these ideas including the anticipated impacts on the patient, providers, and the system:

- Central Registration
- Patient-Centred Scheduling
- Electronic Patient Record
- Patient-Provider Flows
- Patient-at-the-Centre
- Wayfinding
- E-Services Patient Reminders
- Communication Technologies
- Self-Directed Education
- Group Patient Visits
Central Registration

The Idea in Brief:
There will be a centralized approach to registration for all outpatient services. For the most part, patients will register through one of three methods:
- Online through a web-based system
- Self-registration at an electronic kiosk
- In-person at a centralized registration desk

Key Features of Central Registration:
The following are some of the main features of the future state:

The Future State

- Registration is done once, and done correctly
- Kiosks and the online system decrease the workload on staff
- Patients needing support are able to easily find the registration desk and are provided with clear direction where to go next
- Economies of scale are achieved through less duplication of effort
- Communication of registration is sent automatically to individual clinics

How is this better than the current state?
- Patients currently register multiple times if they visit more than one clinic
- Patients currently have to search for each individual registration area
- Currently resources to handle registration are required at each clinic
- Currently there is no way for patients to self-register
- Patients get asked the same questions on multiple occasions
Quantifying the Benefits of Central Registration:
The following are some of modeled impacts of changing to the new approach:

What will it take to make Central Registration work?
The following are some of the main efforts involved in implementing the proposed idea:

- **Developing infrastructure**: Electronic kiosks and online platforms need to be designed to ensure self-registration is user-friendly and meets the needs of our demographic (i.e. elderly, non-English speaking). Privacy needs to also be maintained in the design of registration areas.

- **Implementing systems and processes**: Building processes behind the fully-integrated registration system so that all approaches work well together, and that there is an effective flow of information between registration, scheduling services, and individual clinics.

- **Educating providers and patients**: Training of providers to ensure that clinics and central registration work effectively together, and education of patients to ensure high-levels of uptake of self-registration systems.
Patient-Centred Scheduling

The Idea in Brief: There will be an approach to scheduling outpatient appointments that primarily focuses on the needs of patients.

Patient-Centred Scheduling will incorporate an integrated system that enables patients and primary care providers to schedule all their appointments either through a phone call to a single number, or an online system for quick and easy self-scheduling of appointments.

Key Features of Patient-Centred Scheduling:
The following are some of the main features of the future state:

The Future State

- Patients have a “one stop shop” experience in scheduling all of their clinic visits
- Appointment bookings consider patient scheduling preferences
- Patients are able to schedule most of their appointments for the same day
- Staff have the tools to easily schedule multi-clinic visits
- The hospital makes savings by combining multiple systems into one

How is this better than the current state?

- Patients have very little choice in the scheduling of their appointments
- Patients work with each individual clinic to schedule visits
- Patients have long waits between appointments or return on different days
- Scheduling is time consuming and often reliant on key staff members
- Resources are currently duplicated across many different clinics
Quantifying the Benefits of Patient-Centred Scheduling:
The following are some of modeled impacts of changing to the new approach:

<table>
<thead>
<tr>
<th>Patient</th>
<th>Approx. 33 more patients per day with multiple clinic visits scheduled for the same day (i.e. 8,250 patients per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider</td>
<td>Approx. 147 fewer phone calls per day to schedule appointments (i.e. 38,500 less calls per year)</td>
</tr>
<tr>
<td>System</td>
<td>Approx. 17 fewer patients waiting between appointments at any given time (i.e. between appointments at different clinics)</td>
</tr>
</tbody>
</table>

Note: Results derived from simulation modeling and calculations; key assumptions based on KI System data, extensive research and expert opinion (see appendices for more details).

What will it take to make Patient-Centred Scheduling work?
The following are some of the main efforts involved in implementing the proposed idea:

- **Clarifying requirements**: Understanding specific scheduling requirements of patients and clinics, and the demand for services in each clinical area (volume, hourly variation, etc.).

- **Developing and implementing systems and processes**: Iterating towards a fully-integrated scheduling system of computer- and phone-based tools, that also enables clinics to maintain some level of control and flexibility in their scheduling.

- **Educating providers and patients**: Effective change management to ensure that clinics and central scheduling staff work effectively together, and that patients are comfortable with the new way of doing things and the scheduling tools available to them.
Electronic Patient Record

The Idea in Brief:
There will be an Electronic Patient Record which will be designed and implemented to meet the specific needs of the care providers that will be using it. Ultimately, the goal is to have one single source of information that is readily available to care providers throughout St. Paul’s and PHC as a whole using touchdown points in common provider areas and handheld devices.

Key Features of Electronic Patient Record:
The following are some of the main features of the future state:

The Future State

- Patient data is readily available in a user-friendly format
- Patient information is automatically shared between care providers
- One single source of accurate and up-to-date patient information
- A comprehensive database is maintained and used for evidence-based decision-making
- Confidential patient record information is securely stored

How is this better than the current state?
- Clinics currently have difficulty sharing patient information with each other
- Clinics currently dedicate a large amount of space to store paper charts
- Currently there is greater risk of error when writing/reading paper charts
- Currently there is no off-site access to information
- Staff currently use a significant amount of effort to retrieve patient charts
Quantifying the Benefits of Electronic Patient Record:
The following are some of modeled impacts of changing to the new approach:

What will it take to make Electronic Patient Record work?
The following are some of the main efforts involved in implementing the proposed idea:

- **Developing the right system**: A detailed specification will need to be developed in consultation with care providers to ensure it meets all needs, and consideration of other IT infrastructure will be required to insure it fully integrates with all other existing and new systems.

- **Converting existing information**: Patient data is currently largely paper based and/or in a non-standardized format, so it will be a difficult and resource-intensive job to bring over existing information into the new Electronic Patient Record.

- **Managing change**: This is a dramatic change in approach so significant systems training will be required for all providers to ensure data quality, completeness, and security is maintained.
Patient-Provider Flows

The Idea in Brief:
This concept is all about 1) improving the flow of patients, providers and equipment throughout the building and 2) having common provider working-areas that are built into these flows.

Implementing the idea requires separate non-conflicting one-way flows for patients and providers. Provider sections of the flow will typically incorporate large open spaces with multiple touchdown points and working areas. These will not be role-specific so as to encourage a multi-disciplinary approach to work.

Key Features of Patient-Provider Flows:
The following are some of the main features of the future state:

The Future State

- Congestion-free hallways even during peak times
- Improved communication between the entire care team
- Greater continuity of care through a more collaborative approach to care planning
- More effective sharing of information and visit coordination
- Maintenance of higher levels of privacy and infection control for both patients and staff

How is this better than the current state?
- There are currently high volumes of patients and staff in the same locations
- Staff typically work isolated in their own office or provider-specific areas
- Communication opportunities between staff types are limited
- Pre- and post-treatment journeys typically flow through the same areas
- Private conversations are currently held in public areas and hallways
Quantifying the Benefits of Patient-Provider Flows:
The following are some of modeled impacts of changing to the new approach:

<table>
<thead>
<tr>
<th>Patient</th>
<th>Post-Procedure Journeys in Prep Area</th>
</tr>
</thead>
</table>
| Approx. 95% reduction in post-procedure foot traffic in patient preparation areas (i.e. from using one-way circular patient pathways) | ![Graph showing reduction in foot traffic in prep area](image1)

<table>
<thead>
<tr>
<th>Provider</th>
<th>Staff Journeys in Patient Areas</th>
</tr>
</thead>
</table>
| Approx. 80% reduction in staff traffic through patient areas (i.e. by separating patient and staff flows) | ![Graph showing reduction in staff traffic](image2)

<table>
<thead>
<tr>
<th>System</th>
<th>Total Journeys in Endo Patient Area</th>
</tr>
</thead>
</table>
| Approx. 80% reduction in overall foot traffic outside prep and recovery areas (i.e. by eliminating two-way flows in endoscopy) | ![Graph showing reduction in overall foot traffic](image3)

Note: Results derived from simulation modeling and calculations; key assumptions based on KI System data, extensive research and expert opinion (see appendices for more details).

What will it take to make Patient-Provider Flows work?
The following are some of the main efforts involved in implementing the proposed idea:

- **Ensuring that space is well-designed**: Ensuring the design and implementation of spaces meet the needs of both providers and patients (e.g. minimal noise, appropriate access), and ensure efficient flows through the building.

- **Implementing the right supporting technology**: There needs to be a responsive IT support department, and the ability for consistent access to information at every workstation.

- **Achieving buy-in**: This will be a big change for providers so there needs to be an effective strategy along with fair, established processes (e.g. for assigning space) prior to implementation.
Patient-at-the-Centre

The Idea in Brief:
This concept is about putting patients at the centre of their visit. Exam rooms and floor plans will be set up to ensure that patients can receive care from many different providers in the same spaces. Visits will be set up so that where possible clinicians move between patients rather than patients moving between different areas of the building. The aim is to minimize unnecessary movement of patients and improve their care experience.

Key Features of Patient-at-the-Centre:
The following are some of the main features of the future state:

The Future State

- Patients travel less distance within and between clinics
- Patients spend a greater percentage of their visit with a clinician
- As much as possible, patients are treated by different providers without changing rooms
- Communication between providers is built into the approach and improves collaboration
- Rooms are flexible so they can be used for multiple purposes

How is this better than the current state?

- Patients often walk significantly further than they should
- Patients currently spend a lot of time waiting for providers
- Patients have to move between multiple locations in the hospital
- Patients are often left unaware of key visit information
- Currently most rooms are purpose-specific and inflexible
Quantifying the Benefits of Patient-at-the-Centre:
The following are some of modeled impacts of changing to the new approach:

- **Patient**: Approx. 50% reduction in patient walking distances (i.e. 126m less per patient visit)

- **Provider**: Staff walking distances relatively unchanged by patient-centred approach

- **System**: Approx. 200 fewer patient hours per day spent waiting (i.e. 12.7 minutes less per patient)

Note: Results derived from simulation modeling and calculations; key assumptions based on KI System data, extensive research and expert opinion (see appendices for more details).

What will it take to make Patient-at-the-Centre work?
The following are some of the main efforts involved in implementing the proposed idea:

- **Designing the building for patients**: This includes the overall layout so that provider flows work effectively, and individual room designs so they are flexible for multiple uses. The building needs to be future-proof in expectation of future changes to service delivery and patient.

- **Ensuring the process is also provider friendly**: It is important to strike a balance and ensure the building and processes work well for providers by minimizing unnecessary movement and providing rooms and equipment that meet their needs.

- **Change management**: This is a fundamental change in approach, so significant planning and training will need to occur to ensure that providers understand what is expected, and have the tools (e.g. electronic communication) to make the transition effectively.
Wayfinding

The Idea in Brief:
This concept involves having a cohesive strategy for ensuring that patients are easily able to navigate their way throughout the facility. It starts with an innovative layout design that minimizes the possibility of a patient getting lost or being unable to find their way, but also includes a suite of assisting tools such as touch screen support, pre-planning of navigation (i.e. when the appointment is made), online trip finding and staff “navigators” to guide patients to their destination.

Key Features of Wayfinding:
The following are some of the main features of the future state:

The Future State

- There is a single main entrance and a natural flow to registration and then to their appointment
- Patients are prepared with in-hospital directions prior to or at the beginning of their visit
- Intuitive signage guides patients without assistance
- Visits are less stressful for patients
- Fewer patients are late for appointments allowing clinics to keep on schedule

How is this better than the current state?
- Patients arrive through many different entrances
- Patients are often confused by misleading or inadequate signage
- Staff have to help patients find their way many times per day
- The patient experience is often frustrating and can leave patients agitated
- Patients are frequently late for appointments
Estimating the Benefits of Wayfinding:
The following are some anticipated impacts based on research of similar implementations:

- Increase in patient satisfaction
- Reduction in reported confusion for first-time visitors and repeat visitors
- Reduction in staff time to provide directions to lost individuals
- Reduction in wasted staff time due to reduced number of late or missed attendance

Note: Impacts described above are based on extensive research and expert opinion (see appendices for more details).

What will it take to make Wayfinding work?
The following are some of the main efforts involved in implementing the proposed idea:

- Intuitive building design: It is important that care and attention be put into designing the layout to minimize the efforts required to help patients find their destination. A streamlined layout with a single main entrance and natural flows through registration, to elevators, and on to clinical areas significantly reduces the need for supporting tools. The patient-at-the-centre approach will also help to reduce patient movement, and therefore wayfinding requirements.

- Designing wayfinding tools and signage: This needs to consider the profile of the patient population (i.e. elderly, non-English speaking patients), and will require multiple approaches for differing needs.

- Maintaining provider-patient interactions: It is important to ensure that patients receive personal attention, so designated “navigator” roles may be required.
E-Services Patient Reminders

The Idea in Brief:
This concept involves using an automated system to better prepare patients for their visit prior to arrival, and increase compliance after their visit. Some tangible examples are 1) sending a message to remind patients of their appointment times, locations and pre-visit requirements (e.g. not eating) and 2) sending a message to remind patients when it is time for them to take their medication. These automated reminders could be in multiple formats (e.g. email, text, phone, etc.) which would be specified by the patient’s preference.

Key Features of E-Services Patient Reminders:
The following are some of the main features of the future state:

The Future State

- There are fewer no-shows for appointments and more patients arrive on time
- There are fewer delays in treating patients and better compliance in care plans
- Clinician utilization is improved due to more patients arriving as per the schedule
- Clerical staff spend less time doing manual reminders and following up to re-book patients
- Patients have access to information prior to their visit

How is this better than the current state?
- Only patients most at-risk of a no-show are contacted prior to visits
- Patients currently arrive late or unprepared for their appointments
- Reminders are a resource-intensive manual process
- The majority of reminders are done by a phone call
- Clinics spend non-value add time to re-scheduling missed appointments
Estimating the Benefits of E-Services Patient Reminders:
The following are some anticipated impacts based on research of similar implementations:

- Reductions in average costs per patient, visit and follow-up in the range of 30% to 60% (through better utilization of resources)
- Higher patient satisfaction scores
- Greater clinic utilization rates
- Reductions in cancellations rates, late arrivals and wait times
- Increased care plan compliance

Note: Impacts described above are based on extensive research and expert opinion (see appendices for more details).

What will it take to make E-Services Patient Reminders work?
The following are some of the main efforts involved in implementing the proposed idea:

- Developing a specification: Understanding the specific needs of different patient types (i.e. their preference for reminder format), and the needs of individual clinics so that they will get the greatest value from the system.
- Integrating the system: The technology needs to integrate seamlessly with other current and new systems and processes (i.e. registration, scheduling, EPR, etc.).
- Getting patients to use the system: Educating patients as to the options available to them, and proactively encouraging their participation.
Communication Technologies

The Idea in Brief:
Communication technologies enable care providers to communicate in a faster, more reliable manner in both planned and emergency situations. The technologies can also be used to facilitate communication with the patient. Some examples of systems that can be implemented include electronic notification system to call patients into a room, automated notification of a patient’s arrival sent from central registration to their clinic, and a patient locator system. Clinicians can also use the system to call for support from security or another service in the hospital.

Key Features of Communication Technologies:
The following are some of the main features of the future state:

- Patients are made aware of key information (i.e. wait times, provider ready for them, etc.)
- Communication between staff is quicker and more effective leaving more time for patient care
- Certain communications are automated which improves efficiency and reduces human effort
- Staff can access key services and people when they need them
- Increased site safety through instantly broadcasted emergency situations

How is this better than the current state?
- Communication is time-consuming and inefficient for providers
- Patients have longer waits due to inefficiencies in the system
- Staff are unable to locate patients and other staff when they need them
- Staff do not always have access to other services when they need them
- Information is not always shared effectively across the site
Estimating the Benefits of Communication Technologies:
The following are some anticipated impacts based on research of similar implementations:

- Multiple sites in Ontario have reported a reduction in the time spent on communication and coordination activities
  - For example, Kingston General Hospital reported a 25% reduction in key communication activities
- Other sites have reported:
  - Reduced response to time to “Code White” situation by over 50%
  - Higher patient and employee satisfaction scores
  - Higher patient volumes, greater throughput and more timely clinic finishes

Note: Impacts described above are based on extensive research and expert opinion (see appendices for more details).

What will it take to make Communication Technologies work?
The following are some of the main efforts involved in implementing the proposed idea:

- Implementing the IT infrastructure to support leading edge technology: Sufficient money needs to be invested, or vendor-sponsored opportunities found, to ensure that technology works well and makes St. Paul’s an attractive place to work.

- Maintaining patient/provider privacy: Ensuring that the system is only accessible from within the system, and that users sign an appropriate waiver before using the system.

- Achieving user buy-in (providers and patients): Being careful of “gadget overload” and looking at user-friendly deployment options before making an investment. It is often best to keep it simple at first and prove to potential users that the system is going to work by trialling technology options.
Self-Directed Education

The Idea in Brief:
This is a means for patients to educate themselves at their own pace prior to, during and after their visits to St. Paul’s. This will involve the development of high quality and accurate education material in different mediums, such as printed, audio/video, online, and mobile education materials (e.g. pamphlets, Health 2.0). This will need to be complemented by professional advice either in-person or remotely (e.g. telehealth).

Key Features of Self-Directed Education:
The following are some of the main features of the future state:

The Future State

- Patients feel and are empowered to self-manage their treatment at home or online
- Savings through reduced visits and better utilization of resources
- Access to educational materials in a variety of media types in common areas and wait rooms
- A decrease in the number of education sessions provided by staff
- Patients know what to expect from their visit, and what they are expected to do afterwards

How is this better than the current state?
- Patients rely on staff and receive education at the hospital
- Patients typically can’t access educational materials remotely
- There are no central education spaces (e.g. libraries)
- Staff currently spend a significant amount of time educating patients
- There is limited variety and supply of self-education materials
Estimating the Benefits of Self-Directed Education:
The following are some anticipated impacts based on research of similar implementations:

- Reduction in staffing costs
- Increase in patient and staff satisfaction
- Reduction in number of education session provided by staff
- Reduction in duration of education sessions provided by staff

Note: Impacts described above are based on extensive research and expert opinion (see appendices for more details).

What will it take to make Self-Directed Education work?
The following are some of the main efforts involved in implementing the proposed idea:

- **Investing in the development of materials**: This will be an expensive concept to implement due to staffing, translation services, multiple education mediums, and ongoing maintenance/upgrades. Where possible, pre-established materials should be utilized.

- **Ensuring appropriate patient access**: Barriers such as lack of computer literacy, motivation and language need to be overcome. Access to information will need to be available in multiple formats both inside and outside of the hospital, and will need to be backed up with real people.

- **Maintaining levels of interaction with patients**: A balance needs to be struck so that patients are not left feeling isolated. Some resources will need to be invested into maintaining personal contact with patients.
Group Patient Visits

The Idea in Brief:
Group Patient Visits are medical appointments where a group of patients meet with a team of healthcare providers for outpatient care delivery and education. This idea can work well for certain patient populations that are conducive to group care and/or teaching, and where peer-to-peer support would result in improved patient care. Some tangible examples of where this could work are chronic conditions such as IBD, Parkinson’s, and diabetes.

Key Features of Group Patient Visits:
The following are some of the main features of the future state:

The Future State

- Increased number of patients treated by a clinician
- Improves access to services for patients and potentially decreases wait times
- Patients meet and learn from people with similar conditions
- Patients are more empowered in their treatment and have a more rewarding experience
- Patient education is streamlined for providers

How is this better than the current state?

- Patients are primarily treated one-on-one
- Clinicians have long wait times for appointments
- Patients rely entirely on their clinicians for their education and treatment
- Staff do not have the space to properly conduct group visits
- There are very few opportunities for patients to learn from each other
Estimating the Benefits of Group Patient Visits:
The following are some anticipated impacts based on research of similar implementations:

- Studies have shown a 7% decrease in cost by:
  - Reducing the number of individual visits, and
  - Increasing efficiency and utilization of clinical staff
- Studies have demonstrated that:
  - 96% of physicians agree that “Patients are more involved in the self-management of their care”
  - 91% of physicians agree that “Patients like the peer-learning that they experience in group visits”
  - 91% of physicians agree that “Engaging in group visits has increased patients’ satisfaction”

Note: Impacts described above are based on extensive research and expert opinion (see appendices for more details).

What will it take to make Group Patient Visits work?
The following are some of the main efforts involved in implementing the proposed idea:

- **Patient training and education**: Patients will need to feel comfortable in a group setting and feel that their level of care has not diminished and confidentiality is not lost.

- **Provider training**: Care providers will need to be educated on how to deliver treatment in a group setting. For example, how to maintain accurate records, and how to conduct visits in a manner that maintains patient confidentiality.

- **Allocation of dedicated space**: Larger rooms to accommodate groups of people must be specially designed and reserved for group visits.
**Future State Ideas: Impact on the Patient Experience**

The following brings together the Future State Ideas to summarize the key impacts on the patient’s experience:

### Before the Visit

- **The patient** is contacted to schedule the visit
  - (Patient Centred Scheduling)
  - ✓ The process is easy for the patient
  - ✓ The patient deals with one phone call
  - ✓ The patient knows what is expected of them

- **The patient** is reminded about the visit
  - (E-Services Patient Reminders)
  - ✓ The patient is reminded in a manner that they are comfortable with
  - ✓ The patient feels like the hospital cares about their visit

### During the Visit

- **The patient** enters the building and checks in
  - (Central Registration)
  - ✓ The patient chooses to check in and register at the central desk, or at a self-serve kiosk
  - ✓ The patient feels confident that they are in the right place

- **The patient** makes their way to the clinic
  - (Wayfinding, Patient Flow)
  - ✓ The patient has clear instructions regarding where they need to go, and can get extra help if they need it
  - ✓ The patient feels confident making their way around

- **The patient** experiences multidisciplinary care
  - (Patient at the Centre)
  - ✓ The patient interacts with a variety of health professionals in a polyclinic environment (where applicable)
  - ✓ The patient feels like the team is taking an integrated approach to care

- **The patient** learns with tools that make sense to them
  - (Self-directed education, Group Visits)
  - ✓ The patient selects how they will receive their education
  - ✓ The patient participates in group visits, and in doing so, learns from peers and feels supported

### After and Between Visits

- **The patient** goes to the next clinic visit
  - (Patient Centred Scheduling, EPR)
  - ✓ The patient goes straight to the next visit without re-registering or going over the same questions
  - ✓ The patient feels like the clinics are working together

- **The patient** experiences continuity of care
  - (Electronic Medical Record)
  - ✓ Information is shared with appropriate members of the care team
  - ✓ The patient feels confident that the entire care team is working together
Future State Ideas: Impact on the Provider Experience

The following brings together the Future State Ideas to summarize the key impacts on the patient’s experience:

**Before the Visit**

The care provider contacts the patient to schedule the visit (Patient Centred Scheduling)

- The scheduler has the information and tools they need to schedule the visits quickly and efficiently

The care providers don’t have to remind all their patients (E-Services Patient Reminders)

- Most patients receive e-service reminders, and now the care providers only have to remind patients on an exception basis

**During the Visit**

Registration staff help those patients that need it (Central Registration)

- Many patients self-register so registration only needs to support those patients that need extra help
- Registration has the tools they need to quickly register patients

The care providers are always up to date with each other (Communication, EPR)

- The care providers maintain contact with each other to keep things flowing
- The electronic patient record ensures that care providers have the most current information at all times

The care providers interact with less anxious patients (Patient at the Centre)

- Patients are more calm, and clinic staff are not spending time dealing with patients frustrated by waiting and inefficiencies
- Care is delivered with fewer barriers

The care providers facilitate learning (Self-directed education, Group Visits)

- Care providers can increase the effectiveness of their education by supporting patients in using self-directed education, and participating in group visits

**After and Between Visits**

The care providers know where the patient is in the process (Patient Centred Scheduling, EPR)

- When patients have multiple visits on one day, the care providers are aware of where the patient is, and what has been performed so far

The care provider has a quiet place to do charting or interact with other providers (Patient/Provider Flows)

- The separate provider area is a place where different members of the care team can interact and learn from each other
The Future State Visit Flow
While there will still be some variation in patient visits in the future, the following summarises the future state process flows that will be the goal for the majority of clinical services at St. Paul’s:

The Flow of a Clinic Visit: Pre-Visit Processes

Setting up the Visit

The patient books their appointments online

\[
\text{----OR----}
\]

The patient calls the central scheduling hotline

The patient makes educational material available

The primary care provider books patient appointments

Scheduling staff sets up a patient-friendly schedule

\[
\text{----OR----}
\]

Appointment notification sent to all parties

Confirming the Visit

The patient sets their reminder preferences

An automated reminder is sent to the patient

Patients are better prepared for their visit...

Active Prep: Education (if applicable)

The Clinic makes educational material available

The patient prepares for their visit

Active Prep: Information Gathering (if applicable)

The patient provides any required information

Fewer missed visits (email, text, phone…)

Patients are better prepared for their visit…
The Flow of a Clinic Visit: Arrival at St. Paul’s

**Pre-Visit Registration** (optional)

- The patient registers online up to 24hrs before visit
- The patient can print visit details and confirmation

**Arriving for the Visit**

- The patient enters through the main entrance
- Registration options are clearly identified

**Registering on Arrival**

- The patient confirms arrival at kiosk / central desk
- The patient registers in-person at the central desk
- Registration staff confirm patient and appointment details
- Greeting staff are available to help if required

**Traveling to the Clinic (Part I)**

- The patient follows clear directions to their clinic
- Clinics are notified of the patient’s arrival

Routes to clinics are clearly signed

Registration set up to maintain privacy and improve flow

Patients know where they should enter...
The Flow of a Clinic Visit: Arrivals at the Clinic

Arriving on the Clinic Floor

- A navigator directs patients to the correct part of the floor.

Schedules set up to minimize waiting.

Active Waiting: On-Arrival Education (if applicable)

- Patient is given educational material in appropriate medium.
- The patient self-educates prior to seeing clinicians.

Active Waiting: Information Gathering (if applicable)

- Patients completes any surveys and forms to support visits.

Beginning the Appointment

- Care providers access the patient’s information.
- Care providers call the patient in for their appointment.

Information is available on an EPR.

Typical Clinic Appointment (go to page 62)

Interventional Appointment (go to page 63)
The Flow of a Clinic Visit: Typical Clinic Appointments

Patient Preparation

- Care providers greet the patient and confirm details
- Care providers explain how the visit will unfold

Patient Prepares for Clinician Visits (if applicable)

- Patient changes and gets ready for the appointment
- The patient has any clinical preparation completed (e.g. Tests)

Clinical Interactions (Single or Multiple Clinicians)

- Patient meets with clinician for diagnosis/treatment
- Clinician accesses and/or updates EPR in the room

Staff Provider Areas

- Care providers prepare for patient and work with other clinicians

Group Visits (if applicable)

- The patient receives orientation and education as a group
- Patient meets 1-on-1 with one or more care providers

Other Clinic Visits (if applicable)

- Patient changes and travels to next clinic’s location
- A navigator coordinates the patient’s next clinic

Exam rooms are spacious, generic and flexible
The Flow of a Clinic Visit: Interventional Appointments

Patient Preparation
- Care providers interview and prepare the patient
- Patient changes and gets ready for the appointment

Preparation for Intervention (if applicable)
- The patient has any clinical preparation completed (e.g., tests)

Clinical Intervention
- Care providers prepare the room and bring in patient
- Care providers perform the intervention
- Patient transferred to recovery and room turned over

Patient Recovery from Anaesthesia (if applicable)
- Care providers help the patient recover from Anaesthesia
- The patient has any ordered tests

Patient Recovery
- Patient’s recovery is monitored by clinicians
- Patient receives any relevant post-op education (also emailed)
The Flow of a Clinic Visit: Discharge

**Patient Prepares to Leave (if applicable)**
- The patient gets changed and collects belongings
- Staff may advise patient of any initial results / next steps

**Patient Waits for Responsible Adult (if applicable)**
- The patient waits in a central staffed area for responsible adult
- The patient can review any available educational material

**Patient Discharge**
- Patient travels to the exit and departs the building
- Support staff help if required (e.g. booking taxis)

**Clinic Documentation**
- Care providers electronically chart patient’s visit
- Care providers decide on next steps and initiate process

**Patient Follow Up**
- Patient’s follows up on next steps (e.g. books next visit)
- Patient may receive e-reminders for taking medication

**Central staffed areas for patients waiting for pick up**

**Patient leaves with clear next steps and education materials**
The Future Experience at the Program Level

The following table summarizes the Future State Ideas by each Program. The icons show the level of support for each idea from Providence stakeholders, and the interpreted impact on the future service delivery.

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<tr>
<th>Future State Idea</th>
<th>Heart Centre</th>
<th>Medicine</th>
<th>Mental Health</th>
<th>Renal</th>
<th>Respiratory</th>
<th>Surgery (Interventional)</th>
<th>Surgery (Clinics)</th>
<th>HIV/AIDS/Urban Health</th>
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Future Plan ... Key Take Away Messages

- One of the biggest opportunities identified was to design a flexible space for with patient and provider flows in mind.

- To facilitate an improved future state it was identified that a key pre-requisite is the use of an Electronic Medical Record which is tailored meet St. Paul’s future needs.

- 10 proven future state ideas/concepts were identified that have been shown to improve the patient experience and operational effectiveness. These ideas have been shown to have positive impacts through simulation modeling and through the experience from other sites.

- The desired future state for patients is a model where patient care is focused around the patient (where sustainable) within an environment that is supportive to their needs. Ultimately this will lead to improved quality of care and improved patient outcomes.

- The future state design should have open working environments that promote integration and collaboration between clinics on a daily basis.
ADDITIONAL CLINICAL SERVICE PLAN ASSETS

In addition to the main Clinical Service Plan document, the engagement approach has also facilitated the development of a number of assets that can be used in parallel to assist with ongoing work towards the new ambulatory tower. These assets can be summarized as follows:

**KI System Data**

Throughout the planning process, significant effort was made by more than 100 stakeholders to populate detailed clinic-specific information into the Knowledge Integration (KI) System - AnalysisWorks’ web-based platform for information gathering and group decision making. In fact, these stakeholders combined to spend more than 15,000 minutes (over 250 hours) logged into the KI System throughout September and October 2012.

Having fed into the development of this Clinical Service Plan and also formed an integral input for the simulation models of both current and future states, the information has now been retained in an extensive database that will be used in the continuing planning efforts (e.g. Functional Programming).

The following are some of the features of the KI System data:

**KI System Database**

- **Operational Details** (Hours of operation, Staffing, etc.)
- **Patient Information** (Profiles, Volumes, etc.)
- **Current Strengths and Challenges**
- **Future Opportunities and Risks**
- **Visit Information** (Patient & staff processes, durations, etc.)
- **Detailed information in over 60 accounts**
- **250 hours of input**
- **Opinions of 100+ staff**
- **Hundreds of ideas for the future**
- **Significant overlap with Functional Program requirements**
- **Standardized format for ongoing planning**
Research Findings

The planning process has involved more than 100 hours of research which has played a significant role in the development of this Clinical Service Plan. The following information describes the different elements of the research and how the results of these efforts can be viewed in more detail:

Clinical Service Plans

The goal of a Clinical Service Plan is to paint a picture of how clinical services will be delivered in the future. Significant effort has been made to review other Clinical Service Plans from both Canada and abroad, with the aim of learning what has, or has not, been successful in achieving this goal.

In examining more than 10 Clinical Service Plans in great detail, and sharing some of them with stakeholders at the Future State Presentation (November 8, 2012), numerous lessons have been learnt and taken forward into the development of this Clinical Service Plan in terms of approach, content and format. Based on these findings, there is a one-page summary provided in the appendices. This document provides links to example Clinical Service Plans from Ontario, Australia, and New Zealand.

Other Ambulatory Centres

To ensure that St Paul’s makes the most of this redevelopment project, it was acknowledged that significant efforts should be made to learn from other ambulatory facilities in both Canada and abroad.

In addition to in-person visits and site tours of new centres including Orbis in the Netherlands and the Jim Pattison Outpatient Care and Surgery Centre in Surrey, extensive research was undertaken into what has or has not worked well elsewhere, such as Children’s Bellevue Clinic (Seattle) and Massachusetts General.

Further details of these sites are provided in the presentations (see appendices) from the Future State Workshop (October 17, 2012) and Future State Presentation (November 8, 2012).

Future State Options

In addition to the extensive engagement of St. Paul’s stakeholders, significant research has been undertaken to identify the biggest innovation opportunities that can be incorporated into the future state design for the new tower. This included investigation into how the ideas work, what it takes to implement them, the anticipated benefits and the most significant challenges that need to be overcome to ensure success.

The appendices include 12 separate one-page briefing notes on each of the most feasible options identified. These documents also include links to many more research findings on each of the ideas.
Simulation Modelling
The clinical service planning effort has also resulted in the development of a detailed conceptual simulation framework for comparing service delivery in both current and future state environments. The following areas have currently been captured using the simulation: Heart Centre, Pacific Lung Health Centre, Endoscopy Suite, Cardiac Echo, and Medical Short Stay. The following describes some of the elements included in the simulation and how these efforts can be leveraged in the future:

Model Results and Sensitivity Analysis
Multiple scenarios were analyzed to quantify the potential benefits of the stated future state ideas and to test the sensitivity of the results against changes to the main modeling assumptions. Each scenario contains detailed results to assess performance from a Patient perspective, a Provider perspective, and a System Perspective. Nine different scenarios were tested and replicated twenty times each to account for system randomness. In total, 180 simulation runs were compiled to generate the results presented in this report.

Virtual Test Bed
The SPH Ambulatory Simulation is a ready-to-go virtual test bed that can be used to evaluate service delivery options and quantify specific resource needs and performance levels to assist in planning efforts for both the current and future state systems. It is driven by patient flow information collected from the KI system and can be expanded to model other clinical services and other patient groups included in the study. The accurately scaled 3D visualization is great tool for illustrating specifically how the system works, and for identifying where operational challenges are likely to occur.

Simulation Videos
Three videos captured from the simulation were produced to further highlight the challenges being encountered in the current system and to illustrate how things could be different through visualization of the operational and architectural design concepts proposed for the future state and by tracing the journey of a complex patient through both the current and future state systems. Links to each of the videos are included below:
- The Current State Model: http://youtu.be/jLKA7RRWac
- The Future State Model: http://youtu.be/XCBIBSAGRjk
- The Future Patient Experience: http://youtu.be/KU-d2eLGqXM
Clinical Service Plan Assets ... Key Take Away Messages

- Innovative tools such as the KI System have been used to facilitate gathering an extensive amount of clinic specific information, from a wide range of stakeholders. The detailed information can be used for continuing planning work.

- Extensive research has been performed to identify best practices that have worked at other sites, as well as identify any lessons learned and implementation considerations.

- Advanced simulation modeling has been used to measure and assess the impact of future state concepts at St. Paul’s. 3D visualizations have also been developed to show patient flows and help understand the patient’s experience.
APPENDICES

The Clinical Service Plan includes the following appendices:

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