navantis

PLANNING A REGIONAL HEALTH CARE PORTAL WITH SHAREPOINT 2013

A GUIDE TO USING SHAREPOINT TO BUILD BRIDGES BETWEEN HEALTHCARE PROVIDERS

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INTRODUCTION

The definition of an “organization” is rapidly changing. Within the public sector, organizations such as hospitals, regional health care bodies, governments and health care practitioners are under increasing pressure to collaborate across organizational boundaries in order to improve service to their patients, increase efficiency in sharing of information and create continuity of care as patients interact with an extended eco-system of health care delivery solutions.

As the health care eco-system is increasingly integrated and the success of the community of health care providers is dependent on regional teams working together, the underlying technologies, processes and culture that can empower this increased regional communication is critical to the long term improvements in delivery and the continued focus on patient centric care.

This white paper provides a general introduction to Regional Healthcare Collaboration. The document describes some deep experience we have had in developing regional collaboration solutions based on Microsoft technologies such as SharePoint, CRM, BizTalk, etc. We have used these technologies to create regional collaboration “spaces” that can be leveraged by health care teams, management committees, clinical experts and governments to improve health care outcomes for patients. This white paper will provide you with some understanding of some of the issues with implementing such a solution including lessons learned, governance issues and potential benefits.

We encourage you to contact Navantis for further guidance and support in establishing a Regional Collaboration solution, whether you are starting a new program, rescuing a troubled project, or extending an existing platform to other stakeholders. Our team of strategic consultants will provide practical advice on how to use the concepts explained in this white paper and apply them to your particular objectives, functional requirements and culture.

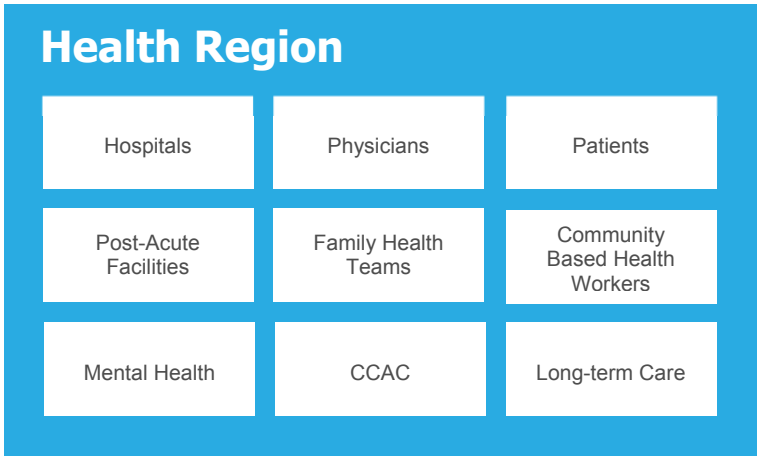
A VISION FOR REGIONAL COLLABORATION IN HEALTHCARE

We define "Regional Collaboration" within the context of this strategy as the ability for groups of health care service providers across **a region** to be able to share information effectively. Regional Collaboration in our model involves multiple stakeholders and/or organizations working together to share information, collaborate on new ideas**,** or solve problems that will improve patient health care.

A region can mean different things within various jurisdictions. For example, in the United States RHIOs (Regional Health Information Organizations) are regional and/or community based collaborations to exchange healthcare information electronically across organizations and disparate information systems. In the United Kingdom, Strategic Health Authorities were created to manage local health services and provide a link to the Department of Health. In Canada, health care is governed by each province and they each have different methods for defining a "region". For example, in larger provinces such as British Columbia, Alberta and Ontario there are regional healthcare organizations that are responsible for funding, coordination and governing of the various health care providers within a particular geographic region. In provinces with smaller populations, the delivery of healthcare services is managed by a single authority (e.g. Prince Edward Island and the Yukon).

In fulfilling their mandate to manage services for a wide range of hospitals, agencies and healthcare providers, regional authorities are challenged to support their information and operational requirements in a unified, cohesive way.

The ideal model for healthcare, and the basis for most electronic health initiatives, is based on the concept that the full integration of services, resources and information is required for effective and sustainable care. **In order to do this, regional authorities must take the lead in bringing together disparate, varied and geographically-dispersed organizations on one secure, flexible, cost-effective platform.** This platform provides the foundation on which they can add tools and applications to create a truly integrated health community.



THE CHALLENGE WITH REGIONAL COLLABORATION TODAY

The modern health care system within a region is incredibly complex with many different teams, organizations, committees, etc. that are all working together to provide health care services to patients. As patients increasingly use services from multiple health care providers, the need for regional collaboration is critical in order to provide patient centric care.

REGIONAL COLLABORATION TODAY – AN EXAMPLE

The following is an example of just one type of regional collaboration within a health care region.

> *An elder abuse committee is a regional body that is mandated to share best practices and define regional strategies for mitigating the impacts of elder abuse within the community. The committee is made up of a mix of stakeholders from all areas of the health care system including the regional health authority, long term care facilities, geriatric specialists, etc. How do these members share information today?*

In the current environment, there are a number of communication channels being used today, including:

- Email
- Face to face meetings
- Conference calls
- Mail
- Faxes
- Couriers
- System to system information integration

The most popular and time-consuming form of collaboration today is the “meeting”. Within a single meeting, the amount of information sharing and time spent collaborating is significant. For each meeting, there are agendas to be circulated, a 1-2 hour drive for each person to a meeting location, 1-2 hours for the meeting, various meeting materials to be circulated (mainly printed physically), minutes to be recorded, etc. In the typical environment, there is no electronic means to centralize how this information is shared. Instead, information is being distributed through email or in some cases faxes and physical mail.

Because there is no central and easily accessible repository for this information, there is no easy way to harness it as an information asset. For example, imagine if you could search through the minutes, action items and documents of every committee within the region to see if there was overlap between them?

Imagine if a committee could review previous minutes of meetings by a single click instead of having to manually search their email? Imagine that instead of printing 10-20 copies of every document that you could simply store them in a central place, collaborate on them electronically and then archive them? Imagine if teams could reduce the need for face to face meetings for only those items that required extensive discussion and face to face collaboration by having groups review and provide electronic feedback through automated workflows?

THE REGIONAL COLLABORATION SERVICE

The Regional Collaboration Service described in this white paper is a SharePoint collaboration portal that is implemented at the regional level. Hosted centrally (likely by one of the hospitals within the region), it would provide a combination of service, technology and processes for enabling regional information sharing. Regional "teams" (committees, boards, organizations, project teams, etc.) can access information from any web browser securely through the Internet. The Regional Collaboration Service provides core collaboration services such as document management, search, meeting management, calendaring, etc. as well as acting as a searchable archive so that others can find historical information at a later date. The Regional Collaboration Service can support both clinical and non-clinical data with the appropriate safeguards in place to ensure patient privacy.

The service allows committees, task forces, boards, cross-functional groups, etc. to be able to share information across the region through a centralized portal. The portal provides the following key functions that enable this service:

- An easy to use registration process that orients users quickly
- A single username and password that allows users within the region to obtain access to all collaboration sites
- A helpdesk and support model that ensures users can be assisted as needed
- A collaboration service that allows each "team" (e.g. committees, boards, cross-functional groups, etc.) to have their own dedicated electronic collaboration space
- A personalized and end-user focused home page that shows the end-user all the teams in which they are a member and allows them to access any of them with a single click.
- The ability to allow team leaders to manage their own content, permissions, and site structure with minimal training required and no intervention required by IT staff
- Support for storage of clinical data including Personal Health Information (PHI)

A team member can login into the Regional Collaboration Service and be presented with a list of their member "collaboration sites". Each site represents a virtual collaboration area that allows teams to store documents, manage meetings, and track tasks. The team site is "owned" by a designated team leader allows other team members to join. The "site owner" can also change the structure of the site to suit their team needs.

OPPORTUNITIES FOR REGIONAL COLLABORATION

The following scenarios represent key needs for regional collaboration within health care organizations. For each scenario, we have provided details on how a Regional Collaboration Service can address these scenarios.

PROBLEM STATEMENT	OPPORTUNITY AREA
Healthcare Providers want to collaborate with other organization, but there are barriers to effectively sharing information and communicating **Constant re-invention of the wheel within and across providers**	**Team / Project Collaboration** Regional healthcare committees such as elder abuse, mental health, quality management or IT may use collaboration sites to manage their groups interactions, including: • Store and collaborate on documents • Manage calendars and contact information • Send out notifications/announcements • Manage meeting agendas and track attendance Collaboration sites specific to individual clinical or operational areas could be used to share and refine leading practices or innovations (e.g. ER process improvement, quality initiatives, staff scheduling best practices, etc.).
Delivery of patient care spans organizational boundaries, but providers have no means for effectively comunicating with each other	**Clinical Collaboration** To support the cross-organization clinical collaboration and coordination, there is a requirement to manage and share clinical data between organizations. This could include Personal Health Information (PHI). Potential functions of clinical sites could include: • “Virtual ward” team rounds • Management of research studies • Collaboration of multi-disciplinary teams on the delivery of patient care Typically, the heightened security and privacy requirements associated with these sites require they be provisioned through a separate process and have additional features included within the site such as audit reports.

Providers want to better manage internal collaboration, but many lack the tools and resource to do it effectively	**Intranet in a Box** A regional shared service would allow smaller organizations such as family health teams and hospices to benefit from a robust collaboration tool. Benefits include: Use of a common platform at the local and regional level simplifies training and support requirements Standardized templates help ensure consistency for employees that have roles at multiple organizations **Records Management** SharePoint 2013's enterprise class records management capability allows smaller organizations to benefit from a robust tool that properly transitions documents to records with applicable locks, legal holds and retention policies.
Manual data collection is challenging to both administer and consolidate	**Data Collection** There is a significant amount of data collected across a health region for various purposes, including: performance reporting; clinical research; process improvement initiatives, or data sharing between organizations. The Regional Collaboration Service can act as a centralized solution to manage the submission and consolidation process, saving time and effort.
It is challenging to get the opinions and perspectives of different stakeholder groups in a region	**Data Collection - Survey Tools** Surveys are another variant of data collection, and can easily be created and targeted to groups of users. Potential applications include: • Polls for gathering clinical information, feedback, staff information, etc. • Employee satisfaction surveys • Patient satisfaction measurement Asking others for their opinion is an important part of collaborating in healthcare, both inside an organization, and with peers across a region.

Healthcare providers want more insight into regional and organizational performance	**Dashboards/Reporting** One of the key features that a regional collaboration solution provides is the ability to provide executive dashboards, reports or score cards. These could be deployed as features within a single site, or they could be developed centrally and then deployed to individual sites.
Providers want to go to one place to accesss services and applications	**Regional Applications** Applications implemented by the region (e.g. e-Referral) need a "home" that is broadly accessible and can integrate into the overall portal experience. Ontario's Champlain Local Health Information Network (LHIN), as an example, has used their regional collaboration tool (built on SharePoint) to develop applications that automate and improve efficiency of regional workflows. For example, they have built an application that allows for regional scheduling of drivers for transferring patients between providers. There will be applications that are more appropriate to build outside of SharePoint; however, they can still be "surfaced" within the Regional Collaboration service.
There are many opportunities to use form-based workflows, but it is too expensive to implement or IT resources are just not available	**Automated Forms** In any health care organization, there are many forms used to capture information which is then processed through a business workflow. In many cases, these forms are printed, filled in manually, and then filed or scanned. Potential applications of automated forms include: • Vacation requests • Shift change forms • Scheduling resources (e.g. transportation, surgical rooms, clinical services, etc.) • Pre-registration A centralized tool set is significantly more efficient than individual organizations designing their own forms with distinct technology solutions as they can be developed once and shared across organizations.

Healthcare professionals spend far too much time looking for information, or recreating what has already been done	**Knowledge Management** Information is typically locked within isolated organizational or departmental silos. The information is an asset that could be shared with a much larger population or retained for future use. For example, each hospital has policies which would be valuable to share with policy managers across the region. One of the key challenges is sharing knowledge after the fact. Typically, the only way to find information is to ask an "expert" who might have a copy of documents in their inbox. A significant investment in time and resources is spent creating value which is then trapped in local file servers, email in-boxes, or paper files. As collaboration sites are created, shared taxonomy, search and tagging of content allow end-users to easily find information. As documents and sites grow exponentially over time, the benefit to "curating" is that when someone invests the time in creating a valuable document, it can be effectively shared with the community.
Identifying and engaging peers within a region is a challenge	**Communities of Interest and Social Networking** A key challenge within health regions is identifying and communicating with groups of resources who share common functions or interests (e.g. infection control, bed management, clinical education, critical care management). Through a regional service, "like" professionals or organizations can be identified to support communication and collaboration within the group (e.g. sharing best practices), and also for communications to be targeted at specific roles across multiple healthcare providers (e.g. ER leadership).

FACTORS DRIVING REGIONAL COLLABORATION

The shift to a regionalized model for healthcare delivery is driving the need for increased communication and collaboration between different healthcare providers. Here are some key signs that imply the need for a regional collaboration solution:

- High cost and inefficiency associated with developing organization-specific solutions that inhibit the sharing of information and collaboration
- Requirement for regional authorities to improve collaboration between health care service providers
- Geographic distances that result in high travel costs or ineffective communication between providers
- Significant variations in tools and infrastructure between organizations (e.g. hospitals, post-acute facilities, family health teams, community health centers, etc.)
- Regional bodies (committees, boards, and ad hoc project teams) have no logical “home” from a collaboration perspective given their cross-organizational nature
- Health regions require a consistent vehicle to communicate with and engage healthcare providers

BENEFITS OF A REGIONAL COLLABORATION SHARED SERVICE MODEL

The following are the anticipated benefits to a shared service model in comparison to each individual organization building its own collaboration platform:

ENABLED SERVICES

- Collaboration services for regional organizations (committees, boards, teams, etc.) which currently use email and file shares for collaboration
- Regional applications (referrals, scheduling, assessment, data collection, etc.)
- Intranet services for smaller health care providers who have no current option
- Balance between autonomy of individual organizations and benefits of common solution components, services and processes

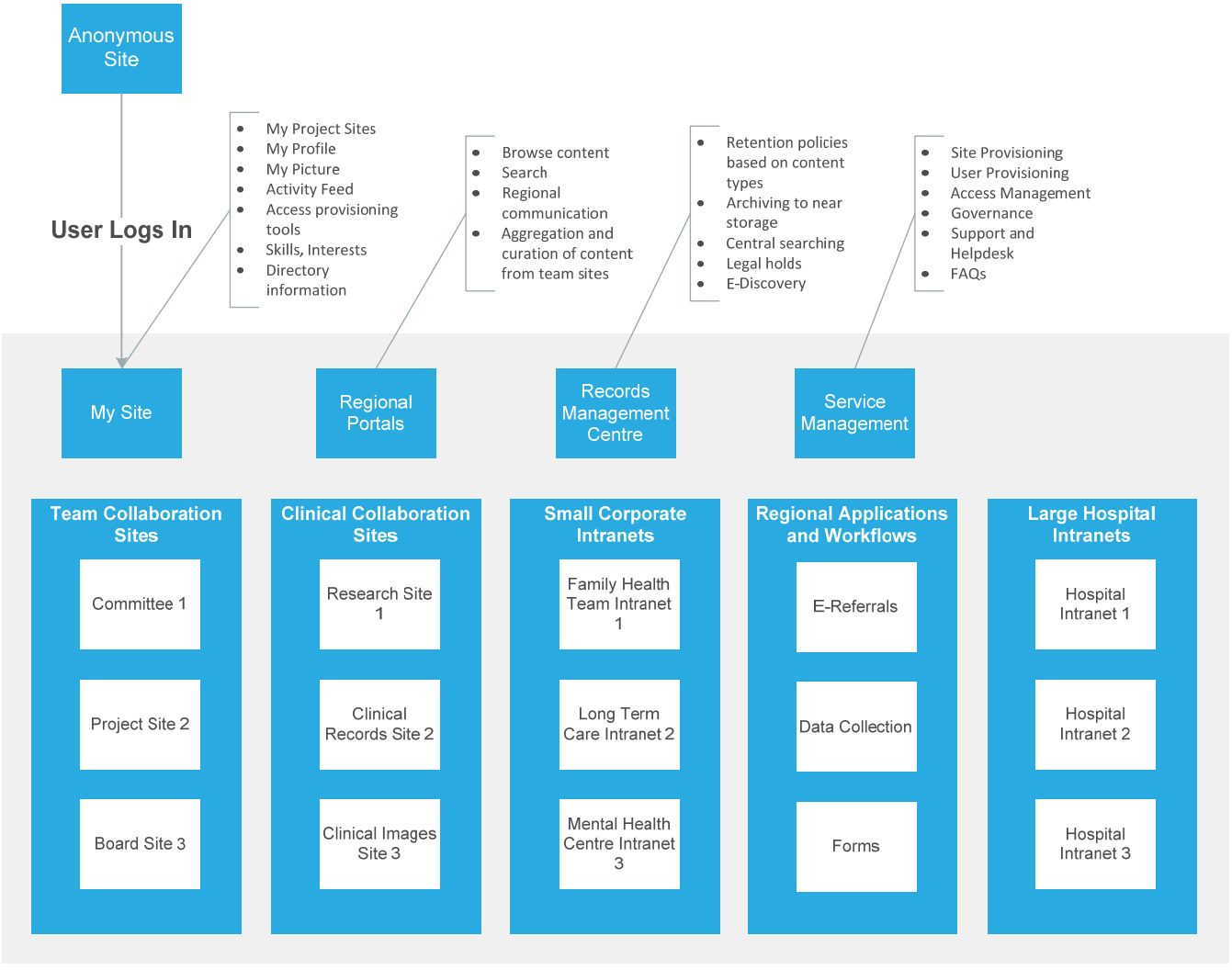
RATIONALIZATION

- Centralized regional expertise that can be shared across organizations
- Consistent collaboration tools to all providers, regardless of size and technical infrastructure
- Improved re-use of custom developed or third party solutions
- Reduction in overall infrastructure costs through consolidation into a single solution
- Reduction in management costs through consolidation of operational services such as helpdesk, backup and recovery, and monitoring
- Improved high availability as the additional cost for redundant servers can be spread across the region
- Standardization of processes
- Support for standardized privacy framework, clinical taxonomy, information management, workflows, etc.
- Ability to support smaller organizations where no solution is currently in place and developing a local platform would be cost prohibitive

By employing a shared service approach while using SharePoint to logically segment each organization's "collaboration space", this can provide significant cost savings, standardization, etc. while still allowing each organization to have autonomy in how they manage their own information.

DEVELOPING A REGIONAL COLLABORATION SERVICE

A Regional Collaboration Service provides the means to deliver against regional objectives for rationalizing services across health care organizations, ensuring continuity of care, sharing best practices and increasing efficiency through re-use and standardization. The service allows healthcare providers (e.g. committees, task forces, boards, cross-functional groups) to be able to share information and access applications across the region through a centralized portal. The following model depicts how a regional service can be structured to deliver services to the community.



The portal should provide the following key functions that enable this service:

- An easy to use registration process that would orient users quickly
- A single username and password that would allow users within the region to obtain access to all collaboration sites
- A helpdesk and support model that would ensure that users can be assisted as needed
- A collaboration service that would allow each “team” (e.g. committees, boards, cross-functional groups, etc.) to have their own dedicated electronic collaboration space
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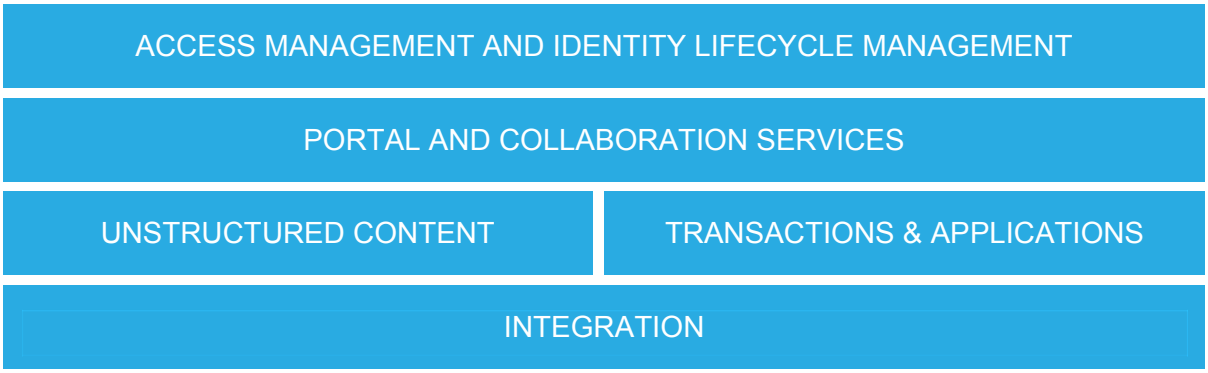
SOLUTION COMPONENTS

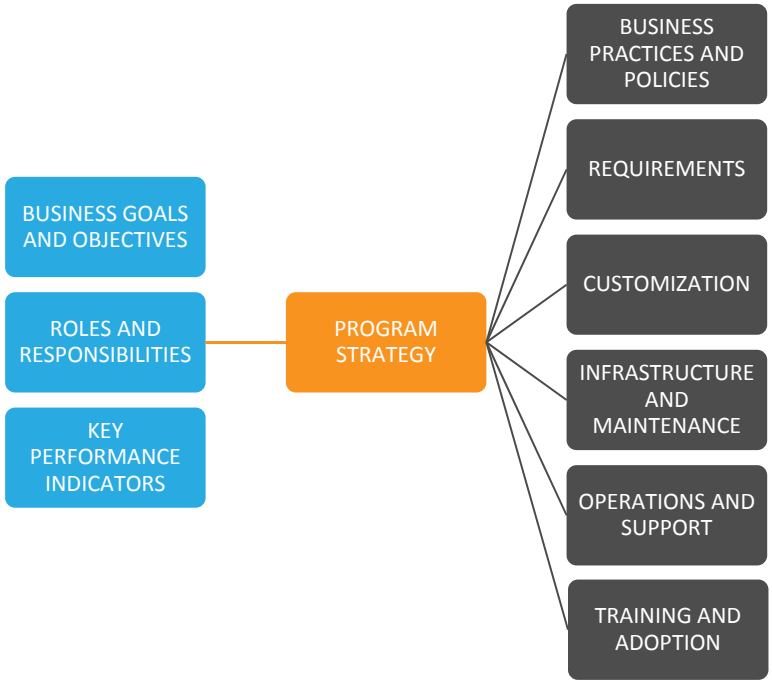
The regional collaboration service should have the following key components to enable the delivery of services to the community.



AREA	DESCRIPTION
Access Management and Identity Lifecycle Management	Providing a single access point with one username and password that allows all users within the region to access all underlying collaboration sites
Portal and Collaboration Services	Providing a single view that places disparate information in the appropriate context, and allows users to interact with structured and unstructured content at a workflow level
Unstructured Content	Information not contained in a structured data system, such as a database or ERP package. This would include emails, word processed reports, requests for tender, contracts, website content, or presentations.
Transactions and Applications	Content created or maintained in a structured data system including in-bound and out-bound electronic forms, databases or applications
Integration	Based on application-specific requirements, enabling the integration based on defined specifications (e.g. HL7) with regional or HCP-specific applications or data sources (e.g. HIAL, HIS, etc.)

MANAGING A REGIONAL COLLABORATION SERVICE

Based on our experience working on dozens of SharePoint and collaboration projects, Navantis has developed a Governance Framework for managing SharePoint collaboration solutions.



This model is based the following best practices and input:

- Microsoft Best Practices and their existing Governance Framework
- General enterprise architecture frameworks and approaches (e.g. Zachman, ITIL, TOGAF, etc.)
- Ten years of experience implementing SharePoint in a variety of contexts by Navantis project teams

The requirement for clear Governance is heightened when applied to a regional healthcare solution given the multitude of disparate organizations. Navantis brings deep experience and strong healthcare credentials to help ensure the success of a regional collaboration initiative. Please review the SharePoint Governance White Paper at microsoftstrategy.com for more information on the Navantis Governance approach.

KEY CONSIDERATIONS

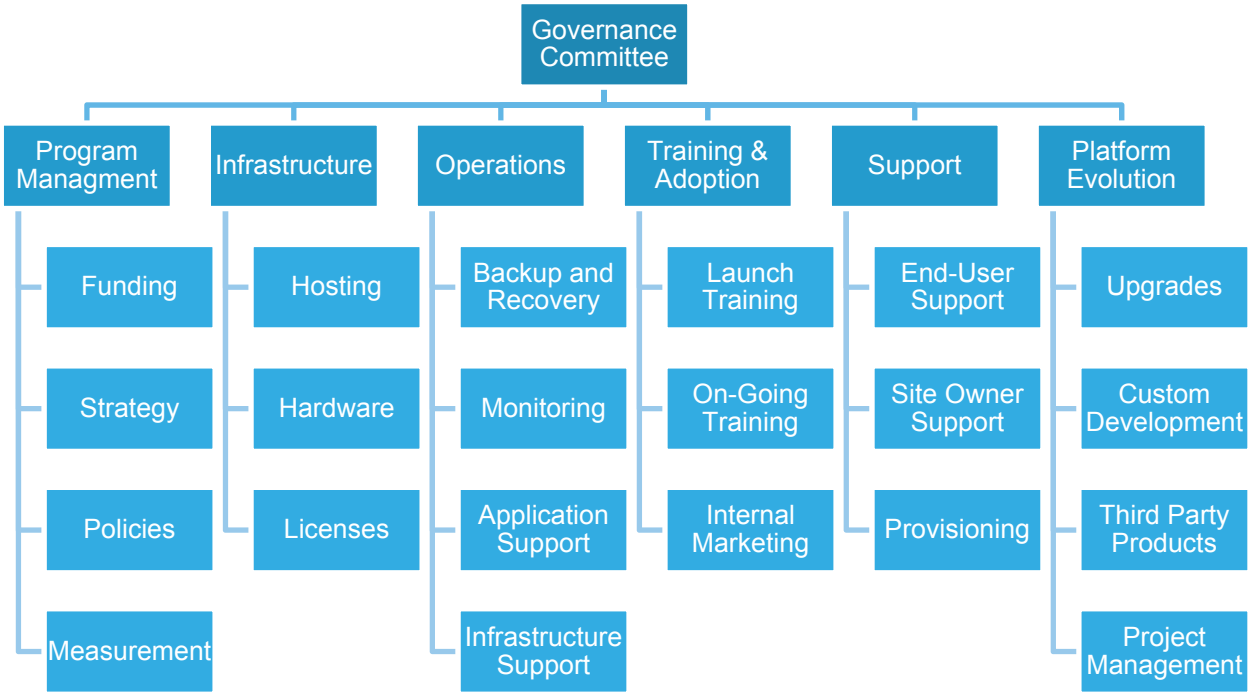
From a regional healthcare collaboration perspective, we would like to highlight the following considerations:

- How do we establish the appropriate frameworks for the “hosting provider” to support the entire region from a support, infrastructure and training perspective in a sustainable manner?
- What is the appropriate funding model?
- What is the most effective way to define and monitor service level agreements?
- How do we define objectives and measure their effectiveness?
- How do we encourage and maintain adoption?
- What are the privacy considerations for a regional collaborative solution?
- How do we support the storage of clinical data including Personal Health Information?
- How do we standardize our information management practices and share information across the region?

Navantis brings a strong track record in working with regional authorities and individual healthcare providers to address these and other questions.

ROLES & RESPONSIBILITIES

In order to manage the platform, the following roles should be established to ensure that the platform is well governed:



Each role could be performed by different organizations or even a mixed team. For example, Infrastructure and Operations could be the responsibility of a hospital acting as the “hosting provider” while support might be provided by a combination of regional program managers, existing local trainers, etc.

SERVICE LEVEL AGREEMENTS

Service Level Agreements establish the standards for operation of an application. By establishing these standards, operations teams can be measured on their performance and expectations of the organization can be managed.

The following are typically included in a Service Level Agreement:

AREA	DETAIL
Services Provided	Support refers to the support team that is responsible for supporting, managing and making changes to the SharePoint platform including: • Help Desk/First Tier Support • Support Services/Second Tier Support • Infrastructure Support Services
Service Management Process	Process and tools for submitting, tracking and assigning requests for service
Service Schedules	Hours of operation/coverage
Points of Contact	Identification of assigned primes for each service area
Issue Resolution Criteria	Definition of criteria and response times associated with each severity level, to help appropriate classify, prioritize and monitor issues
Service Escalation	The contact procedure when a target response time is not met
Service Measurement and Management	SLA measurements, statistics and review process relating to service outages, availability, current requests, ownership, next steps and problem resolution
Cost Model	Definition of cost model based on assignment of resources and responsibility for supporting a shared service

Providing Effective and Sustainable Support

Ensuring that the Regional Collaboration Service is maintained is critical to achieving the original objectives. A SharePoint platform that is not actively supported risks poor adoption as end-users experience problems. Within the life cycle of a user, the most support is required during the original orientation, setup and provisioning, and this represents the greatest risk for adoption.

In addition, it is important to invest in automated tools so that the support team isn't overwhelmed with manual processes. Common processes such as provisioning users, resetting passwords, creating sites, running back-ups, etc. should be as automated as possible to increase efficiency and ensure that the support team can support thousands of users with a small team.

UNDERSTANDING COSTS AND HOW FUNDING MODELS IMPACT BEHAVIOR

Funding models can have an impact on behavior, either intended or unintended. For example, if costs are allocated per use, then the incentive will be to curtail use in order to keep costs low. In contrast, if costs are fixed or budgeted yearly then this will encourage use as departments are charged the same cost whether they use the service once or many times.

In addition, costs should be measured against savings from the discontinuing of alternative behaviors. For example, one of the key objectives for the SharePoint program is the transfer of collaboration from ad hoc email collaboration to structured collaboration through SharePoint. While the costs of use increase as users start collaborating on the platform, this should lead to savings in other areas such as email storage. Therefore, these behaviors should be actively encouraged because there is a net savings for the organization.

Based on the objectives of the SharePoint program, there are key behaviors that should be encouraged through a regional collaboration service as they will either increase efficiency, produce savings in other areas, or increase compliance:

KEY BEHAVIORS	BENEFIT
Collaboration	Efficiency through reduction of storage, improved compliance through meta-data and workflow
Knowledge Management and Search	Efficiency in finding information, reduction of errors, improved quality of information
Security and Privacy	Increased compliance
Project Management	Increased efficiency, compliance in management of projects, improved quality
Records Management	Increased compliance
Virtual Collaboration	Less travel costs, less long distance costs, improved efficiency in communication

The funding model should be designed to encourage the intended behaviors and encourage users to adopt the platform and create net efficiencies, savings or compliance through these behaviors.

Based on our experience, our recommendations for funding of a regional SharePoint program are as follows:

- Keep the funding model simple and as “all you can eat” as possible – this will encourage adoption.
- Use quotas to establish and enforce storage boundaries for each project team’s collaboration space.
- Develop a model for managing operating costs as they increase because of adoption. Typical operating costs that will increase over time will be helpdesk, program support, and training as the number of users increase.
- Use on-going analytics to validate the projected usage and cost models that were developed. For example, you may find that each team is using far less storage than was originally anticipated or the amount of helpdesk calls is dramatically more than originally estimated. In either case, the funding models need to be adjusted to reflect lessons learned from usage patterns.

The key message here is that from an adoption perspective, the easier you can make on-boarding of new teams, sites and applications the better it will be adopted. The more that funding models are complex, a la carte and usage-based the greater the risk to adoption as users are faced with complex pricing and registration mechanisms.

Key costs that should be evaluated and understood as part of the funding model are:

AREA	DESCRIPTION	TYPICAL COSTS
Implementation Costs	• Typically capital in nature and amortized over a 3-5 year period. • Costs are shared and based on user numbers • Costs do not typically vary based on the volume of use	• Planning/Governance • Hardware / Storage • Bandwidth/Network • Server Licenses • Setup of Infrastructure / Intranet Migration • Information Architecture • Communications and Initial Training
User Costs	• Metered on a per user basis	• User licenses (CALs): can be charged to source organizations on a per user basis or funding centrally • Collaboration storage: average usage should be monitored and quotas established
Phased or Project Based Costs	• Associated with major releases or launch of new applications (e.g. site templates, workflows, applications)	• Quality assurance • Architecture support • Project management
Ongoing Costs	• Incurred on an annual basis to maintain and operate the platform • Typically static until volume of traffic exceeds current infrastructure and support staff allocation	• Operations • Training • Help desk • Management support • Communications • Backup and Recovery management • Monitoring • Upgrades
Staffing and Support Costs	• Core team responsible for the operation of SharePoint and implementation of changes to the platform	• Project/program management • Database management • Systems administration • Training • Content management • Helpdesk/First tier support

PRIVACY MANAGEMENT

Public bodies have specific requirements imposed by legislation to protect the personal information in their custody or control. Significant consequences may arise from failing to protect this information, including privacy breaches, identity theft, fraud, loss of corporate reputation, loss of public trust, and legal action.

In order to provide a range of regional services, including allowing a single partner to host clinical data on the platform, and/or to enable the sharing of clinical data amongst providers, there needs to be a privacy management framework and assessment.

KEY RECOMMENDATIONS

Conduct a Privacy Impact Assessment

We recommend that a Privacy Impact Assessment (PIA) be conducted. PIAs are an essential component of due diligence with respect to the collection, use and disclosure of personal health information. A PIA is a formal risk management tool used to identify the actual or potential impacts that an information system, technology or program may have on an individual's privacy. More specifically, PIAs identify privacy risks and propose mitigation strategies to ensure compliance with privacy legislation, orders and expectations of Information and Privacy Commissioners (IPC), fair information practices, privacy best-practices, and IT security-related industry standards.

The PIA would establish the overall privacy roles and responsibilities for the hosting organization and establish the various usage scenarios that are envisioned for clinical collaboration. The PIA would provide sufficient detailed analysis to confirm the specific role under applicable privacy legislation in which the hosting provider will operate. In addition, this PIA could be used as a starting point or reference for project specific privacy analysis. For example, the collaboration service PIA could establish a set of technical and process safeguards that are provided as part of the service. These could be established as a standard set of processes included as part of the service.

Each Project Team Should Conduct Their Own Privacy Analysis

For any usage scenario that involves PHI, the project team should conduct their own privacy analysis. Using the existing privacy impact assessment done by the hosting organization as a reference, each project team still needs to conduct their own privacy analysis and provide it to the hosting provider as a formal document.

For common usage scenarios (e.g. clinical document sharing across the region) there could be developed a set of privacy analysis templates that simplify and streamline the amount of work needed to be done by each project team. The analysis could even be recorded in an automated form that is stored as part of the process when a clinical collaboration site is provisioned. For example, the form would allow users to provide answers to the questions above such as whether the collaboration would be within a single health organization or shared across the region.

Conduct a Threat Risk Assessment for the Collaboration Service

A Threat Risk Assessment (TRA) is considered a best practice and we recommend one be conducted before clinical data is hosted within the service. A Threat Risk Assessment is an external audit of the security, architecture and application components to assess the potential risk of a privacy or security breach.

Privacy and Security Auditing

Any personal health information (PHI) hosted or shared in the collaboration space is subject to the statutory requirements under PHIPA. As a best practice, the auditing of user access to, and activity on, clinical records should be subject to routine audit. Typically, this functionality and business process would include the ability to audit access to clinical records by a given end-user (e.g. User A accessed the records of patients X,Y,Z) or by a given patient name (e.g. patient X's records where accessed by Users A,B,C).

In addition, there is typically a system auditing requirement for auditing of security changes to a user. This would provide a historical record of all security changes made to a particular user account. Given the access that site owners have and the delegated model for making permissions changes, this becomes an even more important issue because there are so many potential site owners who could alter a user's permissions.

Auditing can be enabled using Site Collection level auditing a user who has read, updated or created records or documents. These settings should be turned on and auditing reports used by Site Collection Administrators for auditing of access to documents within SharePoint.

Development Formal Guidelines for Site Owners and Site Collection Administrators

Site Owners and Site Collection Administrators will be provided significant access to change their sites. These users should be provided formal guidelines and policies so that they ensure that their sites comply with privacy policies. These guidelines could include auditing configuration guidelines, permission granting processes, content guidelines and processes for review of existing content.

Incorporate Privacy by Design Principles into Application Development

Applications that are deployed to SharePoint should be formally reviewed before they are deployed to production. Application developers who are going to be doing custom development on the platform should be provided a set of architecture guidelines to following that ensure the overall platform is not compromised through changes in custom code. A "privacy by design" approach should be employed where designs are reviewed before coding begins to ensure that privacy requirements are incorporated into the architecture of the application.

The acceptance process for launching custom applications should include a security and privacy audit and a review of the proposed change to ensure that any proposed deployed code will not compromise the integrity of the privacy framework already established.

Develop Acceptance Process for On-boarding of Clinical Collaboration Applications and Sites

The hosting organization should develop a set of criteria, guidelines and processes for provisioning a collaboration site or application that contains PHI.

This could be done with a simple online form that is filled out by the health care provider when they request a new collaboration site. The form would ensure that the hosting provider has sufficient information, checks and established agreements to support on-going privacy management.

Key questions that would need to be answered by the health care provider(s) in order to satisfy the acceptance criteria would include:

- Will clinical data be shared across health care providers or be only used within a single health care providers?
- Has the healthcare organization conducted their own privacy analysis?
- Are there any technical risks or new technical requirements that are not currently supported by the service?
- Are there specific contacts for the management of clinical data on an ongoing basis?
- Who should be the specific contact(s) in the event of a privacy incident?

This onboarding process should be formally documented and available for review.

CONCLUSION

Regional Collaboration represents a significant opportunity for groups of health care service providers to share information and coordinate effectively. A shared collaboration model reflects two core facts:

- Delivery of patient care is not restricted to the boundaries of a specific organization
- Having each individual health care provider develop, deploy and manage their own collaborative solution is highly inefficient.

A regional collaboration service enables healthcare partners to share information, collaborate on both clinical and non-clinical issues, share best practices and connect with patients. In addition, the platform can be the basis for adding new applications and services that truly integrate the delivery of care.

We encourage you to review the opportunities and challenges associated with a regional collaboration solution with your peers. If you have questions, please do not hesitate to contact the Navantis team.