Impact Assessment:
An Essential Component of Physician Resource Planning

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Key Implications for Decision Makers

- Impact Assessment is an essential component of an effective physician resource planning process, allowing for more accurate projection of financial impact to the healthcare organization and appropriate prioritization of limited resources.

- Government (departments and ministries of Health) should require healthcare organizations to incorporate Impact Assessment as part of their resource planning process.

- The healthcare organization should ensure physician resource planning systems provide information that permits alignment with corporate business plan development and the infrastructure and HR capacities to support the continuity of care.

- Canadian healthcare organizations are advised to re-examine their current physician resource planning processes with consideration given to the efficacy of the Impact Assessment component of their process.

- Collaboration across the healthcare organization and across medical disciplines is essential to the Impact Assessment process.

Executive Summary

Context

At Capital Health physician resource planning was not sufficiently developed and integrated to support the corporate strategic plan. A fully developed physician resource planning framework would have clearly defined milestones established to ensure development and review of a District wide plan on an annual basis. All elements of a physician resource plan would appropriately align the authority and accountability for physician resource decision making at the Executive Management Team/Department of Health level. The collaborative identification of system level physician resource requirements from the organizational management, sites, communities/health boards, and the individual specialties who are the subject, context and technology change experts, would permit a needs-based approach to planning for physician resources. An appropriate Impact Assessment tool and methodology would be a foundational piece of the physician resource planning framework which would inform and support Executive Management Team/Department of Health decision making.

Implications

Impact Assessment is a critical methodology that must be developed and applied as a key element of any robust physician resource planning process. Previous efforts to implement Physician Impact Analysis have met with mixed reviews nationally. This Intervention Project confirms that Impact Assessment is crucial, and provides an innovative approach to implementation of a physician resource planning framework in a

large health authority. Executive leaders in other healthcare organizations will find this work useful in enhancing their physician resource planning efforts.

Departments/Ministries of Health may adopt these learnings as a contribution to best practice and may require health authorities/organizations to incorporate the Impact Assessment methodology as part of their planning expectations.

Approach

The intervention design for this project is based on the Model for Improvement developed by Thomas Nolan of Associates in Process Improvement. The Model for Improvement is an adaptation of a Plan-Do-Study-Act rapid cycle improvement model. Sources of evidence used to support the development of the Intervention Project include: literature review, Canadian benchmarking, and direct communication with subject matter experts.

Results

A district-wide physician resource planning framework was developed, approved and implemented for Capital Health. Following extensive review of the academic/administrative literature and Canadian benchmarking data, the Physician Impact Assessment process was redeveloped and piloted in Capital Health
A 3-year rolling Physician Resource Plan was developed and submitted to the

NS Department of Health. The resource impacts identified in the preliminary Impact Assessments in the Physician Resource Plan were incorporated into 2006/07 budget plan in December 2005.

Lessons learned include: 1) the value of a "keeping it simple" approach to process/instrument design; 2) the importance of capitalizing on strategic windows of opportunity as a means to address urgent, real-time operational priorities; 3) the imperative for extensive face to face consultation; and 4) the necessity for executive level support.

Challenges realized along the journey include: 1) the tension created by implementing a process that mandates an evidence-based approach; 2) the complexities of trying to address the need for community-based versus institution-based physicians; and 3) there was minimal literature to support process improvement on the subject of Impact Assessment.

The development of a Physician Resource Planning framework for Capital Health represents a significant quality improvement intervention that is supportive of the corporate strategic plan, represents innovation, commitment to evidence-based practice, excellence and broad collaboration across the organization.

Early reactions to the Intervention Project indicate it is having significant impact to system innovation across the province and nationally:

- The Intervention Project has recently been awarded the Silver Award in the Capital Health Quality Awards competition, and was further submitted to the annual 3M National Health Care Quality Team Awards competition.
- NS Department of Health has accepted the Impact Assessment format and is actively promoting its utilization on a provincial scale.
- This work was presented at the CCHSE Middle Management Conference (April 2006), and at the Canadian Society of Physician Executives Annual Meeting (May 2006).
- Broad dissemination of the Intervention Project is intended through publication in relevant academic and administrative journals.

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Context

Historically, Canadian health care organizations have not focused their planning activities on physician resource planning or medical manpower planning as it was previously known. In the past, provincial government Departments or Ministries of Health and chiefs of specialty departments in hospitals, conducted the planning for specialty practitioners (1), often relying upon rules of thumb, surveys, population ratios or population service estimates as methodologies for planning. Such methods may be considered outdated given they do not address the system level physician resource requirements driven by a population health approach and local indicators of health status. Provincial Departments/Ministries have recently adopted a more rigorous approach to planning for physician resources in the overall context of health human resource planning. Many health care organizations are now mandated to develop formal Physician Resource Plans for approval by government.

The changing context of physician resource planning has created a tension between the health care organization and the specialty department chiefs at hospitals who have traditionally "owned" the planning process. In the previous context, hospital department chiefs would often negotiate directly with the Department/Ministry of Health to gain approval for new recruitments, and the hospital's administration was often "the last to know" about a new practitioner joining the organization's medical staff. This phenomenon frequently resulted in large unforeseen financial consequences as healthcare organizations budgets responded to supply the human, financial and capital resources

required to support the new physician's practice. In response to such unanticipated budget risk exposures, through the 1980's and early 1990's, Physician Impact Analysis (PIA) was identified as a mechanism to assess the resource impact of the addition of a new or replacement physician for healthcare organizations.

In Nova Scotia, a multi-stakeholder Physician Resource Planning Steering Committee was established in 2001 to develop, pilot, recommend and oversee the implementation of a comprehensive physician resource plan for the province. All District Health Authorities were invited to participate in the work of this committee, and have been mandated to develop District-level physician resource plans to inform the parent provincial process/plan. The Capital Health (District Health Authority 9) Board of Directors has established physician resource planning as a key strategic priority and it is incorporated as part of the corporate strategic plan through its current cycle to the end of 2006/07. A Physician Impact Analysis process was implemented at the QEII Health Sciences Centre (a composite member of Capital Health) in the mid-1990's. The local experience with Physician Impact Analysis has not proven effective.

Statement of Problem

At Capital Health physician resource planning was not sufficiently developed and integrated to support the corporate strategic plan. A fully developed physician resource planning framework would have clearly defined milestones established to ensure development and review of a District wide plan on an annual basis. All elements of a physician resource plan would appropriately align the authority and accountability for

physician resource decision making at the Executive Management Team/Department of Health level. The collaborative identification of system level physician resource requirements from the organizational management, sites, communities/health boards, and the individual specialties who are the subject, context and technology change experts, would permit a needs-based approach to planning for physician resources. An appropriate Impact Assessment tool and methodology would be a foundational piece of the physician resource planning framework which would inform and support Executive Management Team/Department of Health decision making.

There exists a historical and cultural sensitivity at Capital Health that contributes to the lack of strategic operational alignment of system level resources in conjunction with the identification of new/replacement physicians: Historically, some physician leaders have modeled an independent approach to physician resource planning, which has led to individual silos of planning activity, and that has not enabled coordinated district-wide planning. Although corporate Capital Health is committed to the ongoing development and refinement of a District-wide Physician Resource Plan, the importance and enthusiasm for such work is not always evident at the departmental level. Herein lies a significant cultural barrier to be overcome.

Potential Impact

Capital Health is committed to planning for physician resources in the overall context of health human resources. Such planning requires sensitive modelling that considers department/program/service/facility/site/community perspectives, team based care

delivery, and coordination of the health care system. Given the overall direction of health system planning, these factors are critical to ensuring the integration and coordination of the health human resource to the system as a whole. The potential impacts of this work for Capital Health are:

1. Development of Physician Resource Planning Framework

The primary outcome of the intervention will be the development and implementation of a robust physician resource planning framework for Capital Health. Supporting the framework will be a Physician Resource Planning Handbook that outlines the physician resource planning cycle, provides planning templates, and defines approval mechanisms, to support the department chiefs with their role in the planning process.

2. Revised Impact Assessment Tool and Methodology

A secondary outcome of the intervention will be the development, implementation and organizational embedding of a revised Impact Assessment tool and methodology. The evolution and development of a dynamic physician resource plan incorporating a revised methodology for Impact Assessment will serve to enable executive level decision-making associated with implementation of the corporate Strategic Plan. An Impact Assessment which provides a better estimate of the financial projection, combined with clear supporting evidence of the need for the proposed new physician resource will enable Executive Management Team to undertake a prioritization exercise. The prioritization will consider the clinical, teaching and research priorities as they align with the corporate Strategic Plan. This prioritization exercise will need to be supported by an appropriately developed policy that defines the methodology for decision-making. This may be tied to a

new process Capital Health has developed for the review and assessment of New Program Proposals that gauges the alignment of the proposal against the corporate Strategic Plan.

3. DMAC Consultative Forum

A forum to permit cross-clinical department review of planning and resource impacts must be established to identify co-dependencies across teams. For example, it is obvious that recruitments in surgery will have impact on human and operational resources in anaesthesia, diagnostic imaging, pathology, etc., but this type of cross departmental consideration had not been previously undertaken at Capital Health.

4. Operational Alignment with Business Planning Cycle

The operational alignment of resources identified through the PIA will require a renewed sense of collaboration working across multiple administrative portfolios to incorporate resources identified into individual budgets. While overall cost containment is likely not feasible, the system resource impacts are more likely to be anticipated and incorporated into the annually budget planning cycle.

5. Needs Based Orientation

Capital Health should establish a consultative forum to inform the physician resource planning process concerning system-level physician/health human resource needs to be identified through the study of population health status indicators, demographic data and trending evidence. This forum may need to be developed as a provincial strategy given

the unique population, geography and distribution of health care facilities in Nova Scotia. Such a forum might be held every second year, and the Nova Scotia Department of Health will have a role to play in the generation of the population health status documentation, etc. It will be vital to engage the physician leadership at such a forum to ensure consistent interpretation of evidence and overall agreement of planning direction.

Whatever mechanisms are established to support physician resource planning, the fundamental underlying premise must be the identification of evidence-based need for the proposed new physician resource. The need for a new practitioner must have a solid rationale with supportive evidence demonstrating how the addition of a new physician resource will address a significant patient service issue or influence significantly on patient outcomes. No longer is simply stating "We need another Dr. X type" acceptable: The identification of significant patient service issues with supportive trending data over time [ie. waitlist volume/demand, burden of disease, population service deficit, or other patient service indicator] must create the evidence of need for an additional physician resource. Equally, replacement physician resources are rarely duplicates of their predecessors. Advanced technology and techniques contribute to systemic change in the health care system, and recruitment of replacement practitioners must be accompanied by the appropriate organizational planning to support care delivery.

7. Evaluation

Comparison of the preliminary Impact Assessment data to post recruitment Impact Assessment data should serve to inform Executive members and end users of the success

of the instrument, the process and the integrity of information provided from a number of sources. Evaluation assessments become formative and contribute to the ongoing quality improvement of the process and ultimately to decision making integrity. Beyond serving the process, feedback to department/service chiefs and other information contributors, will enable them to consider their contribution from a system-level and may influence their accuracy and enthusiasm for participation for future.

8. System Integration

On the longer term, it is anticipated that the Impact Assessment data generated will reside in the Medical Services Information System database.

9. Culture Change

The ultimate indicator of success of the intervention would be a significant change in organizational culture whereby specialty department chiefs accept and embrace physician resource planning in partnership with the organization. Governance frameworks already exist which appropriately align the accountability of District Department Chiefs to collaboratively participate in district-wide planning process and the development of the district wide plan itself.

Implications

Impact Assessment is an essential component of an effective physician resource planning process, allowing for more accurate projection of financial impact to the healthcare organization and appropriate prioritization of limited resources.

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Approach

Intervention Design/Model

The intervention design for this project is based on the Model for Improvement (Figure 1) developed by Thomas Nolan of Associates in Process Improvement (2). The Model for Improvement has two sections that have been adapted to fit the context and operational requirements of the intervention within Capital Health. The first section of the model poses three questions which identify the aims of the improvement initiative, measurable indicators of success, and the changes most likely to result in improvement (3). The second section of the model describes the Plan-Do-Study-Act cycle originally developed by W.E. Deming (4). The details of the intervention project within the Capital Health context are outlined in the adaptation of the Model for Improvement as described in Figure 2.

Sources of Evidence

Literature Review

A number of literature searches of English source healthcare and business literature databases were conducted to identify appropriate evidence regarding: physician resource planning, physician impact analysis/assessment, quality improvement modelling, change management and implementation strategies.

The identified literature supports the need for appropriate physician resource planning which should be linked to the organizational strategic plan. Literature sources from the late 1980's and early 1990's identify a dearth of academic literature supporting physician

resource planning and physician impact analysis (5,6,7). The results of a 1988 Ontario Ministry of Health Review (8) reflect an attempt to consolidate the need for physician resource planning as part of organizational strategy, and recommend physician impact analysis mechanisms as an appropriate fix to assist with cost anticipation and cost containment. In response, the Ontario Hospital Association and the Ontario Medical Association developed guidelines for Physician Impact Analysis, and held workshops to train physicians how to implement Physician Impact Analysis. The intent was to implement Physician Impact Analysis as an element of a larger strategy to plan appropriately for physician resources, link physician resource planning to the organizational strategic plan, and to evaluate the predictions of the Physician Impact Analysis to inform the success of the process (9). Physician Impact Analysis was implemented in many hospitals across Canada, and it continues to be used relatively unchanged today (10,11,12).

A method of Physician Impact Analysis is a necessary element of a robust physician resource planning process (6). There is no literature in the past 10 years that identifies the success or failure of the Physician Impact Analysis process or how to do it better (11). Despite the significant quantity of literature concerning Physician Resource Planning available today, it appears to be silent on the issue of Physician Impact Analysis. The lack of literature from sources beyond Canada may be explained because in managed health care environments such processes are generally proprietary.

In contrast, there is a plethora of literature concerning strategies for change management, change implementation, and excellent systematic reviews on implementation strategies.

Canadian Benchmarking Data

In the autumn of 2004, the VP Medicine offices of 16 large, academic health care facilities across Canada were contacted for purposes of benchmarking their process for Physician Impact Analysis, along with any supporting policy and commentary regarding the effectiveness of the tool within their organizations. Information was received from 12 (75%) organizations and a high level comparative analysis of the instruments was completed. Each Physician Impact Analysis tool was analysed against specific qualitative criteria such as: method, incorporation of approval mechanisms, medical staff category, alignment with university appointments (where possible), practicality, ease of use, effectiveness within own organization, and tie to corporate strategic plan. The results of the benchmarking exercise have been consolidated in a separate document, but the high-level findings are quite consistent:

1) Virtually all organizations surveyed continue to use some form of Physician Impact Analysis which incorporate a case mix group identification, utilization data approach to developing and cost projections.

2) Few organizations surveyed have documented policies to support Physician Impact Analysis and their overall physician resource planning framework. There appears to be consensus that many organizations had difficulty with the effectiveness of Physician Impact Analysis and/or their physician resource plan,

and are in the process of revision. Some reported as many as 3 revisions in the past 5 years (12).

3) The literature supports the need to 'fine-tune' the Physician Impact Analysis to be practical for application to the local situation (8). Benchmarking data appears to identify that many organizations surveyed have adopted Physician Impact Analysis without fully developing the physician resource planning structures and alignment with the corporate strategic plan.
4) It is unclear how many organizations, if any, are completing an evaluation assessment after a year. The benchmarking data further supports the research of Charles et al who identify that the evaluation component of the Physician Impact Analysis (ie. The comparison of post recruitment financial impacts against the pre-recruitment predictions of impact) is simply not undertaken by most organizations.

Direct Communication

The literature identified concerning the effectiveness of Physician Impact Analysis from the mid-1990's identified Dr. Catherine Charles (McMaster University) as a content expert/repeat author on the subject of Physician Impact Analysis. Dr. Charles was contacted to determine if she had done any additional research on this subject in more recent years, and/or if she could identify any colleagues working in the same area. Personal correspondence indicates that neither she nor her colleagues have completed any additional research on the subject of Physician Impact Analysis. (13).

Dr. Charles articles provide an excellent history of the rationale for implementation of Physician Impact Analysis in Ontario, but were more focussed on evaluating the success of the Physician Impact Analysis as an effective tool for predicting the financial impact (9,13,14). Her findings report that where Physician Impact Analysis was implemented, it was not found to be an effective predictive tool. Initial findings may be criticized for looking at a small sample size and limited locations (15), but later works of significant scope identified the same conclusions (9,13). In almost all instances, it appeared that the instrument was flawed because it tried to measure cost using methods which either weren't supported by established systems, and due to lack of follow up evaluation (9,13). Dr. Charles work identifies that hospitals surveyed were either reluctant to respond when asked about the evaluation, or could not provide the information requested. Certainly this is consistent with the experience at Capital Health, and with many other health care organizations across Canada as evidenced from the national benchmarking exercise.

Results

The results of the Intervention Project have been categorized into ten Key Results. Critical success factors which contributed to the achievement of the key results are identified in Appendix 1.

Key Result #1: Needs Assessment for Physician Resource Planning - Capital Health

At the outset of the project, the original statement of problem identified a need to revise the existing Physician Impact Analysis tool and process using the best evidence from the academic literature and Canadian benchmarking data. The pre-existing Physician Impact Analysis tool did not accurately identify the system costs associated with a

new/replacement physician resource, and the results of the Physician Impact Analysis were not linked to the corporate business planning cycle. During initial development of the project, it became evident that the problem was not limited to an inefficient Physician Impact Analysis tool, but rather that Physician Resource Planning was not adequately developed to support the organization whatsoever. Many of the issues identified about the pre-existing Physician Impact Analysis tool were actually reflective of the inadequacy of the state of Physician Resource Planning as a whole.

An assessment of any pre-existing elements of Physician Resource Planning and Physician Impact Analysis was undertaken, and compared to a list of needs for a robust Physician Resource Planning system which included: a framework for physician resource planning, a planning cycle, a revised Impact Assessment tool, a needs based planning approach, process documentation to support implementation and to embed the Physician Resource Planning cycle into the organization.

Key Result #2: Redevelopment and Pilot Testing of Impact Assessment Tool

Early development work to support a robust Physician Resource Planning framework began by reviewing the literature and benchmarking evidence concerning physician resource planning and impact analysis. While still in the planning stage a strategic opportunity presented itself in the last quarter of 2004/05 during the alternate funding plan negotiations for a large group of practitioners. The new proposal came forward with a physician resource plan identifying a request for several new medical practitioners. While the literature is silent on definitive evidence to support a better way of doing

Impact Analysis, it does make reference to an alternate methodology (9). The literature further supports tailoring the approach to individual circumstances (9). As a result an innovative method to assess the impact was developed.

A simple Impact Assessment tool was developed which departed from the previous Case Mix Group/Utilization approach in favour of a high-level cross portfolio assessment of resource requirements in the categories of human, capital, operational and space.
The Impact Assessment tool was built incorporating a requirement for evidence-based (16) justifications to support the need for each new physician resource requested, which links the system impact to a narrative detailing the evidence to support the need for the proposed new practitioner. Upon completion an early draft of the preliminary Impact Assessments, feedback was sought from the Capital Health Executive Management Team and Department of Health representatives. These key stakeholders were asked to review at a high-level, identifying any additional resource impacts that might be missing from their unique perspectives, and to determine the utility of the Impact Assessment tool. Feedback was incorporated which served to strengthen the tool and established a better understanding of common direction. An example of the revised Impact Assessment tool is found in Appendix 2.

It should be noted that the name is intentionally changed from Physician Impact Analysis to Impact Assessment [or New Professional Impact Assessment]. While a name change may appear trivial, it is highly relevant because: 1) The exercise of identifying and estimating resource impacts is not an exact science. It is an assessment based on best

estimates of information pulled together from a variety of sources. It is a manual exercise, not something which can be generated by a data reporting system which can be programmed to perform an analysis; 2) As new models of care continue to emerge and alternate providers are identified, it is likely that an Impact Assessment would be a relevant step in the planning process. The same Impact Assessment tool can be used for multiple disciplines and therefore it should not be labeled such as to limit application to the physician population.

Key Result #3: External Validation of Impact Assessment Tool/Methodology

The outcome of the pilot test of the revised Impact Assessment tool was astoundingly positive. The Impact Assessment tool was submitted to the NS Department of Health to inform on the system-level cost projections for the new practitioners proposed in the AFP negotiation proposal. Ultimately, the revised Impact Assessment tool was reviewed at the level of the NS Treasury & Policy Board, and feedback was received that the Impact Assessment documentation is now considered a vital piece to inform and support decision making at the provincial physician resource planning level. The NS Department of Health has accepted the revised Impact Assessment format and is actively promoting its utilization on a provincial scale.

Key Result #4: Development and Implementation of a PR Planning Framework

A District-wide Physician Resource Planning framework was developed, accepted by the Capital Health Board in November 2005, and implemented in January 2006. Development of the framework was built upon the physician resource planning needs

assessment, the physician resource planning literature, and the extensive consultations undertaken to raise organizational awareness of the physician resource planning issue and throughout the iterative process undertaken to develop the planning framework. Appendix 3 details the consultations undertaken by members of the Capital Health District Medical Advisory Committee, the Executive Management Team, the Physician Resource Planning Steering Committee, and operational leaders across the organization who were consulted at each and every stage of the planning framework development. Feedback from these multi-stakeholder groups was incorporated to every iteration of the development of the physician resource planning framework which consists of:

- Annual Physician Resource Planning Cycle (Figure 3)
- Needs based planning approach
- Impact Assessment tool and methodology

Implementation of the Physician Resource Planning cycle and the information contained within the 3 year rolling Plan will serve to provide direction to upcoming corporate strategic planning through the translation of health system priorities identified from needs based planning.

Key Result #5: Development of a "Burning Platform"

In an effort to develop organizational awareness about the changing context of physician resource planning, extensive consultations were undertaken across the organization over the past 3-5 years. Despite early attempts to raise awareness, physician resource planning

often appeared to be an afterthought for the organization: There was no "burning platform".

A series of operational crises arose at Capital Health over the spring/summer months of 2005: 1) Alternate funding negotiations did not proceed optimally for a large group of practitioners; 2) A crisis in physician resource person power to support the delivery of critical care services and anaesthesia ; 3) The Nova Scotia Department of Health requested an immediate projection of the physician resource requirements and associated resource impacts in the middle of the summer of 2005. This sequence of events precipitated an urgency to approach physician resource planning immediately, and with minds open to a different approach. The real-time urgency of the situation (17) established the "burning platform" necessary to leverage the organization to participate in the physician resource plan development in a very short time frame. This urgency further drove home the intent to implement physician resource planning using a needs based approach and the new context within which physician resource planning was happening at the provincial level.

Discussions around changing context, authority and alignment frequently create tension among physician leaders. This challenge to established cultural norms may actually be considered a measure of success as it encourages system level thinking.

Key Result #6: Development and Submission of a 3-year rolling PR Plan

A three year rolling Physician Resource Plan was developed and submitted to NS Department of Health in August 2005. The Physician Resource Plan submitted contained the following elements which are supported in the literature:

- 3 year planning horizon and rolling plan format
- Current physician supply data
- Needs based planning approach
- Evidence based preliminary Impact Assessments for each projected position
- Alternate providers (not fully developed)
- Recruitment and retention strategies (not fully developed)

Key Result #7: Consultative Forum

The District Medical Advisory Committee (DMAC) held special consultative sessions designed to enable cross department/site/service understanding (18) of proposed physician recruitments and their impacts and co-dependencies. Such a cross service understanding was not previously undertaken in the Capital Health environment, This gap contributed significantly to the historical silos of planning activity. Support service departments such as pathology, anaesthesia and diagnostic imaging were able to identify technical and workload issues from other departments that would impact on their ability to deliver service. Physician and administrative leaders found the forum to be highly valuable, and it served to create further engagement to support the planning initiative.

Key Result #8: Successful Outcome of PR Plan Submission

The 3-year Physician Resource Plan submitted to NS Department of Health in August 2005, identified a number of priority positions (21.75 FTEs) urgently required to support critical service delivery needs. Capital Health received approval to begin recruiting for approximately 50% of the positions from the prioritized list to date.

Key Result #9: Physician Resource Plan Impacts Linked to Budget Plan

The resource impacts identified in the preliminary Impact Assessments in the Physician Resource Plan were incorporated into 2006/07 budget submission in December 2005.

Key Result #10: Dissemination of Findings

The outcome of this Intervention Project has recently been awarded the Silver Award in the Capital Health Quality Awards competition, and was further submitted to the annual 3M National Health Care Quality Team Awards competition. The Intervention Project was presentated at the CCHSE Middle Management Conference in April 2006, and at the Canadian Society of Physician Executives Annual Meeting in May 2006. The author has been asked to speak to the provincial District Chiefs of Staff/VPs Medicine forum at one of their upcoming sessions, concerning the development of the revised impact assessment tool, process and the early experience. It is intended that the Intervention Project will be submitted for publication in relevant academic and administrative journals.

Sustainability Strategies

Groggin (19) poses that there are degrees of implementation (paper, process, performance) through which a change initiative becomes embedded in the organization.

Paper Implementation: Establishing new policies and procedures to support the change initiative is a standard first step toward sustainability. To this end, a Physician Resource Planning Handbook will be developed and available by the end of March 2006. Ultimately the Handbook will be posted to the Capital Health website to ensure access for all users, and ensure transparency of process.

Process Implementation: The development of processes supportive of the change initiative is the next stage in making change sustainable. To this end, the implementation of the ongoing Physician Resource Planning cycle will continually reaffirm the requirement for District –wide planning and the involvement of key stakeholders to that process. Advanced scheduling of the DMAC Consultative Forum in May of 2006 will serve to provide a target that physician leaders have already identified as valuable. Individual or group training workshops may be arranged to support understanding of the Impact Assessment process for District Department/Site/Service Chiefs

Performance Implementation: Finally, being able to monitor the performance of a change initiative will enable it to be fully embedded to the organization. To this end, measurable indicators of performance will be developed and monitored. The evaluation component of the Impact Assessment methodology will be implemented over the summer

of 2006. Executive Management Team review of the Impact Assessment evaluation will be implemented in the autumn of 2006. The success of the new Impact Assessment too will be measured against a variety of qualitative indicators such as: practicality, time-sensitive, and user-friendly approach that is relevant to both users and decision-makers, efficiency of process. While the development of the Physician Resource Planning Handbook can be easily measured, the success of its implementation will be key. Will the Department/Site/Service Chiefs use it, and find it helpful? The physician resource planning framework needs to be dynamic and responsive to the constantly changing environment. Monitoring to ensure the annual physician resource planning process actually occurs and its constant refinement will be a key measure of success. Finally, the celebration of small wins is recognized as an effective means of embedding change (20). Recognition of small successes that arise from each physician resource cycle further serves to ensure that the change is irreversible.

Additional Resources

- A Physician Human Resource Strategy for Canada: Task Force Two www.physicianhr.ca
- Health Canada www.hc-sc.gc.ca
- Institute for Health Improvement www.ihi.org
- National Health Service www.nhs.uk

Evaluation and Further Development

Although the physician resource planning framework has been implemented, there is still significant work to be developed to support sustainability and embed to the organization.

- Evaluative Impact Assessments must be completed 1 year post-recruitment and compared to the Preliminary Impact Assessment for purposes of learning and refining cost projections.
- The comparisons of post- recruitment Impact Assessments to preliminary Impact Assessments must be monitored and reviewed by Executive Management Team at least annually. Regular review of these results will be formative to the process and will contribute to ongoing process refinement and quality improvement. While a special forum of the Executive is likely unnecessary, it is imperative that this step be developed and implemented to ensure ongoing quality and sustainability.
- The preliminary/post Impact Assessments should be fully developed for replacement positions as well as new positions.
- Recruitment and retention strategies must be further developed to support the Physician resource planning framework.
- The continued refinement of the needs based planning approach is a key area for further development. In particular, the development of a needs based approach to planning for community based practitioners is priority area to be considered. It will become increasingly important for the health authority to develop appropriate relationships with communities through their community health boards, to ensure appropriate engagement in discussions to determine the need for new practitioners. These discussions will need to be carefully facilitated with appropriate decision

makers fully engaged in the process, as the discussion around need may identify a requirement for a new model of care or alternate care provider, and it will behove the organization to be nimble enough to respond to that identified need and build it into the planning process.

- Capital Health should evaluate the success of the physician resource planning framework in 3-5 years to determine need for revision, and to assess the impact the implementation of the planning framework has had on corporate business planning, and on ensuring the appropriate supply of physician resources to support the provision of care across the district.

There is a distinct lack of recently published literature on the subject of Impact Assessment/Physician Impact Analysis. It is therefore appropriate to disseminate the outcome of the Intervention Project through relevant academic and administrative publications in the interest of contributing to the body of knowledge.

Since Capital Health is mandated to develop a district-wide physician resource plan within the context of the provincial health human resource strategy, it raises a challenge to consider planning not within the district silo, but also to consider the larger provincial perspective.

The following questions have been identified through the development of the Intervention Project. Further collaboration with colleagues from the NS Department of

Health may serve to inform policy development and decision making regarding the following perspectives:

- How to make the physician resource plan dynamic enough to respond if a "star" candidate becomes available outside the established Physician Resource Plan?
- How to address the systems impact of not adding a particular physician resource?
- What type of incentive structures could be established for District Department Chiefs to improve accuracy of Impact Assessment information?

Lessons Learned

While a complete list of critical success factors is consolidated in Appendix 1, a number of Learning Themes emerged from the intervention:

1) The value of a "keeping it simple" approach to process/instrument design. The previous Impact Analysis data collection instrument was 12-13 pages in length and wrought with opportunities to leave out information. There were large gaps in process that created the opportunity to minimize the potential impact, and there was no mechanism for a consolidated snap shot of the potential physician resource recruitment and impact to the organization. There was recognition of the need to consolidate information and to develop processes that were simple and user friendly in order to ensure participation and buy-in from stakeholders.

2) The importance of capitalizing on strategic windows of opportunity as a means to address urgent, real-time operational priorities. The need for a robust system to support physician resource planning and for improvements to the impact assessment tool/process

had been recognized in Capital Health for some time. Indeed, the impetus for selection of the EXTRA intervention project subject, was to choose an operational issue that required resolution and that would benefit from an evidence-based approach. As the intervention was implemented, the external "jolt" from the NS Department of Health, and the physician resource crises in anaesthesia and critical care served as enablers to support the intervention's success. Recognizing the strategic opportunities created during such crises and capitalizing upon them was key to moving the intervention in the right direction in a short time frame.

3) The imperative for extensive face to face consultation. The value of holding repeated in person consultations with all stakeholder groups and individuals cannot be underestimated. The process changes were articulated and mapped, and end users were asked for their thoughts and suggestions for improvement. The same stakeholder groups were then consulted on the development of the content of both the planning process and the Plan itself. Large consultative groups such as DMAC benefited tremendously from the opportunity to understand the planning intentions from one department/service/site to another. While one might expect that pathology and anaesthesia would know what the recruitment intentions were for surgery, it was apparent that the planning silos were entrenched. The DMAC Forum was uncomfortable, but it forced cross department/service/site communication, and enabled the collective understanding for the planning imperative and participants bought in. Similarly, repeat face to face consultations with the Acute Care Executive and Executive Management Team enabled stakeholder participation in process design and ownership of the end product.

4) The necessity for executive level support. Although the development and operational activities were led from the Director level, the need for Executive level support cannot be underestimated. Both the CEO and VP Medicine were involved in understanding the scale and approach of the intervention, but also in supporting its implementation by preventing barriers from developing. A number of physician leaders were reluctant participants initially, but the consistency of executive support enabled the implementation within the timeline.

Challenges realized along the journey include:

1) Tension created by implementing a process that mandates an evidence-based approach. The physician resource planning process now requires documented "evidence of need" as part of the Impact Assessment. That requirement created a tension with some physician leaders who have not been accustomed to establishing their requirement using a data driven case approach. Teaching operational staff to push the physician leader beyond his/her comfort level to demonstrate the evidence of the need, is a challenge still being realized.

2) The complexities of trying to address the need for community-based versus institution-based physicians. Planning for community-based need is a significant challenge given that physicians are independent contractors. An appropriate, collaborative, community consultative approach needs to be developed to support planning at the community level, and this will likely emerge over the next several years. In the meantime, engagement

with community-based family practitioners in particular, is the first step. Significant efforts toward establishing such engagement are underway in Capital Health presently.

3) There was minimal literature to support process improvement on the subject of Impact Assessment. It has already been identified that the literature to support process improvement for the Impact Assessment was sparse, so in the absence of literature, the challenge was to identify the problems with the previous approach and to try something innovative that was designed to address specific issues.

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Figure 1: Model for Improvement developed by Associates for Improvement

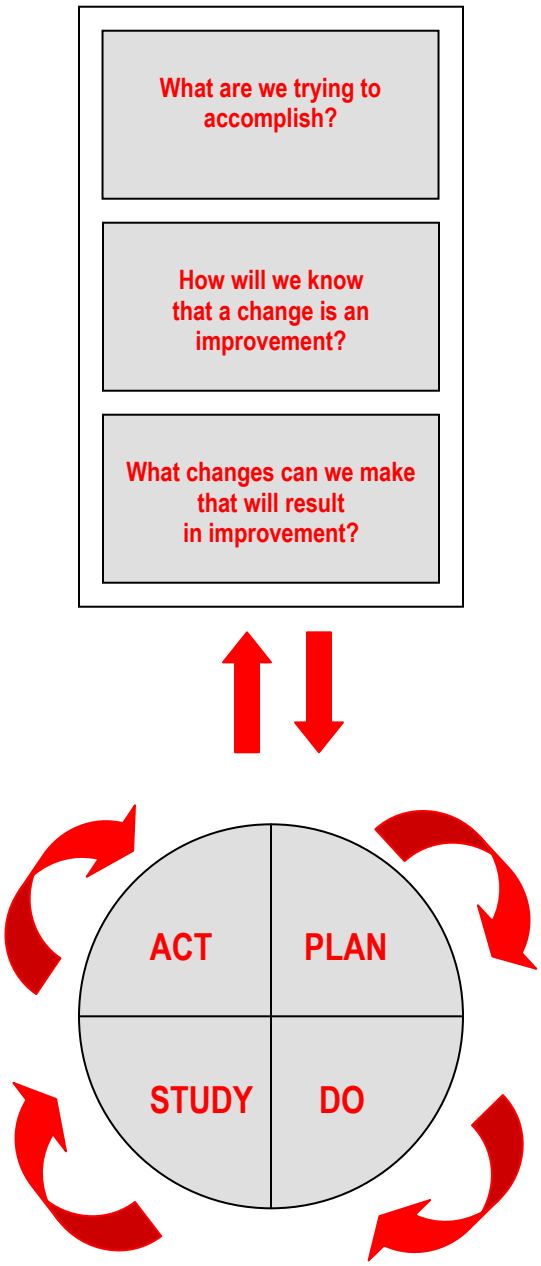


Figure 2: Model for Improvement Adapted for Physician Resource Planning at Capital Health

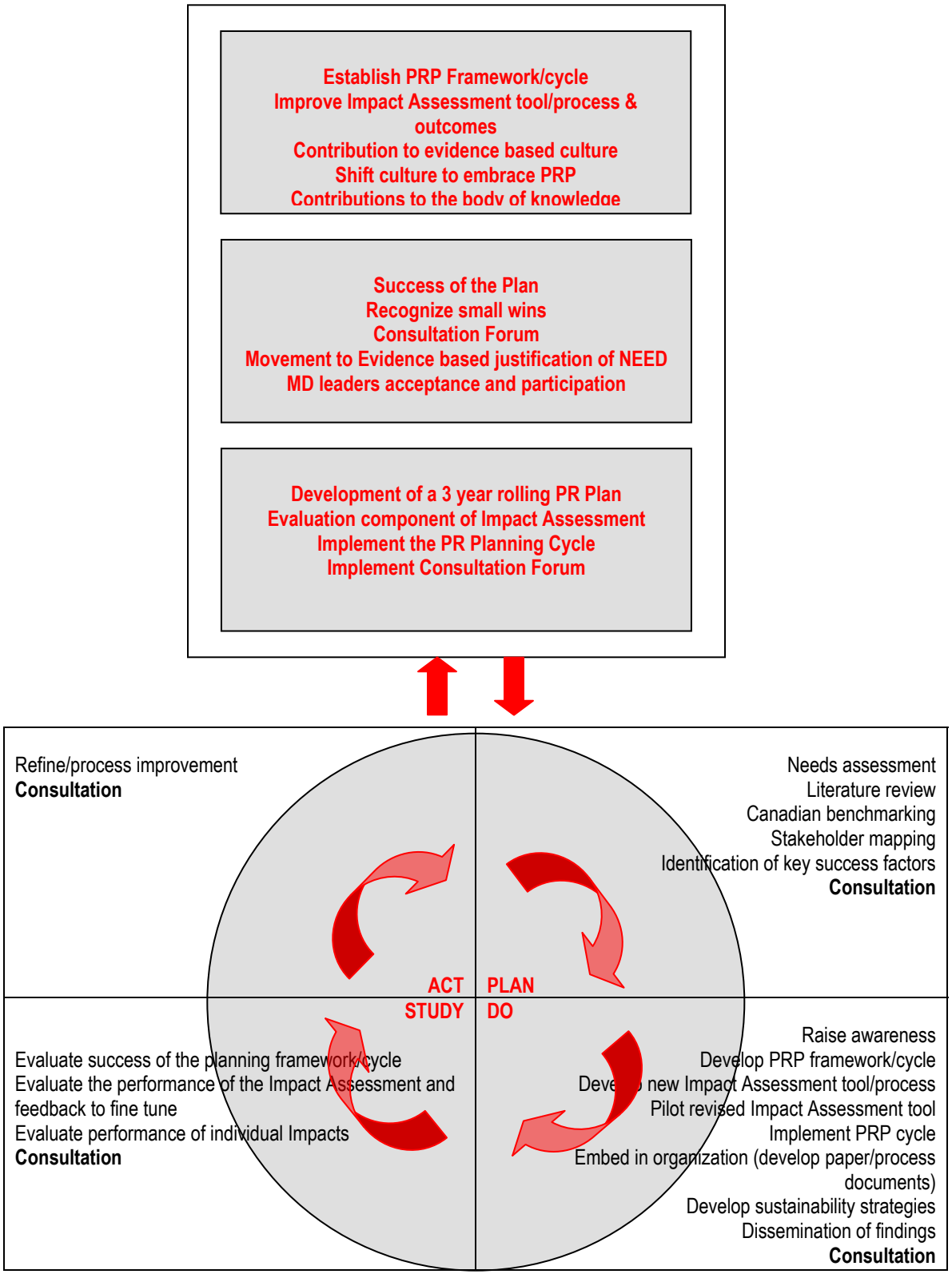
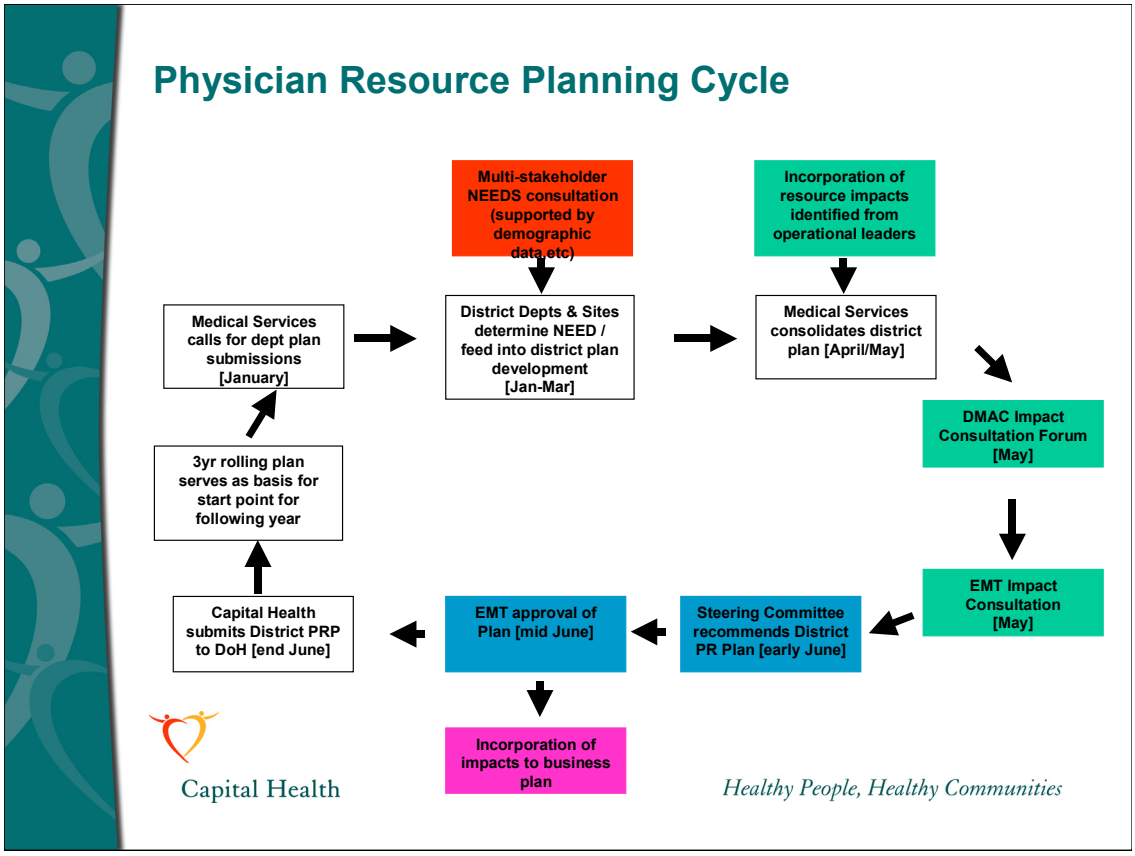


Figure 3: Capital Health Physician Resource Planning Cycle



Appendix 1

Critical Success Factors

The following chart identifies the critical success factors that contributed to the achievement of the Key Results for the Intervention Project:

Principle of "Keep it Simple"	DMAC Consultation forum
Consultation, consultation, consultation	End user involvement in decision making
Real time initiative	Identification of small wins
Strategic window of opportunity	Identification of early adopters
Common goals with powerful external stakeholder	Face to face consultations
Success of pilot test	Capital Health Executives and Physician leaders support

Appendix 2

Capital Health
Preliminary Impact Assessment

Department/ Division	Proposed Position (FTE's)	Evidence of Need	Deliverables	Health Human Resources and Operating Impacts	Capital & Equipment Impacts	Space Impacts	Total Preliminary Impact
In the space below indicate Department, Division or District-wide Integrated Service	*Indicate % FTE*	*Provide evidence of Need including: measurable /trending data to support the requirement for additional FTE positions. Evidence should consider the local and provincial role in addition to the clinical and academic mandates. Evidence should also include implications of not approving this FTE. Additional supporting documentation may be attached as necessary.*	*Identify measurable deliverables to be addressed by FTE resources. Ie. Reduced waiting lists, appropriate symptom management, changes in standards of care, etc. Additional supporting documentation may be attached as necessary.*	*Identify human and operational resources required to support the position.*	*Identify capital and equipment resources required to support the position.*	*Identify space resources required to support the position.*	*All identified impacts will be totalled in this column.*

Appendix 3

Consultations

The following summarizes the consultations undertaken with relevant stakeholders concerning the proposed Physician Resource Planning framework and Impact Assessment tool and methodology:

Capital Health Needs Based Planning Retreat	May 31, 2003
Capital Health Board of Directors	September 16, 2003
Capital Health Phys Resource Steering Committee	October 6, 2004
NS Department of Health	January- March, 2005
Capital Health Phys Resource Steering Committee	February 6, 2005
District MAC	April 15, 2005
Executive Management Team	May 31, 2005
Capital Health Phys Resource Steering Committee	June 8, 2005
District MAC	June 17, 2005
Capital Health Phys Resource Steering Committee	October 12, 2005
Capital Health Board of Directors	November 3, 2005
District Chiefs of Staff/VPs Medicine Forum	anticipated March, 2006