A Path to Greater Effectiveness, Efficiency and Equity
In Ontario’s Health Care System Through Stable Primary Care Relationships,
Provider Accountability And Measured Outcomes:

Economic Perspectives of Controlling Health Costs and Assuring Quality

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February 25, 2013

This paper builds on the concepts presented in AFHTO’s February 2012 proposal –
Advancing a Performance-Oriented Model for Primary Care.¹

Healthcare, Canada’s cherished public trust and political “third rail” needs political initiatives which can safely explore reformation without burning the stewards who render assistance. This discussion describes how observations by Dr. Barbara Starfield may help guide healthcare policy in a cautious, low risk manner, to obtain system sustainability with cost effectiveness, assured quality and improved equity.

Current public opinion has confidence in the Canadian Healthcare system and does not support reformation which would limit services or shift services to private payment. In addition there is widespread support for expanded service with drug coverage but no consensus on how this cost can be covered. Over 60% of Canadians feel that the system is poorly managed but there is no consensus on how management should improve.

This paper addresses a management solution which would not restrict service or shift costs or services to the private sector. It builds on the concepts presented by the Association of Family Health Teams of Ontario in its February 2012 proposal – *Advancing a Performance-Oriented Model for Primary Care.*

## 1 The Starfield Observation

The late Barbara Starfield observed the degree to which health systems invested in primary care correlated with greater effectiveness, lower costs and greater equity. Starfield’s work is referred in this document as the Starfield Observation. Starfield observed that investment in primary care reduced the disadvantage of lower socioeconomic groups (Equity), improved effectiveness (Quality) and did so at a reduced cost (Efficiency). The benefits of the Starfield Observation are particularly important in Ontario where the cost growth of healthcare is being aggressively reduced to 2%. Her work was influenced the Kirby and Romanow reports of 2002 and formed part of the emphasis in both reports for the reformation of primary care services. The Starfield Observation holds the possibility of achieving the province’s budget target without compromising quality.

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2 What Canadians think about their health care system, The Environics Institute Jan 2013
4 Income Inequity, Primary Care, and Health Indicators, Starfield and Shi, The Journal of Family Practice, Vol 48, No. 4 1999
5 Policy Relevant Determinants of Health: An International Perspective. Starfield B, Shi L. Health Policy. 2002; 60:201–18
6 **BUILDING on VALUES THE FUTURE OF HEALTH CARE IN CANADA** ROY J. ROMANOW, 2002
7 The Health of Canadians – The Federal Role, The Standing Senate Committee on Social Affairs, Science and Technology, Michael Kirby 2002
The Starfield Observation occurs in almost all developed health systems, but the mechanism at work is not well understood. This difficulty in understanding might partially arise from the dual and complex nature of primary care providing both medical services and management services. The medical services include acute episodic care, chronic disease management, normal growth and development, preventive care and palliative care while management services include information management, care coordination and patient advocacy.

Cost control in the system can be managed by addressing either Supply or Demand and provides a framework for analysis to explore the possible mechanisms behind the Starfield Observation.

Supply Side Analysis of Cost Management:
Since the 1990s there has been significant effort to control health costs by managing and limiting expenditures (i.e., supply of services). Distribution of these expenditures is summarized in Figure 1.8

This distribution of expenditures also reflects the historic focus for cost control on Hospital and Institutional costs and services which combined account for almost 60% of total costs.9 Primary care has been impacted by Supply Side action by restricting the number of practitioners in the mid to late 1990s then the expansion of the sector in the last 10 years. The other components of the health care system have direct management control and have received extensive intervention in the supply of resources and services.

How well has supply side management worked to control costs?

As judged by OECD data on the per capita total cost of the Canadian health system, supply side control has not been effective in controlling public health costs within the 2% target.10

The increase has been inflationary at 6.5% which is similar to the OECD average and is felt to be unsustainable by the government’s own analysis.11 In addition, during this period there has been reduced access to services and no assurance of qualitative outcomes in comparison to the 6 other developed systems examined by the Commonwealth Fund.12

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8 CHARTING A PATH TO SUSTAINABLE HEALTH CARE IN ONTARIO, TD Economics, Special Reports May 27, 2010, Don Drummond
9 All institutional costs, 50% physician costs, 50% drug costs and 50% of Other Expenditures
10 http://www.oecd.org/els/healthpoliciessanddata/OECDHealthData2012FrequentlyRequestedData_Updated_October.xls
11 CHARTING A PATH TO SUSTAINABLE HEALTH CARE IN ONTARIO, TD Economics, Special Reports May 27, 2010, Don Drummond
12 Mirror Mirror On The Wall 2010 Update, Davis et al, The Commonwealth Fund 2010 (Pg. 3 Exhibit 3)
Demand Side Analysis of Cost Management:
Demand for health services arises from patients’ needs but this impact on the system is always in collaboration with physicians. The majority of these encounters occur in primary care as seen in Figure 3.13

Managing cost by reduced demand means addressing choice for services in a way which is agreeable to both patients and providers because in our system neither provider nor patient can unilaterally demand a service.

Reduction in demand might theoretically be reduced in ways which are acceptable to providers and patients and lead to reduced cost by a number of mechanisms such as:

- Demand for future service might be reduced by effective prevention or detection at a stage where a condition is easily treated.
- Demand for services might be reduced by more efficient service delivery or coordination.
- Demand might be reduced by discouraging services with minimal or absent benefit.

If these mechanism were found to be responsible for the Starfield Observation then policy and funding reform should be implemented to support the activity.

Is The Starfield Observation Caused By Improved Quality?
Contrary to popular theory, it would appear that qualitative improvement in primary care does not translate into reduced costs of health systems. This is clear from the world’s medical literature14,15 and our system’s cost despite countless quality improvement initiatives over the past decade in Ontario. In particular, the Canadian Primary Care Transition Fund invested $800 million dollars in qualitative improvement projects over 6 years16. The graph Figure 2 shows public health costs during that period remained inflationary and above the OECD average.

It might be hoped that improved quality of medical services would result in future cost savings. This hope runs counter to the reality of human mortality and the fact that survival to an older age is associated with greater healthcare costs. This pattern appears to be without exception in all developed systems despite qualitative improvements to health and improved life expectancy.

Reduction of unnecessary or wasteful services would also be a qualitative improvement which would account for the Starfield Observation. Foregoing wasteful services and shifting resources to beneficial medical services would reflect a stewardship approach to the health system, but this type of stewardship by providers has not been evident during the expansion of primary care providers and supply since 2005 as shown in Figure 2.

13 Primary Care in the Health Care System, Douglas G. Manuel, MD, MSc, FRCP, Sarah Maaten, MSc, Deva Thiruchelvam, MSc, Liisa Jaakkimainen, MD, MSc, CCPC, and Ross Upshur, MA, MD, MSc, CCPC, FRCP, ICES Atlas, www.ices.on.ca/file/PC_atlas_chapter1.pdf
14 Does improving quality save money? A review of evidence of which improvements to quality reduce costs to health service providers. Dr John Øvretveit, The Health Foundation, September 2009
15 The Association Between Health Care Quality and Cost, Peter S. Hussey, PhD; Samuel Wertheimer, MPH; and Ateev Mehrotra, MD, MPH, Ann Intern Med. 1 January 2013;158(1):27-34
Is the Starfield Observation Caused By General Inputs of Primary Care?
From 2001 to present there have been significantly increased investments in primary care in Ontario (both in the numbers of primary care doctors and the payments to family doctors). During the past decade, the increased cost in primary care was about $1.6 billion but the increased cost for the total system was about $15 billion and so the increased primary care costs would not account for the inflationary total public health cost graph.

Despite investments in primary care, the total cost of care remained inflationary for the same time. During this period there was no measurable qualitative improvement. This observation is inconsistent with the Starfield Observation in which system costs are reduced and qualitative results are improved.
Is the Starfield Observation Caused By Stable Relationships and Stewardship in Primary Care?
Near the end of her career, Dr Starfield suggested that the impact of primary care on system efficiency and effectiveness might be due to primary care providers committing to an ongoing relationship. From this safe relationship providers and patients could consider stewardship of the health system and take an incremental approach to health issues.

Relationship-based (or comprehensive) primary care is a specific set of services and holds itself accountable to the expectations of patients over time. In the words of Dr Starfield, “The key components of primary care at the clinical level include access to and use of first-contact care, patient-focused (rather than disease-focused) care over time for defined populations, services that are comprehensive and timely, and coordination of care when patients need services elsewhere”.

Measuring and assuring relationship-based care is challenging. In the absence of measurement, the ability to hold primary care accountable to “relationship based care” and achieve cost reduction is difficult to achieve.

Is the Starfield Observation Visible in the Canadian Health System?
Dorval Medical (a small FHT in Oakville) developed a method to assess population expectations and then to assure comprehensive relationship-based care against the population’s expectations. The practice then chose a surrogate indicator of total health costs, the acute care for its population and compared Length of Stay and total bed days for the rest of the Oakville catchment. Acute care costs represent about 33% of total health costs. The results are displayed in the 2 following graphs and suggest a substantial cost reduction in the presence of assured quality (the Starfield Observation). This performance is likely due to many factors including attention to information management, care coordination, patient advocacy and supporting the hazardous transitions encountered in an acute care hospitalization. These services were delivered by the patients’ own primary care physician acting from a long-term stable relationship with accountability to measured outcomes.

![Figure 8 Length of Stay compared to Canadian Expectation](http://www.oecd.org/els/healthpoliciesanddata/OECDHealthData2012FrequentlyRequestedData_Updated_October.xls)

![Figure 9 Total Bed Days compared with Expected for the Oakville Population](http://www.dorvalmedical.ca/wp-content/uploads/2012/01/The-Dorval-Model.pdf)

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21 Toward international primary care reform, Starfield, CMAJ • MAY 26, 2009 • 180(11)


23 This refers to transitions in and out of institutions and between management units which account for a high proportion of medical legal actions.
Similar observations were also reported by Hollander et al in 2009\textsuperscript{24}. Analysis of high risk patients (with diabetes and heart failure) demonstrated reduced total health costs when there was an association with a primary care relationship. This saving came predominantly from reduced hospital costs.

It is possible that the relationship-based primary care which accounts for the Starfield Observation exerts its impact by addressing a fundamental human need. When individuals are facing uncertainty, danger or isolation they naturally seek understanding through an accessible trusted relationship (human or spiritual). This need for understanding access and trust are aspects of the relationship-based primary care described by Starfield (the Starfield Observation).

\textbf{II Why Is the Starfield Observation Difficult to Create in Ontario?}

Investment in primary care over the past decade has not resulted in improved quality and reduced costs as one would expect from the Starfield Observation. The reason for this situation might arise from the unique nature of the Canadian healthcare. The template for our current system was created in 1962 in Saskatchewan. That agreement arose in the environment of labour conflict and resulted in the government paying for doctors’ services but the doctors only being accountable for transactions of service (fee for service). This meant that the scope of primary care was at the discretion of each physician and was not held accountable to the government.

Primary care “scope” is the description of services, attributes and their relationship to each other in primary care. In Ontario primary care services are described as the 15 services in the PCCCAR basket of services. Attributes are described by Health Quality Ontario as the nine characteristics of healthcare. The relationship between the services and attributes is not currently defined in Ontario but in other jurisdictions is described as a framework such as the UK Quality Outcomes Framework.

The evidence presented in this paper suggests that the Starfield Observation depends on the relationship between patients and their primary care physician. This relationship requires a certain scope of primary care practice. Most international health systems hold primary care accountable to certain scope of practice. In Ontario, this is not the case and most primary care practices provide significantly reduced scope of practice.

Without a mechanism of accountability to assure the scope of primary care practices, the Starfield Observation will not arise, even in the presence of investments in primary care.

\textbf{III Creating the Starfield Observation in Ontario?}

The benefits of the Starfield Observation are greater effectiveness, efficiency and equity in the health system. The Ontario healthcare system would benefit from these desirable outcomes. The lack of system benefit from the considerable investment in Primary Care (2000 to 2006) suggests that the benefit requires additional elements beyond more resources in primary care. There appears to be a need for a specific scope of primary care to account for the manifestation of the Starfield Observation.

In Ontario, primary care is loosely defined, without performance measurement, and without effective accountability for scope of practice. The current efforts by Health Quality Ontario, CIHI, and the Ministry

\textsuperscript{24} Increasing Value for Money in the Canadian Healthcare System, Hollander et al. Healthcare Quarterly Vol 12 No. 4 2009
of Health to establish performance measurement in primary care have yet to define the relationship-based scope of primary care which appears to account for the Starfield Observation.

If it becomes policy to establish and encourage the Starfield Observation in Ontario, a number of steps would be required. At a group level:

1. Estimate the services, attributes and their relationship required for relationship-based primary care
2. Establish comparable performance measurement for relationship-based primary care by choosing indicators which reflect the desired services, attributes and relationships in 1 above. Indicators with their relationships can be mathematically represented in a framework using a method similar to the UK’s QOF or the USA Five Star Quality Rating System\(^ {25} \). Measurement is required for management and accountability.
3. Establish the ability of the framework to dynamically reflect changes in our understanding of the required scope of practice and other changes in public expectations.
4. Establish the economic foundation for support and sustainability of relationship-based primary care by means of accountability and incentives. To be able to optimize performance of primary care teams, the foundation should:
   a. Support the fundamental relationship between patients and their primary care team
   b. Enable primary care teams to collect and report data efficiently
   c. Encourage and reinforce excellence in team performance
   d. Provide the feedback needed to promote stewardship of health system resources beyond the Primary Care Team

These steps require political leadership in order to guide policy development and implementation but as demonstrated by Dorval Medical, the Starfield Observation has the added feature that it can be trialed on a small scale. If merited, province-wide implementation can be gradual and need not be expensive.

**IV The Starfield Observation and Current Ontario Initiatives:**

**Budget Restraint**

Starfield’s work represents the most empirical path to cost containment for the healthcare system. It holds the promise of being able to achieve the ambitious target – reduce growth to 2%. Efforts focusing on supply management of big cost centers and efforts focusing on qualitative improvements have difficulty demonstrating the desired outcomes. No other strategy or actions enjoy the association of reduced system cost, improved quality and improved equity seen in the Starfield Observation. This proposed model also enjoys the powerful benefit of aligning with the current science of motivation as described by the works of Daniel Pink\(^ {26} \). This proposal provides the three elements of Autonomy, Purpose and Mastery which has been found to be the common elements for the creation of motivation in complex work.

**Health Links**

The concepts underlying Health Links are highly compatible with the Starfield Observation, but need to go further in order to gain the benefits. Health Links are intended to identify high cost patients and wrap care around them in the hope of meeting their needs and reducing future healthcare costs. The current


structure is focused on identifying these high users within a defined geography and getting health care providers and organizations to better manage transitions. This is being done in different ways in different LHINs. Requiring these initiatives to support accountable relationship-based primary care should allow Health Links to result in achieving their target. The Health Links objectives would be more achievable if patient specific cost data were provide to the primary care provider. This reporting would be consistent with current reporting to practices on “outside usage”, and is explicitly agreed upon in the patient registration form. As a result privacy and confidentiality processes already in place are most likely sufficient to allow patient specific reporting to the patient’s physician.

**Seniors Strategy**

Ontario’s Seniors Strategy is based upon the principles of Access, Equity, Choice, Value and Quality. These characteristics align well with the Starfield Observation. The Seniors Strategy recognizes the key role which primary care plays in achieving success. Primary care characteristics required to fulfill the role in the Seniors Strategy is not explored in the strategy’s documentation but likely requires the characteristics described by Starfield. Accountable relationship-based primary care would enhance the Strategy and achieve the desirable outcomes of access, equity, assured quality and reduced costs. As mentioned in the section on Health Links, the reporting of system costs is probably acceptable under the current consent on the patient registration form. This data is important to give a full understanding of primary care performance for seniors.

**V Proposed Action**

1. **Pilot the Performance-Oriented Model for Primary Care**

   The Performance-Oriented Model for Primary Care built upon the Dorval Medical experience to describe a reasonable starting point to measure the services and attributes which account for the Starfield Observation. This model satisfies steps 1, 2, and 3 described earlier. The method is explicitly dynamic and can adapt to expert opinion currently addressing performance in primary care. The experts would benefit from a political directive which established the following objectives:
   
   a. Indicators should be chosen to reflect relationship-based primary care scope as described in the works of Starfield and Hollander.
   b. Performance measurement requires a single numeric measurement for all indicators in order to allow comparison
   c. Performance measurement needs to describe the quantity of relationships in a manner that the provincial needs are satisfied (a capacity for each practice of at least 60) see Appendix A: Capacity Definition and Measurement.
   d. Performance measurement requires the description of cost with a data source from ICES to provided total system cost for the practice population.

2. **Establish the supporting economics for an accountable model**

   Group level support is required to sustain and spread a successful accountable model which assures performance of relationship-based primary care. The supporting economics needs to balance the work required with expected benefits.

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The expected benefits for participation should include monetary investment for the required IT/IM infrastructure and operations. Even more important than monetary gain is the future practice stability by means of an accountability agreement.

A practice which agrees to explicit accountability for its scope of practice, assurance of quality and capacity will experience significant additional work, and lost income opportunity. In exchange, it will gain an explicit understanding of expectations and protection from volatile policy changes.

The additional work is the efforts required to accurately report data required for assurance of performance. In addition, a practice will likely be motivated to improve performance and this also requires work.

Opportunity cost means the lost benefit due to a decision or action. A practice which is held accountable to scope and capacity will not be able to register as many patients compared to a practice which is not held accountable and chooses to “game” the roster system by rostering many patients without service provision. The practice’s decision to act in an accountable manner results in restraint of the practice’s income generating capability.

The practice monetary cost (IT/IM infrastructure and opportunity cost) requires compensation for the costs. This can be achieved by a system of “purchasing reconciled data” as described in the document The Dorval Model. Such payment levels should be sufficient to support the IT infrastructure required to establish and maintain a searchable EMR, capable of reporting the required data (about $6 / patient / year).

VI Justifying the Disruptive Nature of this Proposal

This proposal represents the establishment of direct accountability between the government and primary care providers. It is a fundamental departure from the existing healthcare model which has existed since 1962. It is likely that this proposal will be controversial within the medical profession and will be vigorously opposed by those in favour of the status quo.

A prudent primary care provider might choose to engage in this proposal if future practice risk and volatility was balanced by an explicit accountability agreement. The current FHT agreements have accountability in the form of detailed activity reporting. This is viewed by many as being restrictive and distorting to the practice goals. This proposal shifts accountability from activities to outcomes which more closely align with practice and provider’s sense of purpose. The accountability would also be offset by future stability and explicit expectations rooted in public expectations from the health care system. This “risk mitigation” will be viewed by many as having significant value in the face of an uncertain future.

This proposal carries a significant cost. The $6/patient/year represents a potential cost of up to $80 million if the model becomes widely accepted. The system must expect a considerable, real savings in order to find this proposal acceptable. True savings are likely to arise from several aspects of this model; reduced acute care costs and reduced costs from high utilization patients.

Dorval Medical found significantly reduced acute care demand for its population. Total bed days were 50% less than expected for the given population and admitted patients had a reduced Length of Stay of about 15%. These findings appear to be similar to the findings of Hollander. If true, the system cost savings from this reduced demand would be in the magnitude of about $200 million dollars.

This model is likely to potentiating the benefits of the Health Links initiative by reinforcing the personal relationship between primary care providers and their patients. Some of these patients will be in the group of high utilization patients targeted by Health Links. The top 5% of users consume about $15.2 billion and a modest reduction of 10% consumption of this group could save $1.5 billion.

These two potential cost savings (acute care costs and high utilization patient costs) represent considerably more savings than the cost of the model and should motivate the system to find the model attractive.

This proposal should be viewed as an action of risk mitigation. Our healthcare system is vulnerable in its finance. It is funded by international debt. This debt is acceptable due to current unusually low interest rates, generous bond ratings, growing apparent real-estate values and a public tolerance for high personal debt. All of these factors are vulnerable to sudden change in which the Province’s finances would have to suddenly and dramatically change. The largest provincial cost is its healthcare system.

VII Conclusion

The Starfield Observation has not been demonstrated in Ontario despite a decade of significant investment in primary care quality and resources. Starfield’s recently suggested that the Observation is based upon relationships with a certain scope of service. Examples by Hollander and Dorval Medical suggest that the Starfield Observation does occur in the Canadian context when there are elements of scope which are assured.

Piloting the Performance-Oriented Model for Primary Care provides the system with an opportunity to test a mechanism for cost control. By demonstrating the Starfield Observation in Ontario, the system will be better prepared if a need for sudden cost control arises.

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29 Increasing Value for Money in the Canadian Healthcare System, Hollander et al. Healthcare Quarterly Vol 12 No. 4 2009
Appendix A: Capacity Definition and Measurement

In this paper, capacity is defined as the number of satisfied relationships which are maintained by the practice. As practices provide varying hours of service, capacity measurement needs to adjust for this variable in order to allow comparison of practices of different hours of operation. The correcting denominator is the number of regularly scheduled weekly hours provided by any provider offering comprehensive services (full scope primary care doctors and nurse practitioners).

As an example, consider a practice which assures the quality of relationships for 6,500 patients and provides this service with 120 hours per week of appointment hours for doctors and nurse practitioners. The capacity would be calculated as 6,500/120 = 54.2

By OMA data, there are 7,400 primary care practitioners practicing in the comprehensive care models. They work an average of 30 hours a week. By this data, the 13.2 million residents of Ontario would be fully serviced with the current primary care labour working with a capacity of 59.5

Any practice providing assured service with a capacity of 60 or greater would be providing its share of the service required to satisfy the province’s primary care needs.

Appendix B: Additional Definitions

The following definitions are intended to provide greater clarity in discussion about accountability in comprehensive primary care. This is a starting point that can be revised as better terms and definitions arise.

Primary Care

Primary care is defined in Ontario as any service directly accessible by a member of the public without a physician’s intervention. Primary care scope embraces a vast spectrum of services from highly focussed specialized services to broad based services.

Comprehensive Primary Care

Comprehensive primary care implies a broad spectrum of services. In Ontario it is not explicitly defined but Appendix D of the PEM contracts lists a subset of the PCCCAR basket of services which might be considered a definition of comprehensive primary care.

Relationship based primary care

Relationship based primary care refers to a commitment to the relationship between patient and provider as being central to the professional relationship. This is stated by the College of Family Physicians of Canada as one of the Four Principles of Family Medicine (http://www.cfpc.ca/principles/). There does not appear to be a defined set of services or attributes beyond the commitment over time to patient centricity.

The Starfield Observation

The Starfield Observation is the association noted by Barbara Starfield that as systems invest in primary care there is a corresponding increase in quality, increase in equity and reduction in total health system cost.

The Starfield Scope

The Starfield Scope is a term I created to describe the list of services and attributes which result in the Starfield Observation. This specific scope is not well understood. Starfield described the scope as follows “components of primary care at the clinical level include access to and use of first-contact care, patient-focused (rather than disease-focused) care over time for defined populations, services that are comprehensive and timely, and coordination of care when patients need services elsewhere.” Hollander’s work suggests that the attribute of “continuity” is important to the Starfield Scope.

Frameworks for describing the relationship between the services and attributes

A functional definition would be the scoring of the components in a scope of practice which allows an understanding of the relative value of the components and an overall score to facilitate comparison. Examples:

- The **Quality Outcomes Framework** provides an explicit relationship between multiple indicators of quality using a weighted scoring system.
- The **Five Star Quality Rating System** for Medicare Advantage Plans is a framework in which services and attributes are assigned a score (1 to 5 stars) on the basis of multiple parameters and then an overall score is assigned according to a formula.
- The **Starfield Framework** is a name that could be used to describe the explicit scoring of the components of the Starfield Scope to describe the relative value of the components and to allow an overall score to enable comparison.
Appendix C: An example and analysis of a Starfield Framework

The following table describes the Starfield Framework used by Dorval Medical. Patient expectations are quantified across the top of the table and indicators, thresholds and weightings are along the Left side.

<table>
<thead>
<tr>
<th>Quality Indicators</th>
<th>Values</th>
<th>Min</th>
<th>Max</th>
<th>Wh/1000</th>
<th>Raw Weighting</th>
<th>Earned</th>
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<td>1.0</td>
<td>1.2</td>
<td>0.8</td>
<td>21.3</td>
<td>19</td>
<td>16.6</td>
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<td>4.4</td>
<td>4.3</td>
<td>30.0</td>
<td>34</td>
<td>8.1</td>
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<td>4.4</td>
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<td>4.3</td>
<td>34.7</td>
<td>31</td>
<td>11.3</td>
</tr>
<tr>
<td>Survey: Satisfied by day of test</td>
<td>95%</td>
<td>98%</td>
<td>101%</td>
<td>14.5</td>
<td>13</td>
<td>0.0</td>
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<tr>
<td>Access Bonus (% of Max)</td>
<td>19%</td>
<td>-51%</td>
<td>52%</td>
<td>34.6</td>
<td>22</td>
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<tr>
<td>% Reconciled Med List in last yr</td>
<td>27%</td>
<td>13%</td>
<td>40%</td>
<td>30.1</td>
<td>35</td>
<td>21.0</td>
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<td>% Reconciled Med List in last yr</td>
<td>19%</td>
<td>6%</td>
<td>26%</td>
<td>30.0</td>
<td>34</td>
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<td>ChartStar Record on admission in 24 hrs</td>
<td>88%</td>
<td>88%</td>
<td>30%</td>
<td>48.2</td>
<td>44</td>
<td>6.2</td>
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<tr>
<td>2 QF- % Admitted Pts seen in office within 7 days</td>
<td>75%</td>
<td>15%</td>
<td>60%</td>
<td>15.7</td>
<td>14</td>
<td>15.7</td>
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<tr>
<td>3 QF-ACSC_Hospitalization</td>
<td>0.10%</td>
<td>0.15%</td>
<td>0.32%</td>
<td>17.9</td>
<td>16</td>
<td>17.9</td>
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<td>1 QF-ED Admissions, DME</td>
<td>0.09%</td>
<td>0.08%</td>
<td>0.36%</td>
<td>11.2</td>
<td>10</td>
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<tr>
<td>4 QF-Hospital Readmission</td>
<td>18%</td>
<td>15%</td>
<td>20%</td>
<td>1.1</td>
<td>1</td>
<td>0.9</td>
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<tr>
<td>5 QF-At Cause/Hospitalizations</td>
<td>358</td>
<td>700</td>
<td>1100</td>
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<td>18000</td>
<td>11.3</td>
<td>10</td>
<td>11.2</td>
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<td>7 QF-House Cells</td>
<td>0.90%</td>
<td>0.50%</td>
<td>1.16%</td>
<td>5.6</td>
<td>1</td>
<td>0.9</td>
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<tr>
<td>Advanced Access 2nd Next App.</td>
<td>5.0</td>
<td>4.3</td>
<td>4.3</td>
<td>35.5</td>
<td>30</td>
<td>33.5</td>
</tr>
<tr>
<td>% of Palliative Pts with coverage 2/4/7</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>62.8</td>
<td>63</td>
<td>62.3</td>
</tr>
<tr>
<td>% of LTC Pts with coverage 2/4/7</td>
<td>18.6%</td>
<td>58%</td>
<td>111%</td>
<td>70.5</td>
<td>63</td>
<td>56.5</td>
</tr>
<tr>
<td>% of Adult Care Pts with Chart Communication</td>
<td>30%</td>
<td>36%</td>
<td>37%</td>
<td>87.2</td>
<td>78</td>
<td>65.3</td>
</tr>
<tr>
<td>% of week with direct office contact</td>
<td>34.2%</td>
<td>32.8%</td>
<td>33%</td>
<td>90.6</td>
<td>84</td>
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</tr>
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<td>Fluticasone</td>
<td>0.73%</td>
<td>0.80%</td>
<td>0.91%</td>
<td>13.4</td>
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<td>8.1</td>
</tr>
<tr>
<td>Pap Smear</td>
<td>11.7%</td>
<td>12%</td>
<td>90%</td>
<td>10.1</td>
<td>9</td>
<td>6.4</td>
</tr>
<tr>
<td>Metformine</td>
<td>66.3%</td>
<td>54%</td>
<td>70%</td>
<td>10.1</td>
<td>8</td>
<td>5.5</td>
</tr>
<tr>
<td>Kidney Stone</td>
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<td>100%</td>
<td>100%</td>
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<td>10</td>
<td>10.1</td>
</tr>
<tr>
<td>FOBT</td>
<td>74.5%</td>
<td>45%</td>
<td>63%</td>
<td>10.1</td>
<td>8</td>
<td>10.1</td>
</tr>
<tr>
<td>18 Month Development Check</td>
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<td>100%</td>
<td>100%</td>
<td>10.1</td>
<td>9</td>
<td>10.1</td>
</tr>
<tr>
<td>% of Cussards with BMI&gt;3.0 in 1/2</td>
<td>57.7%</td>
<td>49%</td>
<td>64%</td>
<td>4.5</td>
<td>4</td>
<td>3.0</td>
</tr>
<tr>
<td>DM A1C&lt;7 in 1 year</td>
<td>07.9%</td>
<td>83%</td>
<td>92%</td>
<td>4.5</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td>DM A1C&lt;6 in 1/2</td>
<td>70.0%</td>
<td>59%</td>
<td>80%</td>
<td>4.5</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td>DM A1C&lt;6 in 1/2</td>
<td>47.0%</td>
<td>62%</td>
<td>54%</td>
<td>4.5</td>
<td>4</td>
<td>2.0</td>
</tr>
<tr>
<td>% of patients screened for BMI</td>
<td>41.1%</td>
<td>25%</td>
<td>59%</td>
<td>6.7</td>
<td>7</td>
<td>6.1</td>
</tr>
<tr>
<td>% of patients screened for HbA1c</td>
<td>71.2%</td>
<td>37%</td>
<td>79%</td>
<td>14.5</td>
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<td>11.6</td>
</tr>
<tr>
<td>% of patients screened for HbA1c</td>
<td>64.7%</td>
<td>48%</td>
<td>70%</td>
<td>4.5</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td>% of patients screened for BMI</td>
<td>54.8%</td>
<td>37%</td>
<td>59%</td>
<td>4.5</td>
<td>4</td>
<td>3.0</td>
</tr>
<tr>
<td>CHF with distress in last year</td>
<td>59%</td>
<td>54%</td>
<td>61%</td>
<td>8.9</td>
<td>8</td>
<td>5.0</td>
</tr>
<tr>
<td>Registry Review in last year</td>
<td>96.4%</td>
<td>86.7%</td>
<td>95.2%</td>
<td>3.9</td>
<td>8</td>
<td>8.9</td>
</tr>
<tr>
<td>- Diabetes</td>
<td>96.4%</td>
<td>86.7%</td>
<td>95.2%</td>
<td>3.9</td>
<td>8</td>
<td>8.9</td>
</tr>
<tr>
<td>-ASHD</td>
<td>62.2%</td>
<td>25%</td>
<td>69%</td>
<td>4.9</td>
<td>8</td>
<td>7.7</td>
</tr>
<tr>
<td>-CHF</td>
<td>68.4%</td>
<td>59%</td>
<td>81%</td>
<td>4.9</td>
<td>8</td>
<td>5.0</td>
</tr>
<tr>
<td>-Type</td>
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<td>71%</td>
<td>67%</td>
<td>2.2</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>-stroke / TIA</td>
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<td>61%</td>
<td>67%</td>
<td>2.2</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
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<td>81%</td>
<td>10.1</td>
<td>9</td>
<td>5.9</td>
</tr>
<tr>
<td>-OFCD</td>
<td>43.5%</td>
<td>27%</td>
<td>43%</td>
<td>10.1</td>
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<td>10.1</td>
</tr>
<tr>
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<td>23%</td>
<td>65%</td>
<td>16.8</td>
<td>15</td>
<td>6.1</td>
</tr>
<tr>
<td>-diabetes / CVD</td>
<td>58.2%</td>
<td>41%</td>
<td>90%</td>
<td>16.8</td>
<td>15</td>
<td>6.0</td>
</tr>
<tr>
<td>-psychosis</td>
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<td>8%</td>
<td>75%</td>
<td>16.8</td>
<td>15</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Red indicators come from the Ontario Ministry of Health

| 1000 | 894 | 712.8 |

Table 1 Dorval Medical's Starfield Framework
Patient Expectations

The patients of the practice were polled to determine the value which they placed on each of the services in primary care. The methodology is described in detail in The Dorval Model. The relative value of the various services is listed across the top of Table 1 in the yellow row labelled Target.

Indicator Weighting

Indicators were chosen that reflected on primary care services. Indicators in red are provided by the Ministry of Health. In the beige area of Table 1 each indicator occupies a row. Points were assigned along the row under the columns related to the indicator. Points were adjusted in the columns so that the point value was similar to the polling Target.

Indicator and Framework Analysis

Review of Dorval Medical’s Starfield Framework reveals an interesting distribution. Over 80% of the framework’s value is expressed in indicators which measure the characteristics of the primary care relationship. In the Ontario College of Family Physicians position paper Vision 20:20 and the Canadian College of Family Physicians paper The Patient’s Medical Home the relationship is described as central to the function of primary care. This relationship is described in terms of access, continuity, care coordination, comprehensive service and patient centeredness. These are the very characteristics which are measured in the framework.

It might appear to be odd that primary care (a clinical discipline) has its performance measured by indicators pertaining to the environment of the relationship between patient and provider. This appears to be empirically correct looking at Hollander’s work where the benefit for diabetic and congestive heart failure patients was correlated entirely with primary care continuity and not with any disease oriented indicator.

A possible explanation for the power of measuring the relationship is that it is at the level of the relationship that there are consistent and acceptable indicators to providers and patients. From within this assured relationship, patients and providers can address issues in the unique circumstances in which each individual lives. The value of the relationship is explored in Appendix D.

Disease oriented indicators require the acceptance that patients are uniformly focussed on the measured disease. This is counter to the fundamental beliefs of primary care which focuses on the patient and not on the disease. Patients are not “life support systems for a single disease”. Each patient is complex in their health status and personal expectations. The strength of primary care is the ability to address each health transaction from a close, accessible, knowledgeable and trusting relationship.

The key is the relationship.
Appendix D: How can performance measurement of a clinical discipline (family medicine) be measured by relationship indicators?

**Hugh’s Story**

How can you describe the beauty and power of family medicine by telling the story of a medical failure?

I first met Hugh as a new patient after he decided that all his specialists in Toronto were getting too hard to see from Oakville. Hugh was powerful, physically, emotionally and intellectually. He was also frustrated. Hugh was in a war with diabetes and renal failure requiring peritoneal dialysis.

The war was not going well. Hugh loved summering in rural Nova Scotia and was able to manage his own dialysis but the tube was failing. And if fate wasn’t bad enough, there were significant sores on both feet.

In August, Hugh was admitted to hospital. The tube kept blocking and the feet weren’t responding to oral antibiotics. It seemed that Hugh just couldn’t catch a break.

There were several failed attempts to get the dialysis line to work. All failed and Hugh was committed to three times a week hemodialysis at the renal unit.

Hugh had terrible pain from the infections in his feet. The arteries were shot and further surgery wasn’t an option. Large doses of narcotics and IV antibiotics were Hugh’s only hope. This slowly became an obvious failure as gangrene developed. Off came Hugh’s right leg.

Heather, Hugh’s wife was terrified. Helpful friends suggested palliative care.

For a while the pain improved and Hugh was moved to the rehab unit to learn how to cope with one leg. Hugh was persistent and progressed to the point that he was accepted into a service that could get Hugh an artificial leg. Just as he was about to be transferred: disaster. The other leg became excruciatingly painful and the sores progressed.

Back to the medical ward: despite all efforts the disease progressed. Hugh became a bilateral amputee with the loss of his other leg.

Both Hugh and Heather were distraught. Hugh believed he would never do the activities he loved. Heather was shaken with the realization that Hugh’s strong leadership in their marriage was crumbling. Hugh saw himself as a failure without a future. Numerous times Hugh asked “what is the point of carrying on?” Hugh and Heather were in a spiritual crisis, they needed an understanding why fate had been so cruel and how they were going to deal with the future.

Medical school and family medicine residency was “light” on the training in the specialty of spirituality. Luckily, 30 years of practice had gradually taught me that sometimes the greatest care happened by just being there with the patient. I have learned to accept my uncertainties, fears of my own mortality, and my limitations as a person. I would be there for Hugh even if there was little medicine I could offer.

Throughout Hugh’s hospitalization I was there to let Hugh talk and to let him know he was not alone. I made a point of reinforcing that I was with him. I also challenged him to look at his situation. Even though he had serious health issues, his mind and heart were both good. I pointed out the numerous visits by his circle of friends who really cared about Hugh.

Hugh was an infrequent attendee of my local church. Heather was there most Sundays. I asked Hugh if he would like to talk to the priest and he agreed. The priest, James, started a relationship which soon became deeply comforting.
Gradually Hugh’s spirits stabilized and started to lift. He moved back to Rehab. With perseverance Hugh made progress and was again accepted to the place where he could try artificial legs. I had my doubts, but there was no harm giving it a try and Hugh was due for a break.

Hugh is now a week away from returning home after seven months in two hospitals. He is walking on two artificial legs and a cane, and he is content, deeply appreciative of all that is around him. He is no longer afraid. Hugh and my journey continues. I admire the person he has become and I am honoured that he and I share our story.