

REPORT

Toronto Academic Health Science Network Task Force on Valuing Academic Performance

EXECUTIVE SUMMARY

The Toronto Academic Health Science Network (TAHSN) is a dynamic network of academic health organizations providing leading edge research, teaching and clinical care. TAHSN serves as a leader in Canadian healthcare and is one of the largest, most productive academic health science centers in North America as evidenced on a number of dimensions including academic standing, research activity/output, visionary collaboration and contribution to health care innovation.

TAHSN is comprised of the University of Toronto (Health Sciences) and its fully affiliated hospitals and their research institutes, each of which hold national and international standing as leaders in their particular fields. Together, these organizations work collaboratively to advance and sustain a shared academic mission of providing the highest quality patient care, conducting innovative research, offering world renowned top-quality education programs, and participating in knowledge transfer activities.

In April 2009, the Vice Provost Relations with Health Care Institutions recommended that TAHSN strike a Task Force to recommend next steps in improving our processes in valuing academic performance. The Task Force members included senior academic and administrative leaders from the University of Toronto Health Sciences, the ten hospitals/research institutes fully affiliated with the University and representatives of the academic physician Alternate Funding Plan within TAHSN. The Vice Provost Relations with Health Care Institutions chaired the Task Force.

The current measures of performance across the academic units and institutions comprising TAHSN are heterogeneous rendering collective analysis difficult. Standardized measures of academic outcomes relevant to key performance indicators are not uniformly established broadly across TAHSN members. Available measures are often believed to be inadequate to capture the vast array of achievement among our faculty members, the university academic units (Departments, Faculties) and hospitals/research institutes. Each academic unit and hospital/research institute aspires to achieve its own articulated strategic goals based on the mission and vision principled on an individual brand recognition. Enhanced health care, health services and knowledge translation aimed at improved health quality are goals common to all members of TAHSN including the academic and administrative leadership, individual faculty members, staff and learners. Many parts of TAHSN are recognized internationally for their achievements enabling the University of Toronto to be ranked among the top research universities, globally. Increasingly, inter-disciplinary collaborations across academic units and institutions have led to the highest levels of innovation and excellence in clinical care, education and research with major impact.

The Task Force conducted an internal and external scan of best practices of measuring academic performance, both research and education, of full time faculty in Academic Health Science Centers and identified the sources of academic administrative data that exist and could be developed to measure academic performance. The Task Force recognized that in order to recommend next steps to establish a unified benchmarking process across all of the University Health Sciences and affiliated hospitals/research institutes, its mandate was extended to embrace a broader vision based on the return on investment model of TAHSN and the value-add of its remarkable clinical, education and research environment was undertaken.

Recognizing that TAHSN creates collective value that is more than the sum of the individual institutional outcomes, and that the framework for valuing academic performance of individual faculty members, academic units, and hospital/research institutes is enabled through measurement and benchmarking outcomes, the Task Force report offers the following recommendations to TAHSN:

RECOMMENDATIONS

- 1. Create opportunities to strategically align common institutional goals among the TAHSN partners for improved performance and measurable outcomes in health services, quality health care, health and biomedical research and knowledge translation (including commercialization of intellectual property).**
- 2. Build the TAHSN collective brand, synonymous with leading-edge, globally competitive innovation and excellence reflected by these outcomes.**
- 3. Implement methods of promoting improved performance of TAHSN through valuing individual faculty member academic achievements aligned with common institutional goals.**
- 4. Engage stakeholders (including the public, government and private sectors) in developing common institutional goals, measuring outcomes for iterative improvement and effectively communicating these outcomes.**
- 5. Implement a wide and comprehensive consultation process across TAHSN to obtain consensus on the key domains for measurement by all stakeholders.**
- 6. Identify new key indicators to measure areas of innovation and excellence that reflect the impact of the TASHN collective value.**
- 7. Establish and support a systematic process for routine identification and collection of all relevant data that will be published annually as the TAHSN “outcome report”.**
- 8. In a phase 2 of the analysis of Valuing Academic Performance, engage the Council of Health Sciences to provide a second report focused on the non-MD health science faculty members and their contributions within TAHSN.**

CONCLUSIONS

TAHSN must identify and develop synergistic innovation and excellence through strategic partnerships and collaboration. The academic achievements of our faculty members, staff and learners collectively represent the outcomes of TAHSN. Implementing a comprehensive and standardized process of measuring outcomes with relevant indicators is essential for valuing academic performance. Articulating and promoting the TAHSN collective value represents both an imperative and an opportunity to establish a new paradigm for academic health science centers in Canada and internationally.

Toronto Academic Health Science Network Task Force on Valuing Academic Performance

1.0 OVERVIEW

Core to the Academic Health Science Center (AHSC) is the academic productivity and innovation arising from collaborative partnership between research-intensive universities and their fully affiliated hospitals. The academic health professionals and scientists who advance innovation and excellence in health and biomedical research and its application through knowledge translation (including commercialization) enable the AHSC to emerge as a force for positive economic and social benefit. *Valuing academic performance* of individual faculty members and their collective contributions within academic units and hospitals/research institutes is the top critical success factor for the AHSC. Identifying the value-add of the AHSC environment for both faculty members and institutions is a necessary step toward understanding strategic alignment of mission goals for all institutional partners within the AHSC.

The Toronto Academic Health Science Network (TAHSN) is a consortium of the University of Toronto Health Science Faculties¹ and the ten hospital/research institutes² that are fully affiliated with the University of Toronto.

One of the top priorities across the members of TAHSN is to better communicate successful outcomes. The TAHSN hospitals now report extensively on their clinical performance through indicators and metrics using a balanced score card approach. The Faculty of Medicine has provided detailed information about research funding from all sources in the *Research Synopsis* published annually by the Office of Research with oversight by the Vice Dean Research and International Relations.³ The University of Toronto Vice President Research is now analyzing those indicators relevant for global and North American rankings. Both of these Offices of Research include information from all of our faculty members and students in the Faculty of Medicine, the majority of whom are located in the TAHSN hospitals/research institutes. Importantly, the identification of the University of Toronto on publications and grants of all of our faculty members and students enables all external reviewers to recognize the collective

¹ The Health Science Faculties at the University of Toronto include: Dentistry, Medicine (including Rehabilitation Sciences), Nursing, Pharmacy, Physical Education and Health, Public Health and Social Work

² Baycrest, Bloorview Kids Rehab, Center for Mental Health and Addictions, Hospital for Sick Children, Mount Sinai Hospital, St. Michael's Hospital, Sunnybrook Health Sciences Center, Toronto Rehabilitation Institute, University Health Network, Women's College Hospital

³ The latest Faculty of Medicine *Research Synopsis for 2008-09* can be found at www.medresearch.utoronto.ca/

achievements of TAHSN in provincial, national, North American and global assessments. The future (improved) commercialization productivity facilitated by *MaRS Innovation*⁴ promises to enhance the performance of TAHSN in returning health and biomedical science research investment into improved health and prosperity for Ontario and Canada. But, these are mostly measures of outputs and not outcomes. In TAHSN, impact arises when the intersection of clinical care, education, research and leadership creates emergent environmental value for faculty members to innovate and apply new knowledge that improves the quality of health for individuals and populations. **Valuing academic performance** is the essential incentive driving outcomes within TAHSN and requires rethinking how we define success.

In April 2009, the Vice Provost Relations with Health Care Institutions recommended that TAHSN strike a Task Force to recommend next steps for improving our processes in valuing academic performance. The current measures of performance across the academic units and institutions comprising TAHSN are heterogeneous rendering collective analysis difficult. Standardized measures of academic input, output and outcomes relevant to key performance indicators are not uniformly established broadly across TAHSN members. Available measures are often believed to be inadequate to capture the vast array of achievement among our faculty members, the university academic units (Departments, Faculties) and hospitals/research institutes. Each academic unit and hospital/research institute aspires to achieve its own articulated strategic goals based on the mission and vision principled on an individual brand recognition. Enhanced health care, health services and knowledge translation aimed at improved health quality are goals common to all members of TAHSN including the academic and administrative leadership, individual faculty members, staff and learners. Many parts of TAHSN are recognized internationally for their achievements enabling the University of Toronto to be ranked among the top research universities, globally. Increasingly, inter-disciplinary collaborations across academic units and institutions have led to the highest levels of innovation and excellence in clinical care, education and research with major impact.

The TAHSN CEOs supported the launch of the Task Force approved the following statement of purpose, terms of reference and membership.

Purpose: To establish a framework for measuring and recognizing academic performance of University faculty members both on- and off-campus. The Task Force will analyze best practices among the TAHSN partners as well as external academic health science centers of similar stature. Indicators and metrics that measure both research and education performance will be considered.

⁴ *MaRS Innovation* – www.marsinnovation.com. MaRS Innovation provides an integrated commercialization platform that harnesses the economic potential of the exceptional discovery pipeline of 14 leading Toronto academic institutions. MaRS Innovation is a non-profit organization with an independent industry-led Board of Directors, funded through the Government of Canada's Center of Excellence for Commercialization and Research (CECR) Program and contributions of its member institutions, as well as support from the Province of Ontario.

Terms:

1. Conduct an internal and external scan of best practices of measuring academic performance, both research and education, of full time faculty in Academic Health Science Centers
2. Identify the sources of academic administrative data that exist and could be developed to measure academic performance
3. Recommend next steps to establish a unified benchmarking process across all Faculty of Medicine Departments and TAHSN Hospitals

Chair Vice Provost Relations with Health Care Institutions

Task Force Members

1. Faculty of Medicine Vice Deans Education (or delegates):
Jay Rosenfield (Undergraduate Medical Education);
Sarita Verma (Postgraduate Medical Education);
Andrea Sass-Kortsak (Graduate Education);
Ivan Silver (Continuing Education and Professional Development);
and,
Peter Lewis (Vice Dean Research and International Relations) and
subsequently Avrum Gotlieb (Interim Vice Dean Research and
International Relations).
2. 4 representative Vice Presidents Research and Education (or representatives) from
the fully affiliated hospitals
Richard Reznick (Chair of Surgery, Vice President Education –
University Health Network)
Patricia Houston (Vice President Education, St. Michael's)
Paula Rochon (Vice President Research, Women's College
Hospital)
Michael Julius (Vice President Research, Sunnybrook)
3. 6 University of Toronto Department Chairs – both clinical and basic science
Luc de Nil (Executive Chair, Rehab Sciences Sector)
Richard Hegele (Laboratory Medicine and Pathobiology)
Louise Lemieux-Charles (Health Policy Management and
Evaluation)
Howard Lipshitz (Molecular Genetics)
Brian Kavanagh (Anesthesia)
Susan Rappolt (Occupational Sciences and Occupational Therapy)
4. 4 Heads of Hospital Divisions – both clinical (including heads of academic
practice plans) and research.
Tom Stewart (Physician in Chief, Mt. Sinai Hospital)
Benoit Mulsant (Psychiatrist in Chief, Center for Mental Health
and Addictions)

Alan Bocking (ObGyn Chair/Chief, Mt. Sinai Hospital/University Health Network)
James Wright (Surgeon in Chief, Hospital for Sick Children)

5. Chair of the Council of Health Sciences – Sioban Nelson (Dean of Nursing)
6. 2 AFP Governance Presidents (from 8 AFP groups in TAHSN)
Gaetan Tardif (Toronto Rehabilitation Institute)
Phil Berger (St. Michael's Hospital)

Administrative Support – Office of the Vice Provost Relations with Health Care Institutions; Assistant Vice Provost – Leslie Bush

Process

In addition to the Faculty Members and staff from the Office of the Vice Provost, experts from the Faculty of Medicine and the University of Toronto were invited to provide guidance and support. Specifically, representatives from the Faculty of Medicine Expert Panel on Benchmarking were invited to participate including Caroline Abrahams (Office of Postgraduate Medical Education) and Ken Meiklejohn (Strategic Planning Officer). In addition, May-Kay Whittaker (redline management Inc.) was contracted to provide liaison and interviewing of key informants, particularly from peer institutions and both internal and external stakeholders.

The Task Force met in September through December 2009. Three working groups were established by the Task Force to assess and make recommendations about best practices, benchmarking/indicators, and return-on-investment modeling related to academic value and performance. A draft report was provided to the TAHSN CEOs and discussed at the January 2010 meeting of TAHSN. Review was undertaken by the University of Toronto Council of Health Sciences and the Provost. Following this critical appraisal, the report was then finalized and submitted to TAHSN.

The Task Force addressed the original terms of reference provided by TAHSN. Once the external and internal scans of best practices and benchmarking excellence were complete, the Task Force recognized the importance of extending their recommendations to include a broader vision based on the return on investment model of TAHSN and the value-add of this remarkable clinical, education and research environment.

2.0 BACKGROUND

Across North America and the United Kingdom (UK), AHSCs are facing major challenges including, but not limited to, scrutiny of mission relevance in light of dramatic changes in the health system; changing hospital workforce and the impact on service coverage and clinical productivity; new demands on research directions; perceived limitations of government financial support for research activities and corresponding shift to a business climate; progression of managed care and reduced willingness to share responsibility for the full costs of medical education and research; and, the decreased ability to support academic activities through clinical revenues. There is a real possibility that the failure to work collectively to harness the application of new and accessible technologies will threaten the clinical market share of AHSCs. Strategies are now emerging, e.g., in the UK, to address these challenges by stimulating AHSCs to lead in the transformation of health systems for improving health care quality while simultaneously capturing high academic global rankings. Tactics include enhanced management of their missions and repositioning through diversification, new partnerships and relationships. AHSCs are pursuing new opportunities through conjoint advocacy and the management of accountability measures between the university and health care institutional partners. Some AHSCs are also seeking to expand their educational capacities, target their research efforts on knowledge gaps and improve their consumer focus.

The following provides a more specific context for valuing academic performance within TAHSN.

2.1 Toronto Academic Health Science Network: Integration of Clinical Care, Education, Research and Leadership

The University of Toronto Health Science Faculties have evolved over the last century in partnership with affiliated academic hospitals and their research institutes.⁵ The 94 academic physician practice plans continue to evolve and in 2005 the University Governing Council established the Clinical Faculty Policy that enabled full time university appointment of physicians practicing in the fully affiliated hospitals⁶. The agreement between the fully affiliated hospitals and the University require that all full time physicians and PhD Scientists, respectively appointed to and employed by the hospitals, be simultaneously appointed to the University of Toronto. Promotion through the professorial ranks at the University of Toronto follows a single pathway that is

⁵ The earliest affiliation was with the Toronto General Hospital, the Hospital for Sick Children, followed by St. Michael's Hospital. The most recent among the fully affiliated hospitals are Bloorview Kids Rehab (2002) and renewal of Women's College Hospital (2007).

⁶ The University of Toronto has 2213 academic physicians with full time appointment and 830 with part-time university appointment.

identical for health professional and PhD faculty members. The ten fully affiliated hospitals/research institutes are distinguished by their integration of clinical care with higher education (both professional and doctoral) and research.

Based on the current funding formula for supporting health professions' education programs, health services in academic hospitals fully affiliated with universities and the funding for health and biomedical research provided by both federal and provincial governments, it is recognized that AHSCs require considerable investment. Along with government, other stakeholders include private and not-for profit organization donors who support clinical care, education and research within TAHSN. As a result of the evolving environment of accountability, the funders and the public seek identified return on investment and evidence of the rationale for disbursement of monies. Funding envelopes are now tied to specific deliverables, financial predictability for expenditures and an explicit expectation that organizations will work together to make the most effective use of available skills, integrated systems and resources for clinical care, research and education.

2.2 Academic Careers with TAHSN

The recruitment of every new academic health professional or PhD Scientist is purposeful in support of the strategic direction of an academic unit and/or a hospital/research institute within TAHSN. The University and hospital/research institute position descriptions outline the expectations of academic clinical appointment or employment. Annual review of performance should benchmark the individual's achievements to accepted standards for the academic unit or institution. Merit-based performance incentives should be in place to motivate and reward each faculty member to do their best. Standards and evaluation of performance for the purpose of academic promotion at the University of Toronto are identical for all faculty members irrespective of their location on- or off-campus.

The recognition of successful academic performance must be flexible enough to celebrate and promote the unique individual achievement in research, education and creative professional activity for all faculty members. However, progressively collaborative interdisciplinary academic work is now recognized as essential for the most innovative advances in both education and research, particularly in the realm of inter-professional education and care, and knowledge application into clinical practice. Yet, capturing the meaningful contributions of teams of individuals in either research or education groups during annual review or promotion assessment is not a fully standardized or easy process. Increasingly, academic units and institutions rely on successful collaborative interactions among faculty members across disciplines, departments and institutions for success in health professions' education, and health and biomedical science research. Valuing the academic outputs and their impact of each faculty member in this context begs for a system that facilitates the submission of data and reporting with ease seamlessly across the academic environment.

2.3 The Ten Hospitals/Research Institutes Fully Affiliated with the University of Toronto

The TAHSN hospitals fully affiliated with the University of Toronto are a collection of five acute care hospitals and 4 specialty hospitals each of which has a well developed research institute and charitable Foundation. TAHSN, including the University of Toronto attracts 25% of all CIHR funding distributed in Canada, and the total expenditure on health and biomedical research is approximately \$1 billion per annum. It is not surprising that the global rankings that focus only on research place the University of Toronto among the top tier. In 2009, the Higher Education, Evaluation and Accreditation Council of Taiwan that measures research output and impact over the last 11 years placed the Faculty of Medicine 6th in the world and the University of Toronto 11th.

Education achievements are more difficult to rank. In postgraduate medical education, the University of Toronto programs fill all positions in the first iteration of the CaRMS⁷ match – the most successful outcome in Canada. University of Toronto accredited health professions' education programs across all the domains, not just in Medicine, have some of the highest attraction and retention rates, performances on examination and accreditation reviews, as well as very high rates on exit surveys of learner satisfaction in Canada. The POWER⁸ system in postgraduate medical education measures the teaching and learning experience and the affiliated hospitals are favorably comparable across all of TAHSN.

The Faculty of Medicine established the first MD/PhD and Clinical Investigator Programs in Canada. These remain the largest programs nationally and at least 80% of the graduates have entered academic careers, mostly in Canada, over the past 15 years. The TAHSN hospitals are notably provincial, national and international leaders in many of their clinical programs that are integrated with leading edge research innovations. Increasingly, these hospitals publish quality indicators that reflect a culture of continual improvement and the highest standards of health service. The TAHSN hospitals fall within the same accreditation framework as all hospitals in Ontario and Canada. Although they are high achievers in this accreditation process, the question arises as to the role of the TAHSN hospitals in establishing higher standards driven by enhanced knowledge application. The University certainly expects that health professions' education within the TAHSN hospitals should set an exemplary benchmark of excellence for teaching and learning. This can only be accomplished if standards of care are leading-edge.

⁷ **CaRMS** – Canadian Resident Matching Service: <http://www.carms.ca>

⁸ **POWER** is the on-line data management system for postgraduate medical education and the repository of all program evaluation components including the teaching performance of academic physicians as well as the TAHSN hospital site-specific teaching.

These data outline inputs and outputs, but do not directly measure impact of knowledge application on quality of care or economic growth. Further, it is not clear how the sum of the individual faculty members' professional and scholarly achievements translate into collective outcomes for academic units or hospitals/research institutes that can be benchmarked for iterative improvement and global comparison.

3.0 VALUE OF ACADEMIC HEALTH SCIENCES

Valuing our collective performance through evaluation and measurement must include consensus on the distinctive characteristics that will be displayed by outstanding health organizations in the future. These characteristics include: the core strategy of continual improvement as a cross-cutting objective; applying wide-scale cooperation as means to problem solving; fostering integrated thinking and academic inquiry around processes and production relevant to health systems; and, ensuring high levels of satisfaction in our learners, faculty members, staff and patients.

Performance must also be considered in terms of specific deliverables and the tangible benefits that arise from the interrelated activities of clinical services, research and education. There are many areas that correspond to the following "product" lines:

- Generating and identifying new knowledge, its application and dissemination;
- Educating and supplying health human professionals, as well as health and biomedical researchers to meet the resource needs of the country, the province and the GTA; and,
- Providing health service and patient care to achieve the highest quality and accountability.

Following general discussion that identified key issues, the Task Force members agreed to break into working groups to focus analysis and recommendations in three areas: Best Practices, Return on Investment within TAHSN, and Benchmarking Excellence. The following outlines the findings and conclusions of the working groups. A report from each working group was presented to all members of the Task Force who assisted in further refining the details that appear below. More details are presented in the Appendices for reference.

3.1 Best Practices

External and internal scans were conducted to address these questions: Are other AHSCs doing a reasonable job of valuing academic performance? What can we learn from the processes they have developed? Information was gathered from the UK and from the United States (US).

Key informant interviews were conducted with the Deputy Minister of MOHLTC (Ron Sapsford), Deputy Minister of MRI (George Ross), Assistant Deputy Minister of

MOHLTC (Joshua Tepper), President/CEO of three TAHSN hospitals, University Health Network (Robert Bell), Hospital for Sick Children (Mary-Jo Haddad) and the Toronto Rehabilitation Institute (Mark Rochon).

Input was also sought from Deans of other Faculties of Medicine in Canada, from the President/CEO of the Association of Canadian Academic Health Organizations and other selected individuals with expertise in knowledge translation and Alternate Funding Plans (for academic physicians).

The following synthesizes the major findings.

3.1.1. Valuing Individual Faculty Members

At the University of Indiana (UI), following serious concern about faculty morale and productivity, the Faculty of Medicine embarked on new strategic directions recognizing that faculty members are the single greatest resource of the institution. UI believes that institutional and faculty member vitality and productivity are highly interdependent.

The Faculty of Medicine at UI now proactively supports the vision of developing a vibrant, diverse community where each faculty member has the opportunity to make meaningful contributions concurrently to their own career goals and the institution's mission. This significant cultural transformation is managed by a new Office of Faculty Affairs and Professional Development in which major new investment in senior leadership (both academic and administrative) and infrastructure is now leading change recognized as one of the most successful endeavours of its kind by the Association of American Medical Colleges (AAMC). See <http://faculty.medicine.iu.edu/docs/stratPlan.pdf>.

The AAMC has established a new initiative called "*Faculty Forward*" – a collaborative partnership among the AAMC, Medical Schools and academic hospitals to make academic medical centers great places to work for faculty members. *Faculty Forward* strives to strengthen participant medical schools' capacity to identify and implement changes that will improve faculty member job satisfaction, retention, vitality and ultimately, enhance institutional culture. This is accomplished through benchmarking data, networking leaders, providing learning opportunities for Deans and Department Chairs and online tools, templates and project guides to augment institutional efforts to identify, implement and sustain improvements to the academic medicine workplace.

New models of valuing and evaluating full time clinical faculty performance are beginning to emerge in Canada and around the world. For example:

- Memorial University Faculty of Medicine has introduced a **Four Pillars model** that places value on: *clinical experience* in which excellent clinical skills and role modeling are based on the CanMEDS roles; *scholarship of*

education in which academic physicians are expected to be not only good teachers but to be good educators by innovating, implementing and evaluating new programs; *scholarship of discovery/research* that includes traditional health and biomedical research, as well as research in education; and, *leadership* both academic and administrative. All Department Chairs conduct a standardized annual faculty review that examines how the faculty member utilizes protected time for academic pursuits. The recognition of value through the standard criteria, including remuneration is now tied to clear expectations.

- McGill AHSC is developing a **productivity scale** to assign lab space and modify tenure-based salary. They have a design group looking at professional life cycle / academic track of the individual, including development of new measures that recognize mentorship and health care contributions.
- The UI Medical School has developed a new measurement tool, the “**3-D**” for **Data Driven Decisions**, to enable them to understand the contributions of all medical faculty to the school’s mission. This initiative provides valuable summary-level information for school leaders regarding faculty effort and related costs by mission (education, research, clinical and other service). The project was initiated to pursue a more clearly defined system to allocate the school’s resources in ways that:
 - encourage and reward excellence;
 - reflect the School’s values and priorities;
 - are based on complete and reliable data about revenues, expenses and faculty member activities; and,
 - are developed in a process that is transparent and understandable.
- The Institute of Psychiatry, King’s College London is developing an **academic scorecard** to provide guidance in evaluating the appropriateness of achievement of academic staff at the time of hiring and promotion aligned with institutional mission. It will enable individual faculty members to benchmark their career trajectory and create a standard and transparent framework for appraisals and feedback. The academic scorecard will allow for differences across institutions within the King’s College AHSC emphasizing choice of relevant metrics for each site.

The working committee on Best Practices concluded that the University of Toronto Health Science Faculties and the TAHSN hospitals/research institutes could learn from these examples and consider developing an improved system for valuing faculty members that fosters self-realization of meaningful work in alignment with the academic mission and values of TAHSN.

3.1.2 Valuing Academic Units and Institutions (Departments, Faculties, Hospitals/Research Institutes)

The UK has recently experienced a major shift in recognizing the role of *integrated* Academic Health Science Networks (AHSNs) in improving health care outcomes and increasing system efficiencies and productivity.

These University/Medical School and Affiliated Hospital AHSN models range from fully merged corporations, e.g., Imperial, to a confederation (partnership) model, e.g., Manchester. TAHSN is similar to the confederation model.

The UK National Health Services (NHS) has established a rigorous accreditation for AHSNs, using a panel of experts of whom 50% are international, based on evidence of strategic alignment of research, education and clinical services that leads to faster translation of knowledge and discoveries into treatments and improved patient outcomes. Importantly, excellence in research and education are not sufficient. The AHSNs must provide evidence that the communities they serve are receiving improved quality health care as measured by defined indicators, e.g., mortality rates.

AHSNs value public and stakeholder input. They are structured in Clinical Academic Groups or Sections that are responsible for developing and delivering the tripartite mission of clinical service, education and research. The integration of the tripartite mission and measurement of outcomes using metrics and international benchmarking is driving improved quality of care both within the AHSN and the communities they serve.

In the US, the University of Michigan Medical School is involved in a new initiative “Michigan Quality System”, which is helping them improve the way they care for patients every day. Its five core principles are:

- specifying value from the customer's perspective;
- identifying the value stream for each product – the process by which we add value from the customer’s perspective;
- making value flow without interruptions;
- letting the customer pull value from the producer; and,
- pursuing perfection – doing all of this every day, in all our work.

3.1.3 TAHSN Creates Collective Value

The working committee on Best Practices found common themes emerging from their interviews and information gathering that include quantifiable goals for valuing academic performance and strategies to achieve these goals:

- **Integrate** the academic hospital and university vision/mandate to improve quality of care and the health of individuals and communities we serve;
- **Align** institutional outcomes and impact measures to enhance productivity and maximize value;
- **Align** individual faculty members' goals with the mission- and value-driven academic unit and institutional outcomes;
- Create a network across TAHSN partners to **build capacity in knowledge translation**;
- **Identify the TAHSN collective brand** as a major partnership with the University of Toronto and communicate the outcomes and impact of knowledge generation and application for improved quality of care and economic growth (particularly in Ontario); and,
- **Engage the public** and the private sectors in evaluating strategic directions and outcomes of TAHSN.

Achievement of these goals will allow TAHSN to demonstrate its return on investment in areas identified by government:

- Providing leadership, role modeling and knowledge application for the rest of the health care system, including community hospitals;
- Developing new technology to enhance diagnosis and treatment;
- Demonstrating that graduates and research are meeting population needs;
- Creating a core biotech and biopharma cluster; and,
- Introducing new metrics to measure improved quality of care, global capital attracted to Ontario, number of companies formed and number of new jobs created.

TAHSN hospitals treat the most complex patients, educate health professional leaders and enable the highest quality research and knowledge application. TAHSN will succeed collectively when partnerships are strengthened through accountability, e.g., integration of health services and increased funding for internationally recognized research. Stakeholders from the private sector, whether from industry or philanthropic, view joint approaches across strong partners as a competitive advantage. These successes/this value can often be more effectively communicated through “stories” and relevant narrative than through quantitative analysis.

3.2 Return on Investment (ROI) – Model of Value within TAHSN

The ROI Committee set out to identify the key guiding principles for assessing a model or framework for analyzing ROI within TAHSN. The application of the established “payback model” delineated in the recent assessment report published by the Canadian Academy of Health Sciences (CAHS)⁹ was used as an informative guide. This assessment report was quoted in the CIHR Strategic Plan-*Health Research Roadmap: Creating innovative research for better health and better care*. The CIHR intends “to build an impact framework based on the CAHS proposed set of methods to measure the returns on investment, establish benchmarks and gauge progress in realizing the value of health research”.

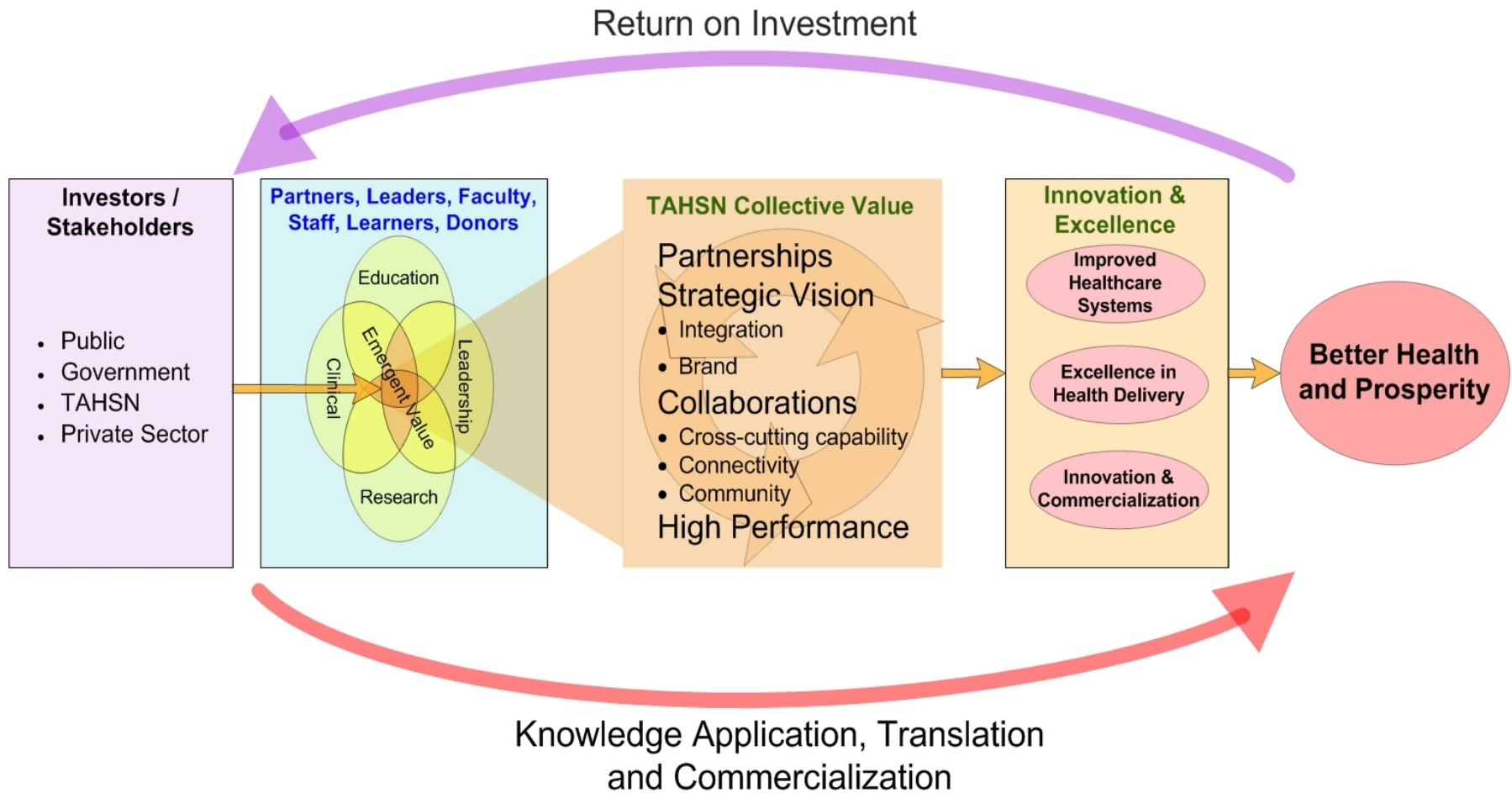
3.2.1 Guiding Principles for ROI

The ROI Committee has identified the following principles:

- The investors / stakeholders in TAHSN cover a broad range including the private sector, public sector/ government, hospitals/research institutes and their Foundations, and the University of Toronto including faculty members;
- The individual TAHSN components of clinical care, research, education, and leadership create important emergent value for each academic unit and institution – both individually as well as through the natural collaborations / interactions among the individual components;
- In considering the benefits arising from the unique TAHSN collective there is significant value-added beyond the excellence of the individual components noted above. TAHSN collectively provides a natural incubator for opportunities for excellence through the partnerships, strategic vision and collaboration. The TAHSN collective value-add arising from the synergy of the intersection among education, research, clinical care, and leadership;
- The ROI for stakeholders / investors is tangible and can be broadly measured relative to innovation and excellence in improved health care, health systems and knowledge translation (including commercialization) – thereby creating a feedback loop back to the value of the initial investment and receptivity to continue to invest; and,
- This excellence results in a ROI for stakeholders / investors that, on a global level, results in improved health quality and prosperity for the stakeholders / investors and all citizens.

⁹ Canadian Academy of Health Sciences assessment “The Return on Investments in Health Research: Defining the Best Metrics” 2009 See <http://www.cash-acss.ca/e/assessments/completedprojects.php>

TAHSN TASK FORCE ON VALUING ACADEMIC PERFORMANCE



3.2.2 TAHSN ROI Success Stories

The value-added of the TAHSN / University collective has been demonstrated in several Toronto ROI success stories. These illustrate the advantage of the academic partnerships within the TAHSN collective along the health innovation continuum.

a) Toronto Stem Cell Initiative

The following story about the Toronto Stem Cell Initiative (TSCI, an inclusive collaboration among laboratories conducting stem cell research in the TAHSN / University of Toronto collective), illustrates the importance of supporting excellent and innovative investigator-initiated discovery biomedical research that may have the opportunity to transform science and its application to health some time in the future. Further, this narrative highlights the competitive advantage of inter-disciplinary and inter-institutional self-aggregating collaboration.

The modern era of stem cell biology was born in Toronto from the pioneering studies of Professors Till and McCulloch in 1963 at the Ontario Cancer Institute. Their work pioneered a generation of stem cell scientists trained in Toronto who migrated throughout the world. While Toronto continues to be home to a large number of internationally recognized stem cell biologists and bioengineers (working on both embryonic stem cells and many types of adult stem cells), these research efforts are distributed amongst several institutions. Hence, the remarkable potential of the TAHSN group to carry out research with global impact was previously limited by the absence of synergy that comes from concentrating these research labs into one unified initiative. This challenge led to the foundation of the TSCI. The goal of the TSCI is to carry out stem cell research at all stages from basic biology to translational and clinical research on stem cell-based therapies. Furthermore, the TSCI represents the national and international face of stem cell research for the entire TAHSN / University of Toronto community. The TSCI also aims to organize educational and training programs in Stem Cell research among multiple academic units at the University of Toronto within the TAHSN research institutes and on campus.

The TSCI is a Toronto success story that illustrates the importance of the TAHSN / University of Toronto collective as an incubator for the long-term development of new therapies – from the initial investment in basic science bench research to endpoint decades later of new bedside therapies.

b) University of Toronto Wilson Centre for Research in Education in Partnership with UHN

This story is about de novo, strategic creation of a now globally-leading research Center that was envisioned and supported jointly by a former Chair of the Department of Surgery, a future Chair of the Department of Surgery and VP Education at UHN, the CEO of UHN and the Dean of Medicine. Launched only 11 years ago, this Center has filled a critical knowledge gap between clinical care and health professions' education using rigorous scholarship and research methods. The outcome is nothing less than transformative change in health care through application of new knowledge about inter-professionalism and patient safety. The following is only one example of many remarkable outcomes.

Pioneering work of comprehensively studying communication patterns of health professionals in the operating room led to the discovery of a high incidence of communication failures. As a consequence, the Wilson Center team created a communication checklist aimed at improving team culture and communications in the operating room to better serve as role modeling for health professions' education and patient care. Further research showed that a checklist style approach could result in a significant decrease in communication failures and a dramatic improvement in patient safety. When the World Health Organization (WHO) decided to launch a comprehensive study analyzing the effectiveness of using a checklist prior to an operation, Wilson Center checklist was adopted as the template. Then, under the auspices of the WHO, 8000 patients in both low income and high income nations were studied at 8 international sites – one of which was the University Health Network. In a cohort study wherein 500 patients from each site were analyzed for outcomes after surgery without a checklist, and 500 patient outcomes were analyzed with the use of a checklist, it was determined that there was a significant reduction in both morbidity and mortality when a safety checklist was used. The results of this study have been published recently in the *New England Journal of Medicine*. This example of a Toronto success story demonstrates that a University of Toronto Centre that exists because of the partnership between the University Health Network and the Faculty of Medicine, that now serves all of the TAHSN institutions, has promoted excellence in educational research with national and global impact.

c) University of Toronto Collaborative Bariatric Program

The following story illustrates one example (among many available) about how senior clinical academic leadership can facilitate integration of innovative health care delivery across institutions to improve access and quality of care.

There has been overwhelming evidence, accrued in the last decade that obesity is at epidemic proportions in North America. This chronic disease poses an enormous healthcare burden to our society and bariatric surgery can save lives. With only 300 cases of bariatric surgery for obesity being done per year in Toronto and simultaneously almost 1,000 patients leaving the province, a made-in-Ontario solution was needed. The formula for success was developing a program that would make significantly increase the number of patients receiving specialized care without overwhelming any one hospital. This was accomplished by the University of Toronto Department of Surgery leading six hospitals in the GTA collaborating to develop a proposal that successfully received funding from the MOHTLC to perform 900 cases per year across the partners hospitals including community hospitals affiliated with the University. The focus is on interdisciplinary team care, health professional education opportunities and clinical investigation undertaken while delivering high quality coordinated surgical care. This initiative highlights the collaboration that is possible in the TAHSN / University of Toronto academic enterprise focused on improved quality of care and important health outcomes.

d) Sentinelle Medical Inc.

This story illustrates the partnership between the affiliated hospitals/research institutes and the University that strongly supports doctoral graduate studies and training of new scientists, and

provides support for commercialization leading to major return on investment in research.

As a University of Toronto graduate student based at the Sunnybrook Health Sciences Centre Research Institute, Cameron Piron was researching ways to adapt magnetic resonance imaging (MRI) technology for use in early breast cancer detection. Traditional MRI machines are designed for neurological imaging of the head and the spine. Even as new applications for the scanning technology started to emerge, the basic design of the MRI machine and the location of the magnet remained the same. Mr. Piron and his colleagues at Sunnybrook Health Sciences Centre built a prototype that went on to become the Vanguard system, a breast MRI table that is Sentinelle's core technology.

In 2004, Cameron Piron (President, Sentinelle Medical Inc.) and two colleagues established Sentinelle Medical as an incorporated spin off from the Sunnybrook Research Institute's Discipline of Imaging. In only 5 years, Sentinelle has had significant corporate successes that include distribution deals with GE, Siemens, Toshiba. The company has sold more than 200 units to hospitals and imaging clinics in Canada and the US, as well as acquiring regulatory approval to sell its product worldwide. Employing 130 people (75 R&D), Sentinelle aspires to expand its technology base beyond breast cancer detection – such as, improving the technology associated with performing surgery on breast cancer patients or detection and treatment of prostate cancer.

In addition, Sentinelle and its President, Cameron Piron, have garnered important scientific accolades and awards - the Ontario Premier's Catalyst Award as Best Young Innovator of the Year (2008); R&D Magazine's Innovator of the Year Award (2008); Frost & Sullivan's North American Excellence in Technology Award (2009); Top Forty under Forty (2009). The scientists at Sentinelle have received the largest NIH R01 Grant for a Canadian partner.

3.3 Benchmarking Excellence

The working committee on Benchmarking Excellence worked closely with the Faculty of Medicine Expert Panel on Benchmarking to:

- Assess the relevance of potential indicator domains and recommend a process to benchmark performance across TAHSN in agreement with the principles on valuing academic performance to be established by the Task Force;
- Identify the sources of academic administrative data that exist and could be developed into appropriate metrics for quality and impact, and propose long-term data collection strategies in alignment with the University of Toronto's 2030 planning initiative and the strategic objectives of the TAHSN partners and affiliates; and,
- Make recommendations to the Task Force on the development of outcome- and impact-based benchmarking and reporting for better decision-making about resource allocation and performance-related objectives.

3.3.1 Design of Performance Indicators and Benchmarks

The complexity of the health sciences constituents of TAHSN, including the interconnectedness of the University Health Sciences Faculties, affiliated hospitals and their research institutes, requires us to take a broad and strategic view of benchmarking that will enable meaningful measurement across the entire TAHSN system. The metrics chosen to benchmark performance must reflect those activities considered to be of the highest value for our multiple audiences and stakeholders, and they especially must have relevance to both internal and external partners and to the broader local, provincial, national and international communities. Specifically, performance indicators and benchmarks must be:

- **focused** on the objectives of TAHSN;
- **appropriate** for the stakeholders who are likely to use the information;
- **balanced** to cover all significant areas of work performed by TAHSN;
- **robust** enough to cope with organizational change;
- **integrated** into management processes; and,
- **cost-effective**, balancing the benefits of the information against the costs of collection.

Ideal targets for performance must be based on **Measures of Quality** (e.g., research citations, number of highly cited publications, funding share and yield; learner teaching evaluation scores, numbers of teaching awards received, dissertation awards received, learner placement results), and **Measures of Impact** (e.g., how much teaching the faculty does and in which programs, enrolment and graduation numbers, advancement performance, alumni engagement; input and output data for programmatic performance; relative citation impact). Furthermore, the data used to support these measures must have:

- **Availability and Measurability:** Can a numerical measurement be ascribed to the indicator? Do the data required to derive the indicator currently exist, and do we have access to it?
- **Clarity:** Does the indicator have a clear, unambiguous definition so that data will be collected consistently and so that the measure is easy to understand and use?
- **Comparability:** Do other peer AHSCs collect comparable information or have targets to benchmark against? Can the indicator be derived from a third party source of data?
- **Relevance:** Does the indicator or metric relate directly to a critical aspect of TAHSN's values?

The Benchmarking Committee and the Expert Panel conducted a review of the Faculty of Medicine's repository of data in the areas of research and education. Data for research funding across all the TAHSN partners are readily available and quite robust. The data for educational activities are also available in various forms, but are generally not comparable across programs, nor uniformly comprehensive. Other sources of data, such as the University of Toronto's Governance Indicators project, numerous third-party rankings of universities (e.g., Shanghai, Times Higher Education) and performance measurement reporting systems at the departmental and hospital level (e.g., Department

of Surgery, Department of Paediatrics, Department of Psychiatry/CAMH) also offer a wealth of information but vary enormously in kind, scope, and purpose, *see Appendix 1*. Hospital and departmental annual reports are also important repositories of information, but there is no common template or process for data collection, analysis, and reporting. The chief lesson learned in our review of data sources is that, while no single indicator would ever be sufficient to demonstrate quality or impact, the right balance of indicators and metrics can, in combination, give very effective measures for the area to be benchmarked. Such sets of indicators can be established for research, education, strategic partnerships, student satisfaction, faculty output and almost any other relevant domain of academic performance.

3.3.2 Performance Measurement - Framework

The working committee created a framework identifying areas of performance measurement, articulating questions to inform the choice of indicators and provided some example data/indicators to demonstrate achievements and contributions. Some common themes emerged across all of the performance areas highlighting the TASHN collective value including: “recognition of excellence through international awards to faculty members”; “unique value of interdisciplinary academic Centers”; “size and scope of our health professions and graduate (MSc/PhD) programs”; “strength of the relationship between the University and fully affiliated hospitals/research institutes”. These are summarized below, and further details based on the deliberations of the working group are found in *Appendix 2*.

The following five areas for performance measurement and key questions were considered:

Research & Innovation: What is the total output and outcomes of the TAHSN research enterprise and how do we measure it?

Knowledge Translation/Application: How effective is TAHSN at knowledge translation; commercialization; creating and implementing new models of education and clinical care; and, developing new sources of revenue?

Education: How effective is TAHSN fulfilling its education mission, and how do we measure quality in our teaching and programs? In fulfilling our educational mission are we also meeting the needs of society?

- i) Learner Experience at the University and affiliated hospitals – What is the level of student/trainee satisfaction with their programs? Do we attract the best and how do we measure success?
- ii) Impact of Graduates – Where are our graduates and alumni now and where do they work? Can we measure their impact locally, nationally and globally?

Partnerships: How closely are the partnerships within TAHSN integrated across academic units and hospitals/research institutes.

Leadership: How have current faculty members and those who have been trained in TAHSN, become successful leaders? What impact have they had in their fields, on health and health care delivery and on society?

3.3.3 Maintenance of Competence

How are ensuring that our faculty are maintaining their competence to provide the best care? Can we measure the impact of continuing education programs on performance improvement, quality care and patient safety?

4.0 VALUING ACADEMIC PERFORMANCE: RECOMMENDATIONS FOR IMPROVED OUTCOMES

Based on the findings of the working committees the Task Force provides the following recommendations to TAHSN as next steps in implementing strategies to enhance the senior leadership's ability to value academic performance. Further, these recommendations intend to catalyze cultural change among faculty members, academic units, institutions and TAHSN as a collective.

Recognizing that TAHSN creates collective value that is more than the sum of the individual institutional outcomes, and that the framework for valuing academic performance of individual faculty members, academic units, and hospital/research institutes is enabled through measurement and benchmarking outcomes, the Task Force report offers the following to TAHSN.

RECOMMENDATION 1: Create opportunities to strategically align common institutional goals among the TAHSN partners for improved performance and measurable outcomes in health services, quality health care, health and biomedical research and knowledge translation (including commercialization of intellectual property).

Currently, the TAHSN collective has recognized the advantage of joint planning, coordination and collaboration that occurs spontaneously among faculty members and academic leaders. The TAHSN Standing Committees on Research, Medical Affairs and Research Ethics Reviews, (and in the future Education), enable a more formal top-down approach to alignment of common goals, often through the creation of policy, standards and guidelines. Communication among the TAHSN partners, particularly at the academic unit and individual faculty member level, is suboptimal. Creating a new framework to deliberately examine the common strategic goals reflecting the mission and vision of all of the fully affiliated hospitals with the Health Sciences at the University of Toronto could be the first step toward joint strategic planning. Since the University academic units have faculty members in multiple TAHSN hospital/research institutes, the University academic leaders (Deans, Department Chairs and Institute/Center Directors) could more deliberately align their strategic directions with the TAHSN hospitals/research institutes. The intersection of common goals and objectives for clinical care, education, research and leadership will define the current areas of strength from which new directions and opportunities should emerge. Importantly, the gaps in infrastructure that could benefit all the TAHSN members, e.g., unified human subjects research infrastructure, management and ethics review, would significantly enhance the value-add for faculty members, academic units and hospital/research institutes.

RECOMMENDATION 2. Build the TAHSN collective brand, synonymous with leading-edge, globally competitive innovation and excellence reflected by these outcomes.

The Task Force recognizes that the individual hospitals/research institutes have developed strong independent brands that are recognized by their Boards, Foundations and, importantly, their staff

and patients. Similarly, the academic units within the University of Toronto, both health professions, e.g., Nursing, and Departments, e.g., Physiology, have developed their own brand-identity around their core disciplines. Nevertheless, the hallmark of a collective brand would be the synergism of integration, inter-disciplinary scope and scale, and comprehensiveness. Just as the University of Toronto is the common brand for the Health Sciences, the TAHSN brand should carry the value-add for its component institutions.

RECOMMENDATION 3. Implement methods of promoting improved performance of TAHSN through valuing individual faculty member academic achievements aligned with common institutional goals.

The academic careers of health professionals and scientists as a collective create the output and outcomes relevant to the mission and vision and strategic goals of their University academic units and hospital/research institutes. The support provided by the environment and opportunities for collaboration among faculty members within TAHSN creates new value. Further, clearly articulated shared values among partner institutions enable University of Toronto faculty members to align their own academic and professional goals within the TAHSN collective. Within this environment, all faculty members should be recognized for their important contributions and experience being valued as the most important assets of TAHSN.

RECOMMENDATION 4. Engage all stakeholders (including the public, government and private sectors) in developing common institutional goals, measuring outcomes for iterative improvement and effectively communicating these outcomes.

The Task Force recognizes that this recommendation has broad implications. For instance, current academic performance measurements may not encompass important outcomes such as innovation, knowledge translation and improved quality of care. To promote improved performance with relevant impact it will be necessary to meaningfully engage faculty members, patients and their families and other stakeholders including government, to fully understand these relevant outcomes and when they are achieved. This is the ultimate test of translation of knowledge into effective practice. This approach may be aided by developing TAHSN-wide projects in major priority areas of diabetes, mental health, aboriginal or marginalized population health. Another important issue is the recognition that the current model of academic practice remains physician-centric and there is limited application for employed health care professionals (nurses, rehab sciences professionals, pharmacists) in the TAHSN hospitals to advance their academic careers. Valuing academic performance of all health professionals in an academic hospital is essential.

RECOMMENDATION 5. Implement a wide and comprehensive consultation process across TAHSN to obtain consensus on the key domains for measurement by all stakeholders.

The analysis of performance measures must be linked to the best practices and value ascribed by TAHSN to each partner's contributions. The choice of a benchmarking framework must recognize:

- The community of diverse organizations and professionals that make up TAHSN, the broad array of resources and in-depth expertise they bring to the whole;
- The connectivity between people and disciplines;
- The collaboration that occurs between people and disciplines;
- The cross-cutting capability across disciplines and institutions;
- Tangible (measurable, numerical), intangible (qualitative), and non-financial measurements;
- The relationship between benchmarking and evaluation.

Moreover, change management practices that measure improvement in performance must be put into place prospectively. An IT structure is also needed to collect the information currently published in the annual reports of all hospitals; all Faculty of Medicine Departments, Centres, and Institutes; and other Health Sciences Faculties, Departments, and education programs, in order to conduct a thorough analysis on an annual basis of the aggregate outcomes of TAHSN. In addition, practice plans and Departments have their own metrics for individual faculty performance. The data available from these sources should ideally be interfaced with the reports being generated by each sector. For example, the Career Development and Compensation Program (CDCP) was developed by the Department of Paediatrics and uses a peer-review process to accomplish an aggregate and individual performance system.

Application and dissemination of research into healthcare delivery beyond the immediate influence of TAHSN requires an even more innovative approach, which breaks down barriers between universities and community, primary, secondary and tertiary care. In combination, the partnership offers an unparalleled opportunity for research in and improvement of population health. Benchmarking should be structured to optimize the alignment of services, research and education priorities, encouraging clinical research, commercialization, knowledge application and practice in patient care settings, generating a cycle of effectiveness that is demonstrated by the data at an international level and feeds the engine of individual career enhancement as well as the collective stature of TAHSN and the University.

Analysis of publications and citations, e.g., Thomson ISI, allow for a more fine grained analysis of field specific areas. In addition to identifying areas of excellence, this analysis would allow for future planning, decision-making and advocacy. Some examples of measures that could be tracked in each field include:

- Research Productivity – as measured by the number of articles published over a given period of time the number published in the most recent year;
- Research Impact – as measured by the number of citations over a given period of time as well as the average number of citations over that time compared to world citation rate for the discipline; and,

- Research Excellence – as measured by the number of highly cited papers over a given period of time; the number of articles in the current year in high-impact journals.

Other indicators that could be tracked include:

- Total research funding – all sources;
- Funding mix – proportion and value of public/non-public, Tri-Council, industry, other;
- Proportion of academic staff holding grants of all types;
- Percentage patients in clinical trials;
- Translation of innovations into clinical practice;
- New invention/patent disclosures and licenses; and,
- Number of new spin-off companies.

RECOMMENDATION 6. Identify new key indicators to measure areas of innovation and excellence that reflect the impact of the TASHN collective value.

The challenge for TAHSN will be to assess where it currently has gaps and to develop meaningful measures and benchmarks that will allow it to maintain a research-intensive culture, the academic rigour of its educational programs, and the excellence of its faculty, staff, and students, all the while enhancing its global reputation for the generation of new ideas and discoveries. New indicators which reflect our unique mission and objectives and set benchmarks for others will also be contemplated.

RECOMMENDATION 7. Establish and support a systematic process for routine identification and collection of all relevant data that will be published annually as the TAHSN “outcome report”.

The integration of existing data collection efforts across TAHSN will require organization and leadership among the TAHSN partners. The Office of Research in the Faculty of Medicine could extend the annual collection of research funding to include all of the Health Sciences both on campus and within the hospitals/research institutes. Annual research publication and citation data could be acquired in a standardized format by academic units and research institutes if all faculty members used a common data management system for their curriculum vitae. The launch of the WebCV project may enable the systematic and standardized reporting across all of TAHSN. Measures of outcomes in major fields such as cancer, neuroscience, cardiovascular sciences, regenerative medicine/transplantation, public health, to name a few, could be reported for TAHSN.

Education impact including, but no limited to, the outcomes of our education programs that contribute to health human resources, continuing education and professional development, knowledge translation into practice and new models of education could be reported. Currently, there is not collective report of the vast amount and quality of our teaching and learning within TAHSN. Importantly, the impact of education outreach nationally and internationally would be highly meaningful to stakeholders.

Outcomes focused on improved health systems, quality of care and application of new knowledge including commercialization should be reported from TAHSN as documentation and communication about ROI.

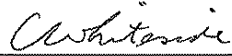
8. In a phase 2 of the analysis of Valuing Academic Performance, engage the Council of Health Sciences to provide a second report focused on the non-MD health science faculty members and their contributions within TAHSN.

The terms of reference for this Task Force focused specifically on valuing academic performance within the Faculty of Medicine in the context of the TAHSN partnerships. The Council of Health Sciences has recommended that TAHSN consider a second phase of analysis that will include all of the other Health Science Faculties. This would enable a complete consultation among the health sciences and enable all members of the health professions and related sciences who contribute to the mission of improved health of individuals and populations within the University of Toronto and its affiliated hospital/research institute partners to be considered in the next steps of benchmarking academic performance.

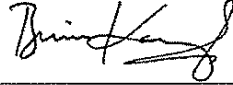
5.0 CONCLUSIONS

TAHSN must identify and develop synergistic innovation and excellence through strategic partnerships and collaboration. The academic achievements of our faculty members, staff and learners collectively represent the outcomes of TAHSN. Implementing a comprehensive and standardized process of measuring outcomes with relevant indicators is essential for valuing academic performance. Articulating and promoting the TAHSN brand represents both an imperative and an opportunity to establish a new paradigm for academic health science centers in Canada and internationally.

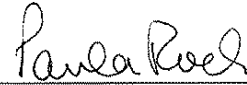
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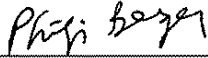
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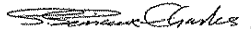
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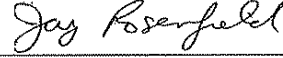
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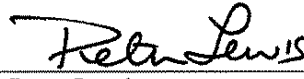
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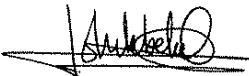
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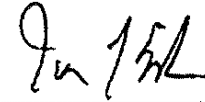
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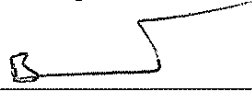
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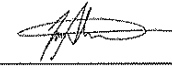
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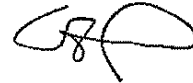
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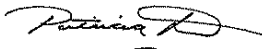
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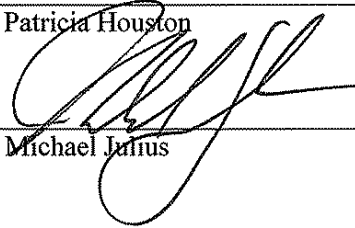
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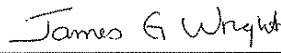
Sarita Verma



Michael Julius



Richard Reznick



James Wright

Appendix 1: Specific Clinical Department Performance Reporting

The following are meant to illustrate current examples of performance reporting within clinical departments in the Faculty of Medicine. This is by no means complete, nor are these examples meant to represent best practice. They are intended to highlight the broad range and heterogeneity of the methods across different departments and hospital locations.

1. **Example of A Comprehensive Alternative Funding for a Single Department Academic Practice Plan: Department of Paediatrics at the Hospital for Sick Children.**

This is a comprehensive performance evaluation framework relevant to AFP reporting. For details, please see http://www.sickkids.ca/pdfs/Paediatrics/6399-CDCP_Booklet_2009.pdf.

2. **Example of an Academic Point System: U of T Department of Surgery**

This is an academic performance point system based on weighted scores on research, teaching, creative professional activity, administration, and rank per defined academic role:

The current academic point system will award points for the categories of research, teaching, creative professional activity, administration and rank as per the table below. Each category will be assessed on a point scale of 0-3 as per the scale below. This score will then be weighted in a variable fashion in each category depending on an individual's academic role. For example, a Surgeon-Scientist will be given a score in research and that score will be multiplied by a factor of 3, whereas his/her score in teaching will be multiplied by a factor of 1.

Academic Role	Research	Teaching	Creative Professional Activity	Admin	Rank	Max Total
Surgeon-Scientist	0-3 x 3	0-3 x 1	0-3 x 2	0-3 x .5	0-3 x .5	21
Surgeon-Investigator	0-3 x 2	0-3 x 2	0-3 x 2	0-3 x .5	0-3 x .5	21
Surgeon-Teacher	0-3 x 1	0-3 x 3	0-3 x 2	0-3 x .5	0-3 x .5	21

- 0 Below Expectations
- 1 Meets Expectations*
- 2 Exceeds Expectations

3 Markedly Exceeds Expectations

* If there is no activity in a category, but none was expected, a score of 1 (as opposed to 0) is given

3. **CAMH/Department of Psychiatry AFP Formula**

This is a very detailed and “fine-grained” framework of weighted performance criteria based on numerous measures of faculty activity informing a well-researched and tested formula for AFP compensation. Further documentation is available upon request from the Department of Psychiatry.

Appendix 2: Table of Areas and Indicators for Performance Measurement

In anticipation of future planning across the Faculty of Medicine and TAHSN, five areas have been identified for indicators that are a mix of input, outcome, and impact measures:

Areas for Performance Measurement	Questions to Inform the Choice of Indicators	Example Data/Indicators to Demonstrate Achievements & Contributions
<p>I. RESEARCH & INNOVATION</p> <p><i>What is the total output of our research enterprise and how do we measure it?</i></p>	<ul style="list-style-type: none"> ▪ How does the Faculty of Medicine/TAHSN research enterprise make a difference to the physical and economic health of our communities? How do we demonstrate that difference? ▪ How do we profile how we make a difference to our different audiences / stakeholders within government? 	<ul style="list-style-type: none"> ▪ Number of publications (rankings) ▪ Number of citations (rankings) ▪ Relative citation impact ▪ Total research funding and grant revenue ▪ IP Revenue (% of alumni captured – see also Innovation below)
<p>II. KNOWLEDGE TRANSLATION / APPLICATION</p> <p><i>How effective are we at knowledge translation; commercialization; creating and implementing new models of education and clinical care; and developing new sources of revenue?</i></p>	<ul style="list-style-type: none"> ▪ How are we promoting and creating a culture of knowledge translation? ▪ How many new patents are we generating on a yearly basis, and is that number growing? ▪ What are we doing to facilitate and integrate commercialization into the practices of our researchers? 	<ul style="list-style-type: none"> ▪ Patents and commercialization ▪ Rate & disclosure ▪ For Pillars 3 and 4 as noted by the CAS report KT impact needs to be captured through other means e.g. influence on policy etc. ▪ Measure of creative professional activity, and rates of promotion based on this activity
<p>III. EDUCATION</p> <p><i>How well are we fulfilling our educational mission, and how do we measure quality in our teaching and programs? In fulfilling our educational mission are we also meeting the needs of society?</i></p>	<ul style="list-style-type: none"> ▪ Who enters and graduates from our programs, and how do we measure the quality of both our programs and our learners? ▪ How do we value our learners? ▪ What is the “footprint” of our educational programs and our graduates? 	<ul style="list-style-type: none"> ▪ Admissions and graduations ▪ Student entering GPA averages ▪ Competitiveness – number of first choice applications as a proportion of total first choice applications; match rates ▪ Funding and student aid – average per student ▪ Learner progress – 1st to 2nd year retention rates, pass rates, year-over-year advancement rates ▪ Graduation/program completion rates ▪ Graduate student time-to-completion rates ▪ Exam performance ▪ Learner satisfaction ▪ Employment of graduates/practice patterns

<p>Learner Experience at the University and Hospitals</p> <p><i>What is the level of student/trainee satisfaction with their programs? Do we attract the best and how do we measure success?</i></p>	<ul style="list-style-type: none"> ■ How do we measure student/trainee experience? [E.g., Teaching Effectiveness Scores (TES)/Residency Effectiveness Scores (RES), and satisfaction/exit surveys.] ■ Do we really attract the best and brightest? How do we know? 	<ul style="list-style-type: none"> ■ Accreditation of all educational programs ■ Number of trainees at doctoral level ■ Number of community building events in each department and percentage of students who attend ■ Exit survey results (compared to sister institutions, if available) ■ Ongoing evaluations of courses
<p>Impact of Graduates</p> <p><i>Where are our graduates and alumni now and where do they work? Can we measure their impact locally, nationally, and globally?</i></p>	<ul style="list-style-type: none"> ■ Where are graduates now? Rewards? Positions held? Innovations? Outcomes? ■ What are the areas they are working in (clinical, discovery, innovation, education and partnership)? ■ Are our alumni productive, impactful leaders? How can we measure this? What happens to our students? 	<ul style="list-style-type: none"> ■ Track trainees on what they go on to do (i.e. to show that we are training the leaders (outcomes) → get them to be ambassadors ■ Trainee ultimate performance ■ Track diversity/ international metric (i.e., what is the footprint of the university globally? Who are we training? Where do they come from/go to?) ■ Measure student experience (Could exit surveys include a piece that measures student experience in both a qualitative and quantitative way?) ■ No. of PhDs in the life sciences (not just academic positions...speaks to innovation and technology strategy, economic impact) ■ No. of graduates in prestigious positions elsewhere (not just academia) ■ Share of graduates of all types, provincially, nationally
<p>IV. PARTNERSHIPS</p> <p><i>How closely are the partnerships within TAHSN integrated? How do we measure the success of our partnerships?</i></p>	<ul style="list-style-type: none"> ■ How do we demonstrate to our community the value of our broad array of resources & in-depth expertise? ■ How do we connect and foster collaboration between people and disciplines? – ■ How do we demonstrate the cross-cutting capability of our disciplinary work and the work of our research institutions? ■ What is our external institutional reputation, and how closely is that reflected in our rate of attribution in our research endeavours? 	<ul style="list-style-type: none"> ■ Degree to which TAHSN approaches 100% U of T attribution in publications ■ Incentives to hospitals and VPs to identify with U of T (recognizing that U of T is the global brand, how do we ensure we get full attribution?) ■ External reputation of our programs ■ Educational collaboration with affiliated hospitals ■ Research collaboration with affiliated hospitals (e.g., as a percentage of FOM grad/prof students at the various hospital research sites)
<p>V. LEADERSHIP</p> <p><i>How have the people currently in the Faculty, and those who have gone through it, become successful leaders? What impact have they had in their fields, on health and health care delivery,</i></p>	<ul style="list-style-type: none"> ■ What is happening to the people coming through programs in medicine and the other health professions, and those who come to TASHN already as leaders? Who are they? What have they achieved? ■ What impact have they had in their field and on society in 	<p>Individual Academic Leadership</p> <ul style="list-style-type: none"> ■ Leadership positions held in Ontario ■ Leadership positions held nationally ■ Leadership positions held internationally ■ Number of quality alumni in leadership positions (measure the output and level of influence)

<i>and on society at large?</i>	general? <ul style="list-style-type: none">▪ Who are the award winners and what has their impact been on research and education?	<ul style="list-style-type: none">▪ Number and kind of teaching and research awards won▪ How many people do we recruit from top centres of the world?▪ Percentage of chairs of committees in different bodies Institutional Leadership <ul style="list-style-type: none">▪ Development & promulgation of best practices▪ Public engagement▪ Policy influence
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