Medical Imaging
UNIVERSITY OF TORONTO

# *Building for the Future*

# STRATEGIC PLAN 2013-2018

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# Introduction

# VISION

International leadership to improve health through innovation in medical imaging research and education

# MISSION

Enhance the academic environment to develop medical imaging leaders who contribute to our communities and improve the health of individuals and populations through discovery, translation and communication of knowledge

# VALUES

- Integrity
- Pursuit of excellence
- Accountability and transparency
- Relevance to local, national and international needs
- Collaboration

# GOALS

## Education

Prepare tomorrow's leading radiologists, imaging scientists and allied clinical professionals through innovative educational programs

## Continued Professional Development

Develop and support all aspects of professional development in education, research and clinical practice for medical imaging professionals

## Clinical Practice Improvement

Continually undertake clinical practice improvement to achieve increased efficiency, economy and quality

## Research

Enhance and support departmental structure and imaging faculty to undertake research innovation, translation and mentoring

## Sustainability

Ensure departmental infrastructure exists to support the academic mandate

## Message from the Chair

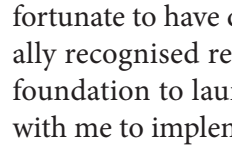
It gives me great pleasure to present the five year strategic plan (2013-2018) for the Department of Medical Imaging, University of Toronto. Since July 2012 there has been wide consultation inside and outside of the Department to canvass opinion and understand the needs and direction over the coming years. I would firstly like to thank everyone who has been part of this process.

There is no doubt the Department is already in a very healthy position. The external review in 2011 noted great potential for departmental research success. The Department recently completed the accreditation process of our four residency programs (radiology, neuroradiology, pediatric radiology and nuclear medicine) and passed with flying colors. With no further review for six years this gives us a great opportunity to review current practices and develop new and improved teaching methods.

But this is not a time to be complacent. The healthcare landscape in general and the medical imaging horizon in particular are undergoing significant change. Health care budgets are limited but there are increasing demands being put upon them. The rightful demand by patients and the healthcare system for increasing accuracy and acuity of service compounds the pressure put upon the system. We must position ourselves as expert consultants, highly visible and available, understanding of how and when images should be acquired, providing added value to every patient with whom we come in contact. To achieve this I believe we need to review and potentially revise how we practice.

Those undertaking research have the ability to directly influence the direction of their specialty. As an academic department, research represents one of our main goals. In the current economic environment however we would do well to have a clinically relevant focus. We are ideally positioned, between technological developments and clinical application, to play a key role in transitioning new and more effective techniques into the clinical domain. We need to undertake rigorous assessment of not only newly introduced techniques but also our every day clinical practice. Furthermore we must ensure we are educating the brightest and best to question the practice they are undertaking and implement innovations that have impact. The training demands in the future will focus on competency rather than time served, requiring new ways of teaching and assessment.

Achieving these goals will place us squarely on the international stage but requires planning and the building of appropriate departmental supporting infrastructure; achieving our initial goals will be steady rather than glamorous work! Our research endeavors require better organization and cross-town collaboration; our faculty need better support and engagement; opportunities exist to lead in undergraduate, graduate and post-graduate education but will require investment. We are fortunate to have dedicated staff, interested and engaged learners, and nationally and internationally recognised researchers. The next few years will be busy but I am confident they will lay the foundation to launch more ambitious and far reaching strategies. I look forward to you joining with me to implement this plan.



**Dr. Alan R. Moody, FRCR FRCP**
Professor and Chair, Department of Medical Imaging, University of Toronto

## Background

The Department of Medical Imaging, University of Toronto, is the oldest academic imaging department in Canada and one of the oldest in North America, appointing the first Chair of Radiology in 1919, less than 25 years after the discovery of X-rays. Since then the Department has grown to become an early adopter of every new technological breakthrough occurring in this young and vital specialty. Today the Department boasts 216 Faculty, 64 Residents and 99 Fellows. It is invested in eight clinical divisions and affiliated with 17 hospital sites across Toronto. Within the Faculty there are 68 associate and full professors and 22 basic or clinician scientists. Making sure all runs smoothly day-to-day are seven administrative staff, without whom the Department would grind to a halt.

This strategic planning process comes at an important time for the Department and the Faculty of Medicine (FoM). In the last 2 years the FoM has defined its course with new academic and research strategic plans. These have given clear indications of the direction we need to take. The academic imperatives of education and research are framed by the requisites of innovation, integration and impact, and an overall vision of improving health. For the Department to achieve maximum impact our strategies must closely align with those of the University. In addition to these core concepts the Department should realise the broader University commitments within its own strategic plan.

The Strategic Planning process has been informed not only by FoM strategies but by a number of other inputs. The prior departmental strategic plan in 2009 highlighted a number of areas considered priorities by those within and outside the Department. An external review in 2011 brought a broader perspective and noted "….. if a long-range research strategy is identified for the next 5 years, this department could become one of the dominant medical imaging research institutions in the world".

Despite these encouraging words, the operative word is "if"— i.e. the **potential** for success. Founded on the above supporting documents it has been possible to define an ambitious plan for the Department. The planned outcomes are concrete and achievable, avoiding vague motherhood statements. To arrive at a future, larger prize we must take time to build the infrastructure to get us there. This plan defines goals and milestones by which we can gauge our progress. The timelines are ambitious but aim to deliver the Department to a point at which more expansive and visionary planning can occur.

***…"if a long-range research strategy is identified for the next 5 years, this department could become one of the dominant medical imaging research institutions in the world"***

**-External Review 2011**

## Strategic Planning Process

To ensure as many members of the Department as possible were involved in the strategic planning process, this document has been informed by a number of surveys and meetings that took place beginning in September 2012. In addition, a Strategic Planning Advisory Committee was formed, comprised of members of the Department from each hospital and specialty, residents, fellows, and community hospital faculty. The committee was invaluable in formulating contents of the strategic plan, taking into consideration the Department's structure, function, and the overarching strategy outlined by the Faculty of Medicine and the University.

| Internal Surveys | |
|---|---|
| Faculty Survey | Sept'12 |
| Research Survey | Jan'13 |
| Resident Survey | Mar'13 |
| Alumni Survey | Apr'13 |

| Meetings | |
|---|---|
| Hospital Town Halls | Oct-Nov'12 |
| Strategic Planning Advisory Committee | May'13 |
| Strategic Planning Advisory Committee | Jul'13 |
| Research Sub-Committee | Oct'13 |
| CPi Sub-Committee | Oct'13 |
| Education and CPD Sub-Committee | Oct'13 |
| Departmental Meeting | Oct'13 |
| Strategic Planning Advisory Committee sign off | Oct'13 |

## Strategic Planning Advisory Committee

Aditya Bharatha
Andrea Doria
Andrew Crean
Daniel Rappaport
David Mikulis
Derek Archer
Erika Mann
Helen Branson
Kartik Jhaveri
Katherine Zukotynski
Larry White
Laurent Milot
Linda Probyn
Manohar Shroff
Mary-Louise Greer
Masoom Haider
Narinder Paul
Pavel Crystal
Phyllis Glanc
Robyn Pugash
Sean Symons
Tanya Chawla
Tim Dowdell
Vikram Prabhudesai

## Strategic Planning Advisory Sub-Committees

### Education & CPD

Eric Bartlett
Erika Mann
Josée Sarrazin
Katherine Zukotynski
Linda Probyn
Nasir Jaffer
Oscar Navarro
Timo Krings

### Research

Andrew Crean
David Mikulis
Kartik Jhaveri
Katherine Zukotynski
Laurent Milot
Mary-Louise Greer
Masoom Haider
Narinder Paul
Pavel Crystal

### CPi

Aditya Bharatha
Andrea Doria
Helen Branson
Kirsteen Burton
Manohar Shroff
Phyllis Glanc
Robyn Pugash
Sapna Rawal
Sean Symons
Tanya Chawla
Tim Dowdell
Vikram Prabhudesai


# Strategic Academic Plan: Building for the Future 2013-2018

## COMMITMENTS

answer questions of local, national and international relevance

enable students to become leaders of transformational change

value the academic performance of our faculty

harness academic integration

meet the health needs of individuals and populations

## VISION

International leadership to improve health through innovation in medical imaging research and education

## MISSION

Enhance the academic environment to develop medical imaging leaders who contribute to our communities and improve the health of individuals and populations through discovery, translation and communication of knowledge

## VALUES

Integrity
Pursuit of excellence
Accountability and transparency
Relevance to local, national and international needs
Collaboration

## CORE CONCEPTS

**Innovation**
answer complex health and biomedical questions that creates value

**Integration**
promote new collaborative thinking to address our strategic directions

**Impact**
through our education and research outcomes which result in improved health and prosperity

## GOALS

### EDUCATION

Prepare tomorrow's leading radiologists, imaging scientists and allied clinical professionals through innovative educational programs

### CPD

Develop and support all aspects of professional development in education, research and clinical practice for medical imaging professionals

### CPi

Continually undertake clinical practice improvement to achieve increased efficiency, economy and quality

### RESEARCH

Enhance and support departmental structure and imaging faculty to undertake research innovation, translation and mentoring

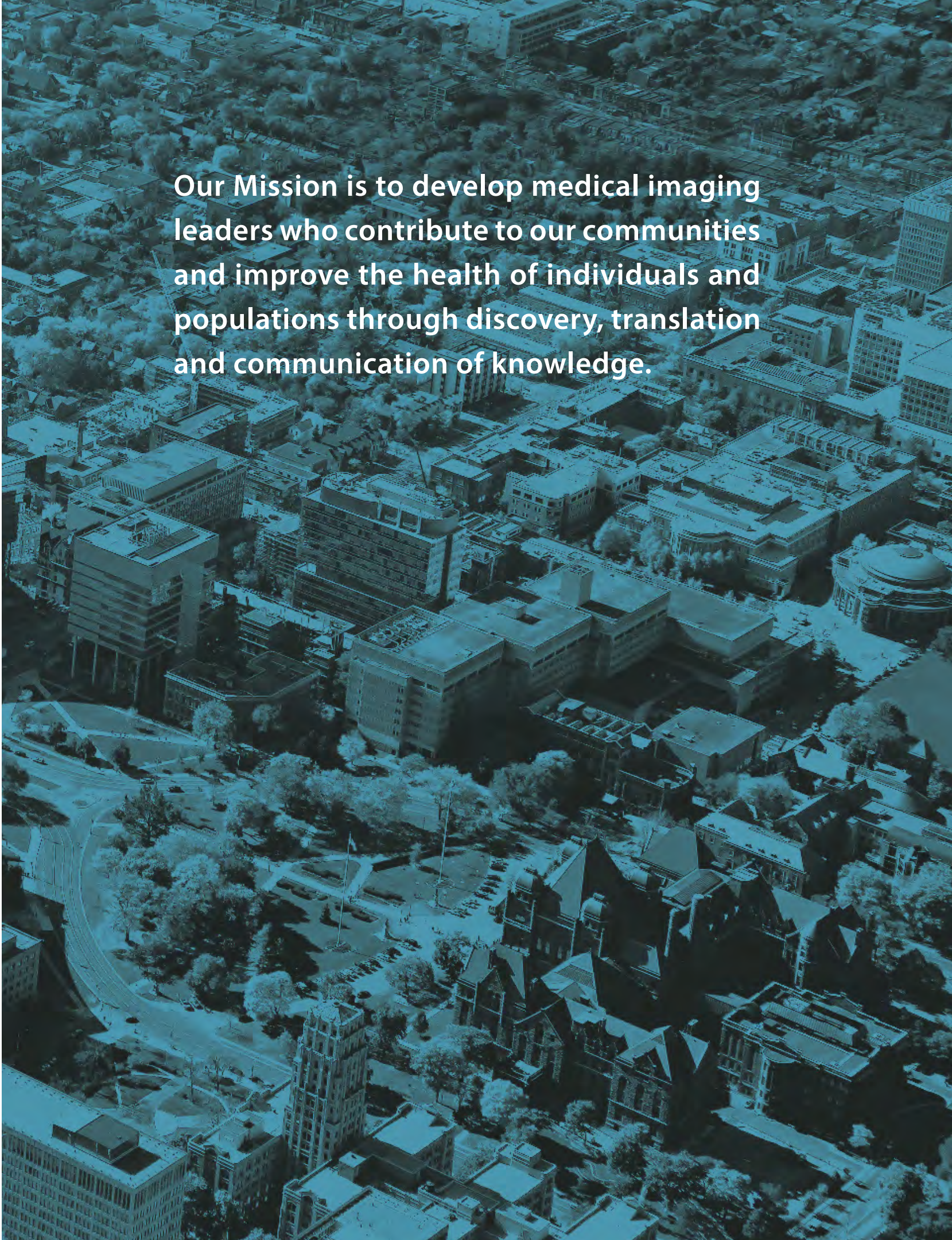
### SUSTAINABILITY

Ensure departmental infrastructure exists to support the academic mandate

Infrastructure • Advancement • Communications • Alumni

# Strategic Goals and Aims

| GOALS | AIMS |
|---|---|
| **EDUCATION**<br>Prepare tomorrow's leading radiologists, imaging scientists and allied clinical professionals through innovative educational programs | • Consolidate educational administration under Vice Chair Education<br>• Identify and support residents and faculty to undertake educational and leadership training<br>• Develop and support expanded departmental CME program<br>• Develop and apply leading-edge teaching and learning models for undergraduate and postgraduate students<br>• Explore Integrated Medical Education (IME) locally, nationally and internationally |
| **CONTINUED PROFESSIONAL DEVELOPMENT (CPD)**<br>Develop and support all aspects of professional development in education, research and clinical practice for medical imaging professionals | • Develop 3-year plan for CPD<br>• Identify and support faculty professional development<br>• Develop a faculty mentoring program |
| **CLINICAL PRACTICE IMPROVEMENT (CPi)**<br>Continually undertake clinical practice improvement to achieve increased efficiency, economy and quality | • Develop CPi strategic plan<br>• Identify opportunities for CPi<br>• Improve departmental data capture and identify opportunities for national collaboration and networking<br>• Undertake faculty/learner training in practice improvement and become leaders in imaging best practice<br>• Interaction with invested groups |
| **RESEARCH**<br>Enhance and support a departmental structure and imaging faculty to undertake research innovation, translation and mentoring | • Develop a research strategic plan<br>• Identify departmental research collaborations<br>• Support research innovation and translation<br>• Attract, retain and mentor researchers<br>• Identify alternative sources of research funding |
| **SUSTAINABILITY**<br>Ensure departmental infrastructure exists to support the academic mandate | • Build infrastructure to support administration, academics and annual reporting<br>• Prioritise a medical imaging advancement plan<br>• Develop and apply an alumni engagement plan<br>• Develop communication infrastructure, process and strategy to increase departmental profile |



**Our Mission is to develop medical imaging leaders who contribute to our communities and improve the health of individuals and populations through discovery, translation and communication of knowledge.**

Strategic Goal 1

# EDUCATION

## Prepare tomorrow's leading radiologists, imaging scientists and allied clinical professionals through innovative educational programs

The educational programs within the Department have enjoyed significant recent success following accreditation in all four residency programs (Diagnostic Radiology, Neuroradiology, Nuclear Medicine, Pediatrics). The clinical investigator program remains the only such medical imaging program in the country allowing a combination of residency training and protected research time to undertake a graduate degree.

Our fellowship program continues to expand with unprecedented year-on-year increases in applications to the program. In recent years we have made significant in-roads into the undergraduate curriculum, recently introducing ultrasound scanning to better teach anatomy and physical examination. The educational programs are well positioned to undertake new teaching models. Co-ordination under the Vice-Chair Education will accelerate the process and allow translation across programs.

Following the introduction and complete integration of the CanMEDS competencies over the last few years the program will address and potentially lead the heralded CanMEDS changes in the next few years. Our educational strength provides the opportunity to seek new audiences at the graduate, undergraduate and even the high school level as well as extending our CME reach.

## We will:

- Streamline educational organization
- Invest in development of clinical educators
- Expand the CME program
- Integrate Mi role in undergraduate teaching
- Explore the role of competency based training
- Further develop simulation techniques
- Explore opportunities in IME

### Consolidate educational administration under Vice Chair Education

Consolidation of all of the departmental educational activities will provide an economy of scale beneficial to all programs. The formation of educational committees will allow the development of a 5 year plan through agreed upon expectations expressed in an educational white paper.

Expected outcome: streamlined educational organization allowing development of innovative educational programs.

### Identify and support residents and faculty to undertake educational and leadership training

Educators in the Department will be identified and mentored through locally and nationally organized training resources. We will explore the development of a resident Clinician Educator Program to train the next generation of clinician educators.

Expected outcome: An increased stream of dedicated clinician educators to populate departments now and in the future.

### Develop and support expanded departmental Continuing Medical Education (CME) program

CME has been identified as an opportunity and interest by a significant number of the faculty. We will explore the barriers and unique attributes within the Department to bring about increased CME programs.

Expected outcome: expansion of CME programs leveraging departmental expertise.

### Develop and apply leading-edge teaching and learning models for undergraduate and postgraduate students

We will review undergraduate curriculum to identify novel means of using imaging to not only teach clinical medicine but also preclinical subjects (e.g. anatomy, physiology), pathology and clinical examination. In our residency programs we will initiate a review exploring the feasibility of introducing competency based training and simulation of diagnostic and interventional procedures into the residency curriculum.

Expected outcome: imaging will play an integrated role in undergraduate teaching reflecting its ubiquitous presence in clinical medicine. New methods of education delivery and assessment will be developed allowing greater flexibility and impact.

### Explore Integrated Medical Education (IME) locally, nationally and internationally

Medical imaging is commonly required teaching in many allied medical training schemes. New technology has provided a means of better serving our current collaborators and by which we can reach new audiences locally and further afield.

Expected outcome: we will consolidate our current teaching commitments and investigate integrating into new teaching environments.

Strategic Goal 2

# CONTINUED PROFESSIONAL DEVELOPMENT (CPD)

## Develop and support all aspects of professional development in education, research and clinical practice for medical imaging professionals

No organized program of CPD has previously been undertaken on a regular basis within the Department. Recent responses from faculty have identified a number of areas that could be organised centrally by the University Department in support of the faculty.

The University has an existing strong program of CPD activities available. In addition there is a wealth of experience within the Department that should be reinvested through more formalized mentorship. All faculty will be encouraged to apply for promotion and the process simplified and streamlined to encourage application.

### We will:

- Develop a Continued Professional Development Program
- Mentor junior and senior faculty
- Provide career and promotions guidance

### Develop a 3-year plan for Continued Professional Development

An organized approach to the development of a CPD program will require the identification of a faculty lead, and the striking of a committee who will guide the program. A 3-year plan will provide structure to the program.

Expected outcome**:** defined leadership and planning of a departmental CPD program.

### Identify and support faculty professional development

The University has a wealth of experience which the Department should actively exploit. The newly formed committee will canvass the faculty to understand their development needs. We will continue to develop the leadership and emotional intelligence course for junior faculty and will develop an annual CPD day.

Expected outcome: rapid identification and development of relevant professional development courses for our faculty.

### Develop a faculty mentoring program

The Department will align with the Faculty of Medicine mentoring program and will include both early and late career planning, improved and transparent promotions advice supported by accurate and timely career data. This will be underpinned by a more uniform cross-town appraisal and annual reporting process.

Expected outcome: availability of a defined mentoring program and improved career and promotions guidance, supported by appraisal and centralized data management.

Strategic Goal 3

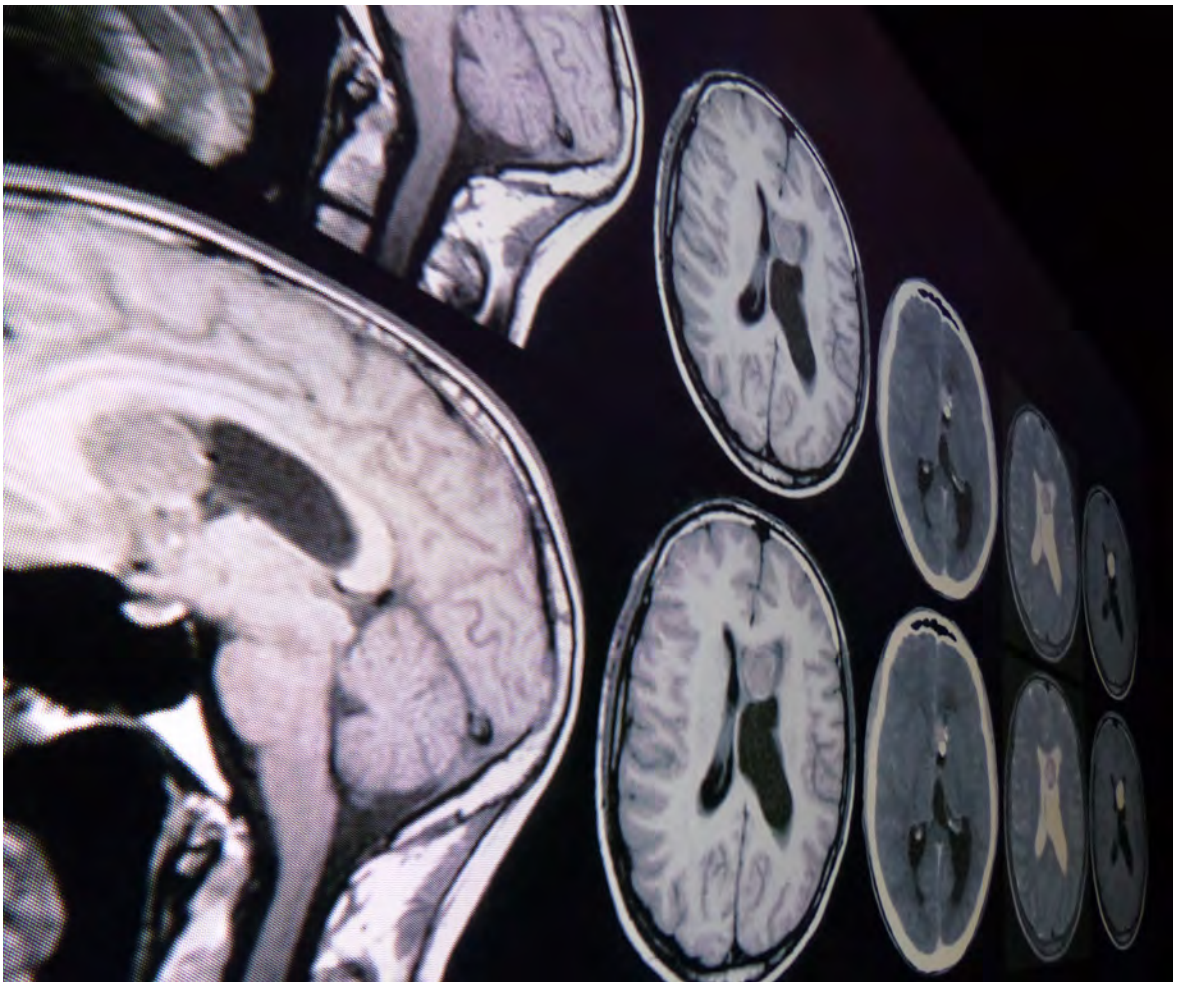
# CLINICAL PRACTICE IMPROVEMENT(CPi)

## Continually undertake clinical practice improvement to achieve increased efficiency, economy and quality

The study and understanding of the delivery of clinical practice is becoming recognized as an increasingly important role of the academic centres. Delivery of health care that is accurate, safe, timely and appropriate requires constant vigilance to define standards and measure performance. The areas of scientific specialty such as clinical epidemiology, outcomes research and health economics are largely untapped in medical imaging.

Encouraging and training interested learners and faculty in these skills has the potential to grow a highly productive program of applied research. Evidence-based medicine, quality and safety will be major drivers of the medical imaging agenda.

Failure to develop expertise to speak to these questions will result in us losing our voice around important questions concerned with the delivery of medical imaging.



## We will:

- Initiate a program of Clinical Practice Improvement
- Identify 3-5 areas of CPi expertise
- Invest in citywide data capture
- Undertake faculty and learner training in CPi
- Interface locally and provincially on topics of CPi

### Develop a CPi Strategic plan

As a new program a faculty lead will be identified and committee struck. This group will then undergo a consultative process and develop a CPi three-year plan.

Expected outcome: development of the administrative infrastructure and three-year plan.

### Identify opportunities for CPi

There is a need to focus on areas of interest and expertise (Clinical Epidemiology, Outcomes Research, Health Economics, Quality and Safety etc.). Identified areas should have a designated lead, contribute to the three-year CPi plan and promote collaboration through regular meetings and presentations.

Expected outcome: 3-5 CPi groups will be identified which will communicate and link through regular academic meetings and will inform the CPi three-year plan.

### Improve departmental data capture and identify opportunities for national collaboration and networking

The Department may act as a means of collating citywide research data and potentially clinical data, allowing for rapid mega-analysis not usually achievable at single sites. Trans-Canadian and Continental networks provide a means by which faculty can become involved in national and internationally relevant studies.

Expected outcome: initial steps to leverage citywide data accrual to improve speed of recruitment and power of study. Increased visibility will be achieved by involvement in national and international networks.

### Undertake faculty/learner training in practice improvement and become leaders in imaging best practice

The fundamentals of CPi will be developed in a curriculum, examples of which will be highlighted throughout the residency programs during daily practice. A program will be developed to involve residents and fellows in clinical audit. Courses for faculty development in CPi will be identified and presentation of departmental CPi will be hosted at an annual CPi Day.

Expected outcomes: Faculty and learners will be exposed to CPi methods allowing application during clinical practice. More in-depth training will be identified and an annual CPi Day developed.

### Interaction with invested groups

Local and provincial groups will be identified (MOH, OHA, OHTAC, etc.) and engaged in order to determine and answer medical imaging questions of societal importance.

Expected outcome: we will define important questions relating to medical imaging impacting at the societal/population levels and engage with governmental and institutional administrations to help answer these questions.

Strategic Goal 4

# RESEARCH

## Enhance and support a departmental structure and imaging faculty to undertake research innovation, translation and mentoring

The University of Toronto Department of Medical Imaging is nationally recognized by learners and peers as a research-driven department. Measures of research output are nationally competitive and internationally respectable. Much of this however has been achieved at the hospital level with little leveraging of the research critical mass achieved across the University.

The contraction of the research funding landscape has resulted in a significant downward trend in research financial support across all sectors. There is therefore difficulty entering and maintaining the research funding stream. Increasingly, funders and applicants must adopt more team-like approaches. Building collaborative groups within medical imaging will provide research gravity and mentorship for established and new researchers alike.

## We will:

- Publish a research white paper
- Develop a 3-5 year research plan
- Build a research data management system
- Identify cross-town research collaboratives
- Define potential research questions of the future
- Increase graduate students and supervisors
- Build recurrent funding to underpin research

### Develop a research strategic plan

The organization of departmental research requires increased visibility through a research committee who will develop a white paper to define departmental research expectations. The committee will develop a 3-5 year research plan. Supporting and reporting research within the Department will be enhanced through improved centralized data management.

Expected outcomes: delivery of a research white paper, which will help inform a 3-5 year research plan for the Department. Development of a departmental research data management system (Medical imaging Data Administration System—MiDAS) will improve research visibility.

### Identify departmental research collaborations

Common research themes are often duplicated across the city. An increased critical mass of researchers will be achieved by organized cross-town collaboration. By so doing the faculty will be better positioned to collaborate or lead on large team or networked funding opportunities. A small number of groups will be identified, leaders appointed and funds invested to foster meetings, collaborations and mentoring.

Expected outcome: a small number of well-defined nationally and internationally competitive research collaboratives enabling proactive identification of, and preparation for team and/or networked grants.

### Support research innovation and translation

Identifying opportunities for innovation will be undertaken proactively through a wide-ranging cross-disciplinary research group whose remit is to define current and future opportunities, understand the methods for translation and the likelihood of attrition. The group will form the nidus for interaction with students recruited to the new MSc course in Translational Medicine through the Institute of Medical Science.

Expected outcome: a defined but diverse group of researchers will identify potential research questions of the future.

### Attract, retain and mentor researchers

Opportunities exist to increase preclinical researchers at undergraduate and graduate levels to provide a highly qualified research force and potential recruits to the specialty.

Expected outcomes: there will be increased numbers of graduate students and supervisors and regular recruitment of CREMS summer students and scholars.

### Identify alternative sources of research funding

Development of a research funding plan will be central to Advancement planning. With the application of the research agenda, opportunities for Canada Research Chair applications can be explored.

Expected outcomes: development of steady and recurrent funding to underpin research infrastructure.

***…much of the research is published by physician scientists rather than PhD scientists, and this … helps to promote a research culture throughout the Department, enhancing the interdisciplinary and translational nature of the research.***

**-External Review 2011**

Strategic Goal 5

# SUSTAINABILITY

## Ensure departmental infrastructure exists to support the academic mandate

Success depends on some common infrastructure that underpins all of the departmental goals. The Department needs to become more financially autonomous so that it can invest in and support departmental priorities—this will require a well structured advancement strategy.

The recent establishment of a departmental Alumni Association demonstrates the continued interest in remaining connected with the Department and provides a strong local, national and international foundation.

Communication has recurrently been identified as a barrier to better faculty engagement. Modern communications technology should be employed to provide regular updates to engage the faculty, learners and alumni.

Similarly the Department needs to address how to better centrally support the academic process involved in grant applications, data management, analysis and writing.

## We will:

- Improve centralised academic data capture
- Develop online research-process support
- Expand departmental WebCV support
- Develop advancement committee and strategy
- Increase alumni engagement
- Develop a communications committee and strategy

### Build infrastructure to support administration, academics and annual reporting

Improved data collection (educational and research outputs) and distribution will provide ease of access for personal and departmental activity reporting. Development of online modules to support research programs such as data management, statistics, grant and paper writing etc, will be accessible and provide greater support to faculty. Continued central WebCV support will increase uptake and maintenance.

Expected outcomes: comprehensive educational and research data-capture will improve real time reporting. Online research-process training and support. Centralised WebCV updating.

### Prioritise a Medical Imaging Advancement plan

By forming a multi-faceted advancement committee in collaboration with the FoM Advancement office, we will develop a fundraising campaign with specific goals and objectives in support of the Strategic Plan. The upcoming centenary anniversary for the Department of Medical Imaging (2019) provides a fundraising focus which will be reviewed by a specific centenary committee.

Expected outcomes: a functioning advancement committee and campaign in place for generating support for the Strategic Plan.

### Develop and implement an alumni engagement plan

Opportunities for engagement with alumni identified through one of the strategic planning surveys will be undertaken through developing a communication strategy, including CME and reunion meetings (e.g. RSNA reunion 2014).

Expected outcome: identify and engage local and more distant alumni through expanded CME and social alumni functions.

### Develop communication infrastructure, process and strategy to increase departmental profile

A trans-departmental communication committee will be struck and a wide-ranging communication strategy developed exploiting modern multi-media. A branding strategy for medical imaging in conjunction with the Faculty of Medicine will be developed. Internally a Medical Imaging Strategic Planning Oversight Committee (MiSPOC) will monitor the roll-out and application of the Strategic Plan.

Expected outcome: a multi-media communications strategy in support of all aspects of the strategic plan. An oversight committee will ensure translation of the strategic plan into practice.

# Implementation

"A plan without action is not a plan, it's a speech."

Undertaking a wide-ranging strategic planning process is fruitless without the means of implementing defined priorities. Similarly, identifying goals and aims which are ultimately unachievable is a pointless exercise. Therefore, at the heart of this plan are initiatives that are fully achievable and applicable.

With this in mind, from the outset is a recognition that much of the infrastructure required to further enhance the Department is not currently available or sufficiently co-ordinated. Despite a desire to set a high academic bar with lofty goals of international innovation and excellence it is recognized that without sufficient structural foundation, sustained success is unlikely, if not impossible. As the title "Building for the Future" suggests, the main focus is upon building, consolidating, and preparing for the future when a more adventurous plan can be devised.

Implementing the plan as quickly as possible is paramount to the Department's future success. As such many of the project timelines are three years or less. This may seem aggressive, but many if not all are achievable in this time. The sooner the infrastructure is built, the sooner we can really compete on the international stage. Once this plan is implemented the intention is to undertake a further deep **review** and planning process, at which point the strategic plan will be **revised**, to then begin a second phase of strategic **renewal**—Review Revise Renew. The quicker we can get to this phase the better.

Implementing this plan will need careful definitions of what we are trying to achieve, accurate metrics to show us when we have been successful, and realistic milestones to measure progress. For each of the aims supporting the five goals, there are a number of specific sub-aims, each with a defined end point acting as a Key Performance Indicator (KPI), and an associated timeline within which completion is expected. These three parameters (Aim–KPI–Timeline) will be regularly assessed. A Gantt chart of aims and outcomes will be posted on the Department website and monthly reminders of projected completion dates will be sent to responsible parties.

Overarching the reporting process will be the Medical Imaging Strategic Planning Oversight Committee (MiSPOC). Regular reporting and updating of the plan (both upgrading or downgrading timelines) will be through the MiSPOC in order to keep it relevant and responsive. An update of the strategic plan implementation will be delivered by the Chair annually at the departmental meeting.

## Goal 1: Education

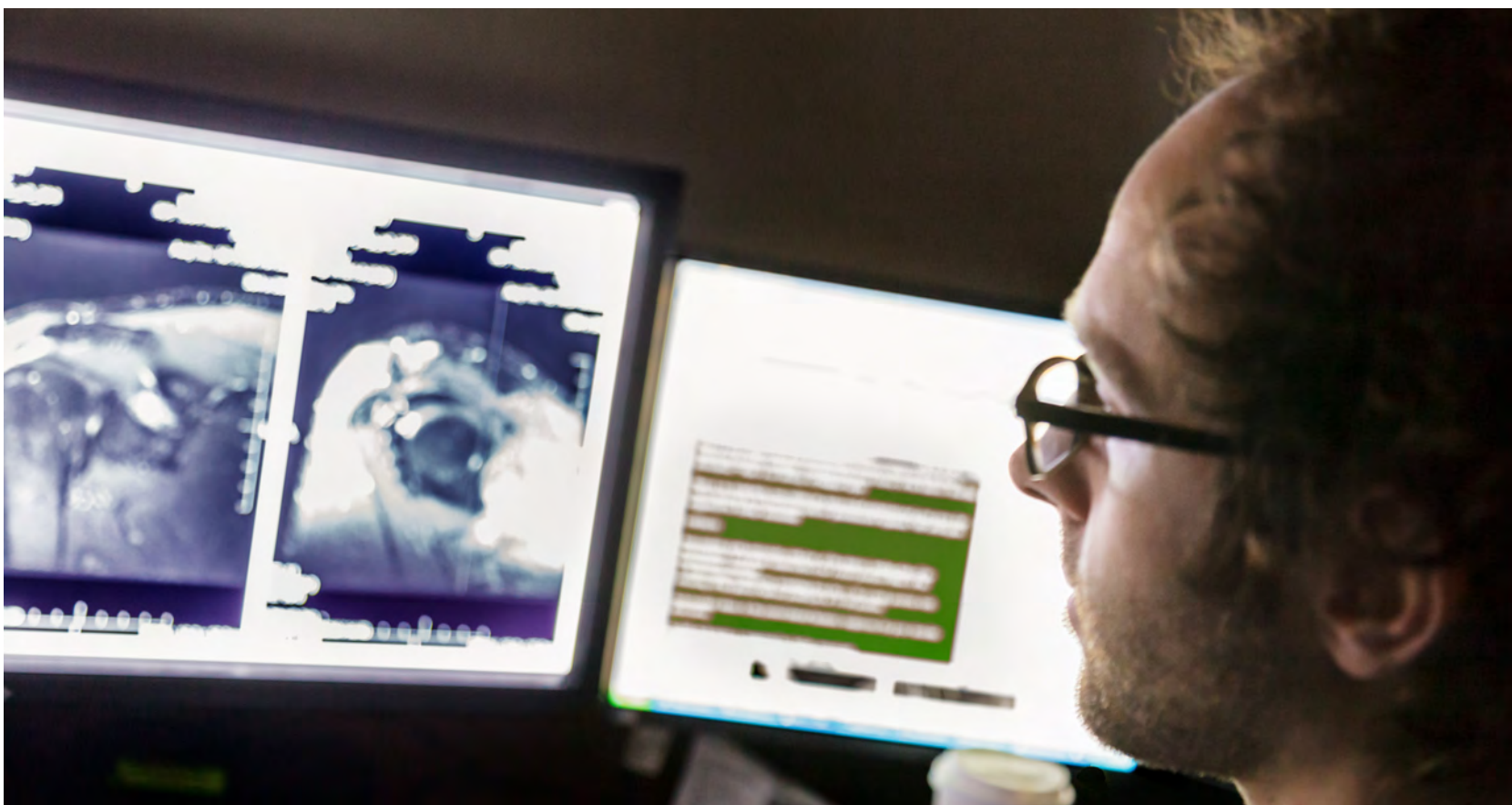
Prepare tomorrow's leading radiologists, imaging scientists and allied clinical professionals through innovative educational programs

| AIM | 12 MONTH | EXPECTED OUTCOMES | 12-36 MONTHS | EXPECTED OUTCOMES | KEY PERFORMANCE INDICATORS |
|---|---|---|---|---|---|
| **Consolidate educational administration under Vice Chair Education** | **1.1** Define Vice Chair education role<br><br>**1.2** Strike education committee<br><br>**1.3** Develop education white paper<br><br>**1.4** Develop education strategic plan | Consolidated educational planning under Vice Chair Education | **1.5** Develop teaching evaluation committee | Sub-committee of education committee to advise promotions committee | Delivery of educational plan |
| **Identify and support residents and faculty to undertake educational and leadership training** | **1.6** Identify faculty educators<br><br>**1.7** Faculty undertake development courses (e.g. Stepping Stones) | Identify and train a core of clinician educators | **1.8** Recognise and promote teaching excellence<br><br>**1.9** Explore education track for residents | Expand current educational prizes to include undergraduate teaching<br><br>Possibility of developing CEP | Increased number of clinician educators<br><br>Number of nominations to undergraduate prize |
| **Develop and support expanded departmental CME program** | **1.10** Identify barriers and opportunities to CME success | Planned CME program | **1.11** Identify possible niche in CME market | Identify unique CME programs | Number of new CME programs |
| **Develop and apply leading-edge teaching and learning models for undergraduate and postgraduate students** | **1.12** Enhance undergraduate curriculum and review manpower implications | Consolidate and define undergraduate curriculum and required teaching manpower | **1.13** Explore opportunities for competency based curriculum to align with RCPSC standards<br><br>**1.14** Explore opportunities for simulation in medical imaging | Test possibility of novel educational delivery and assessment | Produce well-defined undergraduate curriculum and required teaching hours<br><br>Preliminary outline of competency curriculum<br><br>Number of new simulation sites |
| **Explore Integrated Medical Education (IME) locally, nationally and internationally** | **1.15** Define current areas of collaborative teaching | Review educational support to IME | **1.16** Define areas of future collaborative teaching | Survey options for collaboration | Number of new teaching programs |

## Goal 2: Continued Practice Development

Develop and support all aspects of professional development in education, research and clinical practice for medical imaging professionals

| AIM | 12 MONTH | EXPECTED OUTCOMES | 12-36 MONTHS | EXPECTED OUTCOMES | KEY PERFORMANCE INDICATORS |
|---|---|---|---|---|---|
| **Develop 3-year plan for CPD** | **2.1** Identify lead for CPD<br><br>**2.2** Strike committee for CPD<br><br>**2.3** Develop 3-year plan | CPD administration and planning in place | | | Delivery of 3-year plan |
| **Identify and support faculty professional development** | **2.4** Interact with University CPD programs<br><br>**2.5** Continue to develop leadership program | Develop specific CPD programs in medical imaging building through U of T experience | **2.6** Identify new programs for development | Expand CPD offerings to faculty | Number of CPD programs offered to faculty |
| **Develop a faculty mentoring program** | **2.7** Interact with University mentoring programs<br><br>**2.8** Define appraisal process and structure<br><br>**2.9** Undertake career planning of all new recruits leading to three year review | Build mentoring process engaging departmental appraisal process and delivering career planning | **2.10** Develop CPD day<br><br>**2.11** Develop promotions planning program | Develop CPD Day for all faculty<br><br>Incorporate transparent promotions process on departmental website | Number of faculty within mentoring program, and/or with career and promotional plan<br><br>Number of mentors in faculty<br><br>Number of CPD Day attendees |



## Goal 3: Clinical Practice Improvement

Continually undertake clinical practice improvement to achieve increased efficiency, economy and quality

| AIM | 12 MONTH | EXPECTED OUTCOMES | 12-36 MONTHS | EXPECTED OUTCOMES | KEY PERFORMANCE INDICATORS |
|---|---|---|---|---|---|
| **Develop CPi Strategic plan** | **3.1** Identify lead for CPi<br>**3.2** Develop 3-year CPi plan<br>**3.3** CPi committee | CPi administration and planning in place | | | Delivery of 3-year CPi plan |
| **Identify opportunities for CPi** | **3.4** Identify areas of opportunity<br>**3.5** Leadership for each group<br>**3.6** Regular CPi meetings | 3-5 areas will be identified and lead faculty will develop the program within each | | | Number of successful CPi groups |
| **Improve departmental data capture and identify opportunities for national collaboration and networking** | **3.7** Develop central data collection plan<br>**3.8** Central research and clinical data access | Explore the barriers to data movement (ethics, privacy etc.) and develop hardware infrastructure to enable data management | **3.9** Identify access to national networks | Proactively identify local and national networks and identify departmental collaborators | Number of linked sites<br>Number of research projects exploiting central data<br>Number of linked networks |
| **Undertake faculty/learner training in practice improvement and become leaders in imaging best practice** | **3.10** Develop CPi curriculum | CPi committee and groups define resident CPi curriculum | **3.11** Embed CPi in day-to-day clinical education<br>**3.12** Develop resident/ fellow audit program<br>**3.13** Annual CPi meeting<br>**3.14** Explore faculty CPi development | Use curriculum to define everyday application of CPi evidence<br>Identify lead faculty to champion audit within residency and fellowship<br>Define programs locally and elsewhere that allow faculty training in CPi | Number of clinical CPi exemplars<br>Number of completed audit projects<br>CPi Day attendees<br>Number of faculty training in CPi |
| **Interaction with invested groups** | | | **3.15** Identify potentially interested groups for interaction | | Number of groups engaged |

# Goal 4: Research

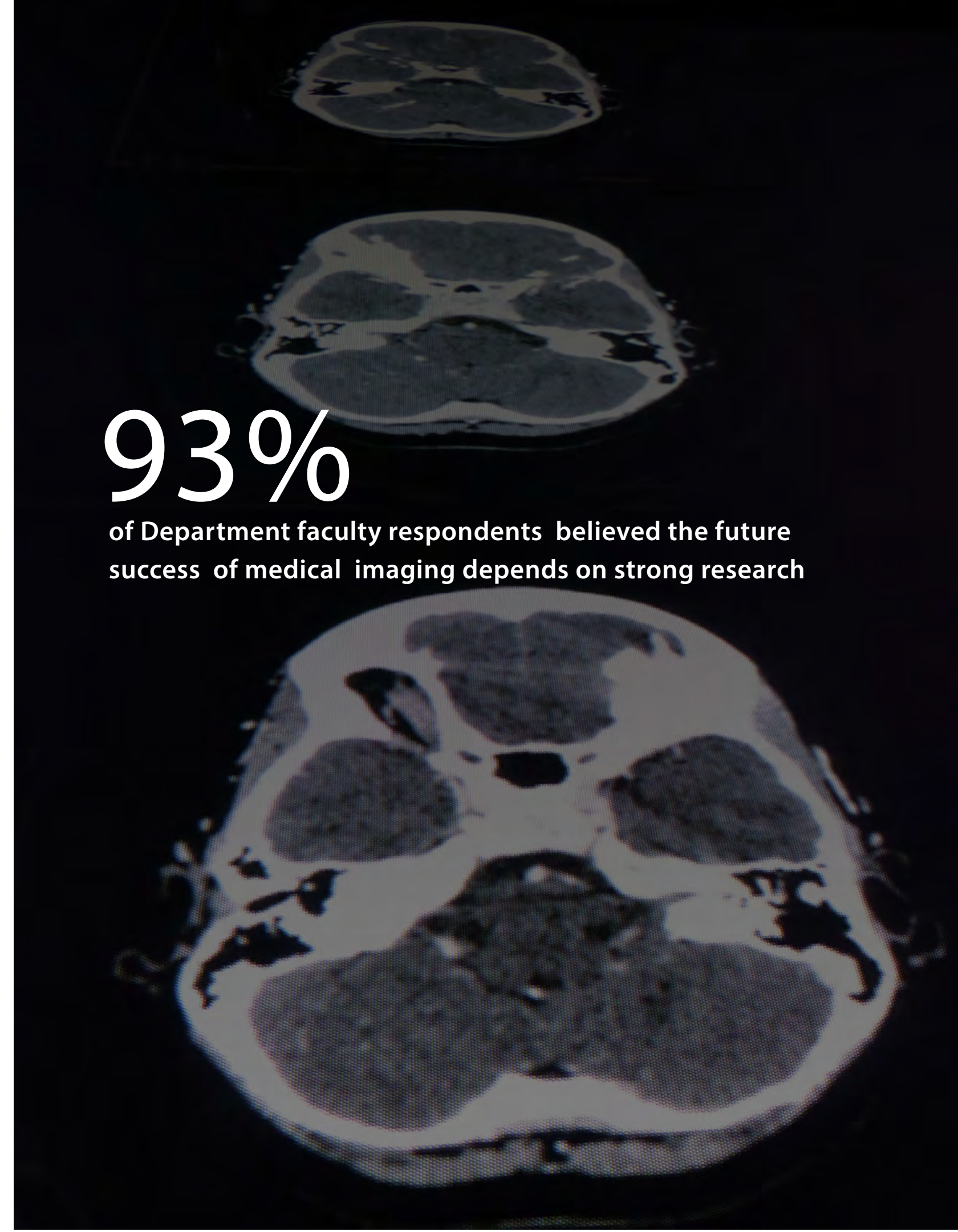
Enhance and support a departmental structure and imaging faculty to undertake research innovation, translation and mentoring

| AIM | 12 MONTH | EXPECTED OUTCOMES | 12-36 MONTHS | EXPECTED OUTCOMES | KEY PERFORMANCE INDICATORS |
|---|---|---|---|---|---|
| **Develop a research strategic plan** | **4.1** Publish research white paper<br>**4.2** Define 3–5 year plan<br>**4.3** Strike Research committee | Defined research structure, faculty commitment and organisation | **4.4** Capture research output and data | Departmental research data reporting and supporting research | Delivery of 3-5 year research plan and research white paper<br>Annual researcher reports |
| **Identify departmental research collaborations** | **4.5** Identify areas of common interest | Defined collaborative research groupings and leadership with regular interaction | **4.6** Infrastructure funding investment undertaken | Investment of new money into research collaboration | Number of collaborative grant applications and publications |
| **Support Research innovation and Translation** | **4.7** Develop innovation interest group | Cross-disciplinary interest group exploring innovation, translation and attrition | **4.8** Define medical imaging translational research<br>**4.9** interaction with IMS MSc program of translational research | Translational and transitional research linked with possible MSc students | Number of blue skies research projects brought to proof of principle/publication |
| **Attract, retain and mentor researchers** | **4.10** Increase graduate students/supervisors<br>**4.11** Maintain regular CREMS intake | Increased numbers of pre-clinical students, projects, graduate degrees | **4.12** Research recognition prize instituted | Increased profile of research endeavors | Number of Clinician Researchers / Scientists, graduate supervisors and CREMS students |
| **Identify alternative sources of research funding** | **4.13** Devise funding plan | Close co-ordination with advancement strategy | **4.14** CRC opportunities | Develop CRC strategy as research develops | Amount of funding raised and invested in research programs |

## Goal 5: Sustainability

Ensure departmental infrastructure exists to support the academic mandate

| AIM | 12 MONTH | EXPECTED OUTCOMES | 12-36 MONTHS | EXPECTED OUTCOMES | KEY PERFORMANCE INDICATORS |
|---|---|---|---|---|---|
| **Build infrastructure to support administration, academics and annual reporting** | **5.1** Improve administrative and academic support through data management<br><br>**5.2** Central research support developed<br><br>**5.3** WebCV support in place | Development of central departmental data management support | | | Number of annual academic reports provided<br><br>Number of hits on research support sites<br><br>Percentage of Department with updated WebCV |
| **Prioritise a Medical Imaging Advancement plan** | **5.4** Form advancement committee<br><br>**5.5** Plan fundraising campaign | Advancement plan and committee support developed | **5.6** Planning centenary campaign 2019 | Expanded opportunities for engagement with alumni | Annual fundraising dollar total |
| **Develop and apply an Alumni engagement plan** | **5.7** Appoint new Alumni Chair<br><br>**5.8** Alumni communication and meetings defined | Regular alumni events underway | **5.9** Explore new alumni CME opportunities | | Number of alumni engaging with Department |
| **Develop communication infrastructure, process and strategy to increase departmental profile** | **5.10** Communications committee and strategy<br><br>**5.11** U of T branding on all academic output<br><br>**5.12** Develop Medical Imaging Strategic Planning Oversight Committee (MiSPOC) | Communication and branding adopted as central to departmental activities<br><br>MiSPOC in place | **5.13** Develop medical imaging branding | | Number of departmental communication documents sent<br><br>Percentage identification of U of T on papers<br><br>Implementation success rate |



# 93%

**of Department faculty respondents believed the future success of medical imaging depends on strong research**


# Appendix

# Survey Highlights

## FACULTY

**45%** interested in formal educational training

**77%** have a WebCV account

**69%** think the Department should hold annual meetings

**69%** would teach more CME

**68%** want more collaboration between research groups within the Department

**62%** interested in outcomes research for clinical practice improvement

**92%** interested in Clinical Research

## RESIDENTS

**89%** want workshops for writing an effective CV

**87%** would like to meet Hospital Chiefs for career planning

## ALUMNI

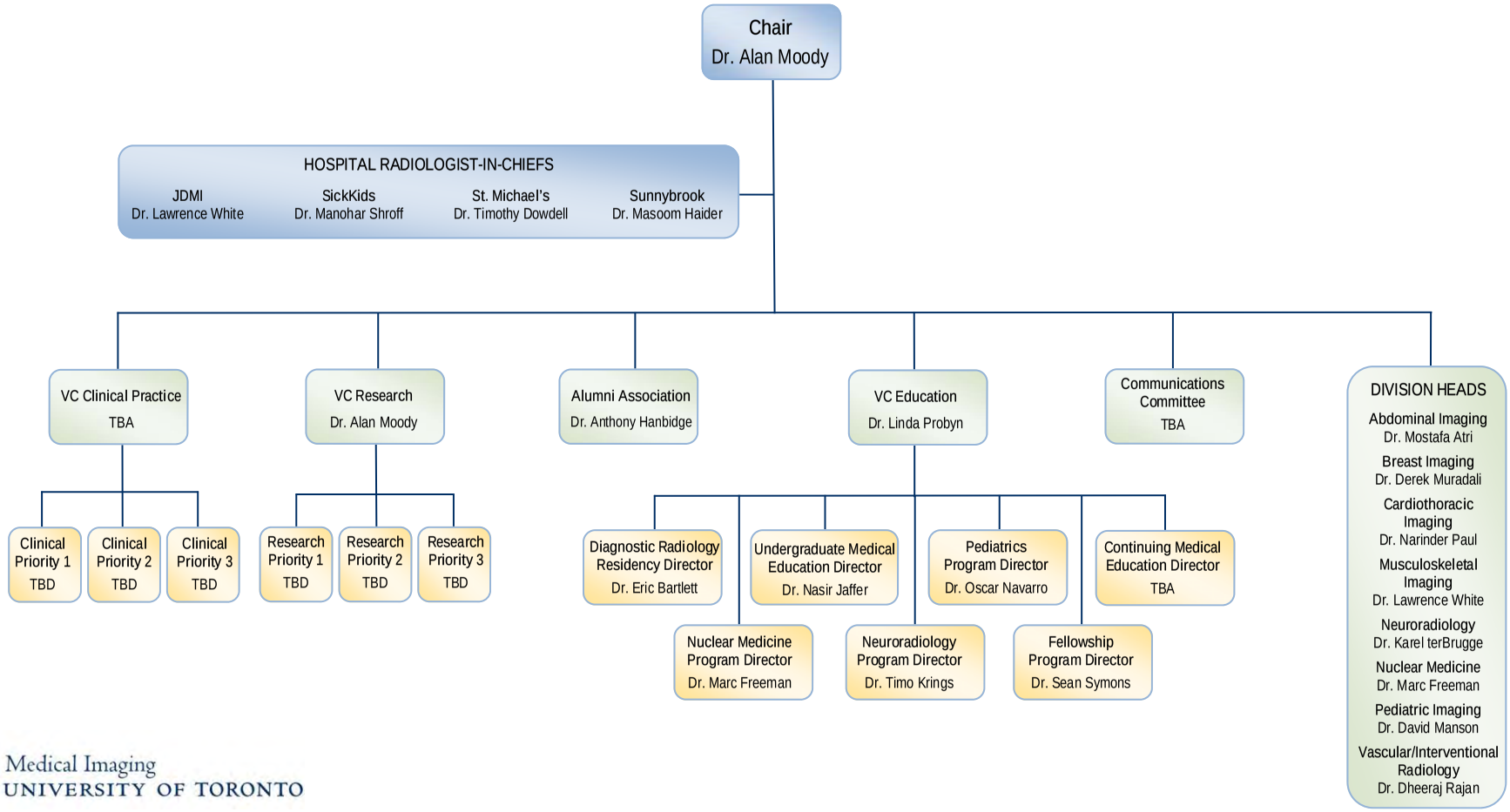
**58%** stay in touch through CME events and conferences

**31%** stay in touch through social media

**78%** would like to read more news about former classmates

**60%** want more CME events with social interaction

# Department of Medical Imaging Organizational Chart

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