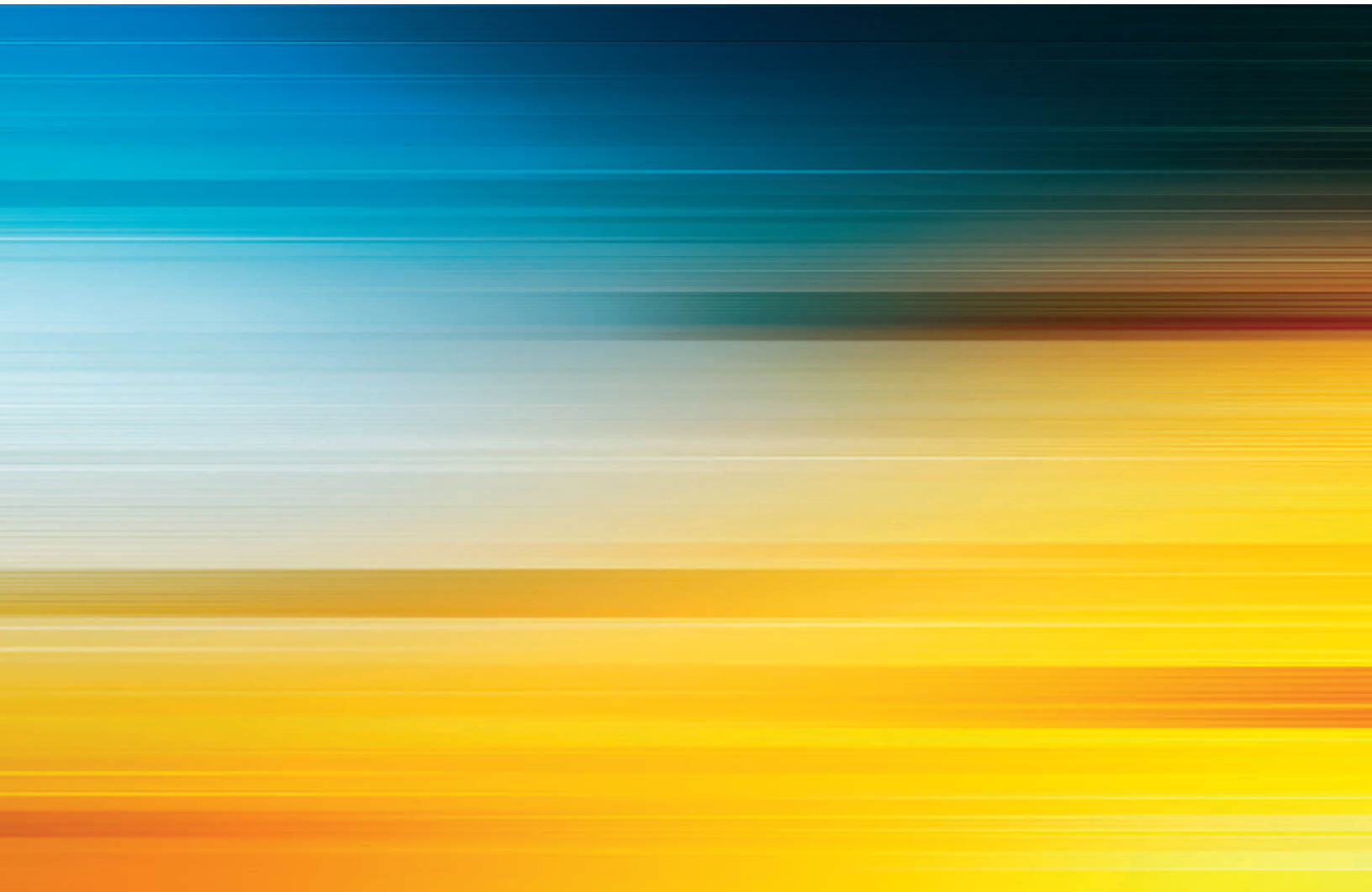




Department of Anesthesia, Pain Management and Perioperative Medicine
ANNUAL REPORT 2012-2013



Vision & Mission

Vision

A culture of excellence in anesthesia clinical practice and programs, research and education.

Mission

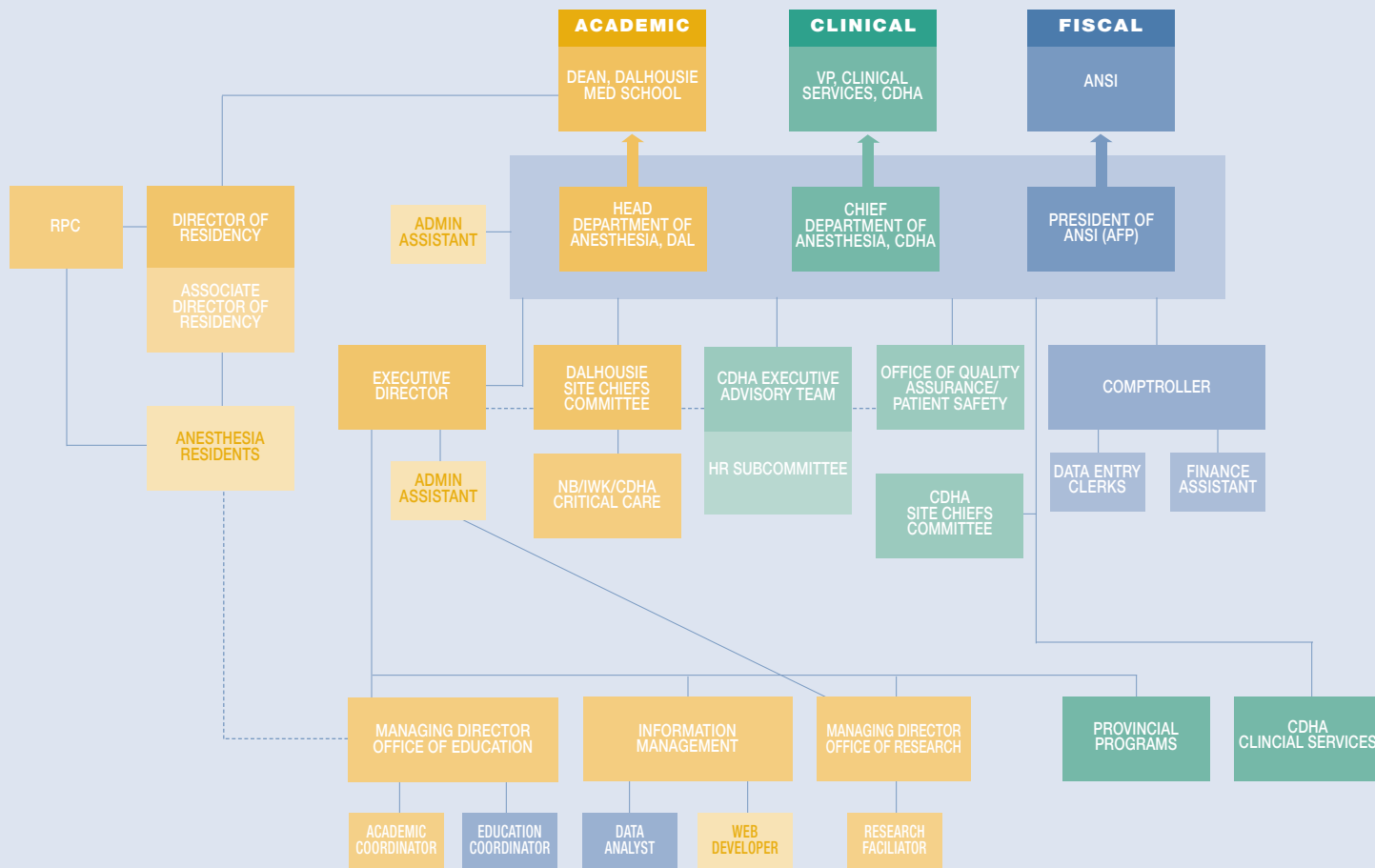
To deliver anesthesia services through up-to-date clinical care based on the latest evidence (research) and knowledge (education).

The Department of Anesthesia, Pain Management and Perioperative Medicine believes that:

- Patients are entitled to safe, evidence informed, humanistic care
- Staff and faculty wellbeing is foundational to the department's success
- Life-long learning is a pre-requisite to safe, competent care and professional, compassionate clinicians
- Scholarly curiosity is fundamental to the improvement and enhancement of patient care
- Stewardship of local and global resources is a departmental responsibility
- Transparency and accountability in combination with creative thinking and leadership are imperative to the department's quest for excellence

The Department of Anesthesia, Pain Management and Perioperative Medicine aspires to be one of the top five anesthesia departments in the country within the five years.

Department of Anesthesia, Pain Management & Perioperative Medicine Organization Chart





Message From the Head and Chief

This year's annual report appropriately focuses on **collaboration**. It highlights department members' efforts to work together to advance clinical, research and education initiatives. Also, the report features the department's work with clinical academic departments, the Dalhousie Faculty of Medicine, its hospital and health centre partners, and others to ensure delivery of the highest quality patient care, innovative education, and leading research.

The Department of Anesthesia, Pain Management and Perioperative Medicine has a four-fold mandate encompassing safe, quality patient care, education, research and stewardship of people's health at home and abroad. The department provides a full spectrum of critical care and general clinical services and administers leading edge programs in blood management, pain management and regional anesthesia. It subspecializes in cardiac surgery, neurosurgery, obstetrics, pediatrics, thoracic surgery and transplantation.

The department has taken steps to establish and build relationships and partnerships with stakeholders over the last few years. We believe collaboration within and external to the department is instrumental to moving toward our vision of excellence and being among the top academic anesthesia departments in Canada.

There is collaborative work underway in all aspects of the department, much of which you will read about on the following pages, but there are a few that deserve special mention.

The department established the *Anesthesia Awards of Excellence* this year, which recognize individuals and teams from within and outside of Anesthesia, Pain Management and Perioperative Medicine for professional excellence and innovation. We are the first academic department in the Dalhousie Faculty of Medicine to implement a comprehensive internal and external awards program.

In the patient care portfolio, the department led efforts to establish a service at the Victoria General Site of the QEII Health Sciences Centre that ensures an expert response to airway emergencies regardless of day or time. Establishing the service called for collaboration among disciplines and with Capital Health.

We have also been instrumental in helping to advance the development of a new academic funding plan model for Dalhousie Faculty of Medicine's clinical departments. Several department members have provided ongoing input and counsel as part of the governance and finance committees. They are working with colleagues at Dalhousie, Capital Health and the Nova Scotia Department of Health and Wellness to produce an academic fund-

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Collaboration within and external to the department is instrumental to moving toward our vision of excellence.

Message From the Head and Chief (cont'd)

ing plan model that equitably meets the needs of its many stakeholders while ensuring the delivery of high quality, sustainable patient care, excellent medical education, and leading research.

Safe, vigilant patient care is the department's hallmark. Over one hundred anesthesiologists perform more than **49,000** procedures annually at five main facilities in Nova Scotia and New Brunswick: **QEII Health Sciences Centre, IWK Health Centre, Dartmouth General Hospital, Hants Community Hospital** and **Saint John Regional Hospital**.

One of this year's highlights is the department's curriculum mapping and renewal initiative. A committee of faculty, residents and education experts from Dalhousie and Acadia universities leads the project, which has so far garnered significant attention within Dalhousie and from academic centres across Canada.

With more than 70 undergraduate students each year; 100 applicants annually for five residency positions; and an ongoing commitment to continuous learning for department members, our education program is among the most robust in Canada.

This year marked the first for the *Dr. Tom Coonan Summer Research Studentship*, established through a partnership with the Dalhousie Medical Research Foundation. The

studentship provides funding for a medical student to participate in research projects being conducted by members of the department.

This year also marked the launch of two large, multi-site, investigator-initiated clinical trials. The studies were several years in the making and represent substantial collaborative and leadership efforts on the part of the researchers and the department's Office of Research. Increasingly department members are establishing collaborative research groups with local, national and international colleagues and seeking multiple grants and awards for projects in the public and private sectors, helping to ensure sustainability and expand the impact of their work. We are also turning our focus to innovation and commercialization.

Thank you for your interest in our department. I invite you to review the following pages and also visit the department's website, nsanesthesia.ca, to learn more about the collaborative work we're doing to improve patient care; to educate the health leaders of today and tomorrow at home and abroad; and to advance our knowledge and understanding of the science and practice of anesthesia through leading research.



Dr. Romesh Shukla

Awards & Accolades

Dr. André Bernard Chosen as Canadian Medical Association's Representative to the World Medical Association

Dr. André Bernard (*top*) began serving a three-year term as the Canadian Medical Association's (CMA) representative to the World Medical Association (WMA) in 2013. He has a place at the table with physician leaders from across the globe, discussing, developing and debating policy in such areas as medical ethics, human rights, health human resources, patient rights, and care of sick and wounded in times of conflict. The prestigious appointment has previously been held by CMA past presidents exclusively.

Dr. Bernard is a member of the WMA's medical ethics, finance & planning and socio-medical affairs committees. He is among the youngest member representatives at the WMA.

Jason McDougall One of Two Canadians to Receive 2012-2013 Mayday Fellowship

The unique *Mayday Pain & Society Fellowship: A Media and Policy Initiative* trains health professionals and scientists in the pain management community to extend their wealth of knowledge beyond academic, research and healthcare environments to in-

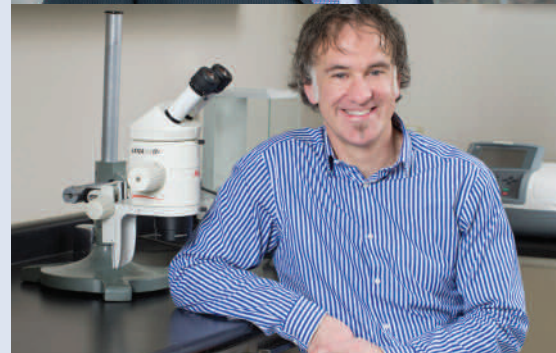
fluence public knowledge and policy. **Jason McDougall**, PhD, (*middle*) is one of six 2012-2013 fellowship recipients and one of two who hail from Dalhousie's Faculty of Medicine. Christine Chambers, PhD, (pediatrics and psychology) also received a fellowship. In previous years the *Mayday Fellowship* has been awarded to only one Canadian annually.

Dr. McDougall's primary research interest is the study of mechanisms of joint inflammation and the resultant pain with the goal of improving treatment and management of pain caused by osteoarthritis.

Dr. Mary Lynch, Woman of Excellence

Congratulations to **Dr. Mary Lynch** (*bottom left*) on being named a *Progress Women of Excellence* Awardee in recognition of her contributions to health, sport and wellness.

Dr. Lynch is one of 19 inspirational women who were honoured by the Canadian Progress Club – Halifax Cornwallis through its signature awards program which recognizes women "at the pinnacle of their professions" for their contributions to our community.





Awards & Accolades (cont'd)

Dr. Patty Livingston Receives Grand Challenges Canada Grant

Grand Challenges Canada awarded **Dr. Patty Livingston** (left) with a Rising Stars in Global Health grant in 2012. The award provided \$100,000, which was used to develop a medical simulation and skills training centre in Rwanda in early 2013. Dr. Livingston is the first department member to receive a Grand Challenges Canada grant.

Congratulations to Dr. Livingston and her collaborators: **Dr. Christian Mukwesi** (Anesthetist, National University of Rwanda), **Dr. Georges Ntakiyiruta** (Chair of Surgery, National University of Rwanda), **Michelle Murray** (Coordinator, Skills Centre for Health Sciences, Halifax), **Dr. Peter Brindley** (Division of Critical Care Medicine, Edmonton), **Dr. Lauren Zolpys** (Anesthesia resident, Dalhousie) and **Dr. Terri Skelton** (Anesthesia resident, University of Toronto, and MPH candidate, Harvard)

Long Service Award Recipients

25 Years

Dr. Fiona Roper, Assistant Professor, staff anesthesiologist (QEII Health Sciences Centre)

15 Years

Dr. Kristine Johnson, Assistant Professor, staff anesthesiologist (QEII Health Sciences Centre)

New Hires

Dr. André Bernard, Assistant Professor, staff anesthesiologist (QEII Health Sciences Centre)

Dr. Shannon Bradley, Lecturer, staff anesthesiologist (QEII Health Sciences Centre)

Dr. Catherine Delbridge, Assistant Professor, staff anesthesiologist (QEII Health Sciences Centre)

Dr. Kwesi Kwofie, Assistant Professor, staff anesthesiologist (QEII Health Sciences Centre)

Dr. Genevieve MacKinnon, Lecturer, staff anesthesiologist (QEII Health Sciences Centre)

Dr. Tim Mullen (locum), Lecturer, staff anesthesiologist (QEII Health Sciences Centre)

Dr. Parvinder Sodhi (locum), Lecturer, staff anesthesiologist (QEII Health Sciences Centre)

Dr. Stuart Wright, Assistant Professor, staff anesthesiologist (QEII Health Sciences Centre)

Cyndi Lushman, Curriculum Renewal Coordinator

Retirement

Ms. Faye Jacobson, Research Coordinator, Women's and Obstetric Anesthesia (IWK Health Centre)

Memoriam

Stephen Siepieri was an anesthesia assistant in the department for more than 20 years. He was among the first anesthesia assistants in the department and helped establish the profession locally. He will be remembered as much for his sense of humour and love of his family as for his loyalty to the department and dedication to patient care.

Stephen passed away on May 31, 2013.



The Benefits of Knowing Where You Are Headed

The department's strategic plan is reported on, revised, updated and added to annually, effectively making it a living document that guides the department's actions in all areas: patient care, education and research.

Some of the department's most significant initiatives launched, expanded or completed in 2012-2013 stemmed from its strategic plan.

Anesthesia Selective

Anesthesia, Pain Management & Perioperative Medicine now has a presence in year three of Dalhousie's undergraduate medicine curriculum thanks in part to the Dalhousie Dean of Medicine's participation in the 2012 strategic planning session. **Dr. Ben Schelew**, Director of Undergraduate Medical Education in the department, posed a question to **Dr. Tom Marrie** relating to unsuccessful bids to include an anesthesia rotation in the curriculum. The seemingly simple gesture led to a discussion, advice and encouragement from Dr. Marrie, and to a positive resolution.

DISCO (Database IIS Committee)

One of the department's priorities is accountability. Accurate, up-to-date information is essential. To obtain some of that information, the department relies on members to record their academic activities in its internal information system (IIS). To make it easier for them

to do so and to ensure the department is collecting relevant, complete and accurate information, it assembled a group of administrators and faculty members in 2012 to review the CV module and the IIS. The group made recommendations for a redesign of the data capture and reports generated by the IIS.

The redesign is now underway. The result is hoped to be a complete academic profile and easy access to information most relevant to the requirements of the department's research and education accountability frameworks and reports, the Dalhousie Faculty of Medicine's tenure and promotion process and the department's contract with the Nova Scotia Department of Health and Wellness.

Multiple Mini Interviews of Resident Applicants

To help select first year residents for the 2013/2014 academic year, the department interviewed prospective residents through Multiple Mini Interviews guided by questions developed and tested at McMaster University (Ontario). The intent is to rate and rank residents as equitably and fairly as possible, resulting in the acceptance of the highest quality, most suitable candidates.

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Some of the department's most significant initiatives launched, expanded or completed in 2012-2013 stemmed from its strategic plan.



The Benefits of Knowing Where You Are Headed (cont'd)

The department receives more than 100 applications for its first year residency positions. The interview process is critical to selecting the candidates best suited to the program and to the department. While the resident matching process is standardized through the *Canadian Resident Matching System*, the interview process is defined by the postgraduate programs and their resident selection committees.

Simulation

The department is a key partner in efforts to establish a new simulation centre at the QEII Health Sciences Centre which will replace an aging and smaller centre where much of the department's simulation training occurs presently. The new centre will be designed specifically for simulation training and will feature the latest in simulation-based technology.

In the last year, the planning committee, which includes Anesthesia, Pain Management and Perioperative Medicine representatives, reached a number of milestones:

- Chose a location
- Secured the support of the QEII Foundation to help raise required funding
- Initiated a simulation education network

- Established partnerships with the Nova Scotia Department of Health and Wellness' Emergency Health Services

Awards of Excellence

Anesthesia, Pain Management and Perioperative Medicine held its first **Awards of Excellence** in early 2013 as part of its *Applause* recognition strategy. The Awards of Excellence attracted several nominations in each of three categories and an overwhelming number of attendees to the awards presentation evening. A departmental recognition strategy was established as a priority at the 2010 strategic planning session.

A snapshot of the strategic plan is available on the Department of Anesthesia, Pain Management and Perioperative Medicine website, www.nsanesthesia.ca

First Awards of Excellence

The Department launched its **Awards of Excellence Program** in 2012. Through the program, which is part of the *Applause* recognition strategy, Anesthesia, Pain Management and Perioperative Medicine recognized the accomplishments of individuals and teams internal and external to the department:

INDIVIDUAL (*internal*): **Dr. Alison Kelland**, anesthesiologist

TEAM (*internal*): **The Women's & Obstetric Anesthesia Research Staff Team** (**Faye Jacobson**, research manager; **Karin Wallace**, research coordinator; **Denina Wells**, research coordinator; **Colin Boyd**, research assistant)

Individual (*external*): **Mr. Craig Lucas**, hospital liaison for Jehovah's Witnesses

Team (*external*): **The Transcatheter Aortic Valve Implantation (TAVI) Team**

The inaugural presentation of the Awards of Excellence was held March 27, 2013. The event well represented the department's pursuit of excellence and desire to recognize those who demonstrate professional excellence. Congratulations to the award winners and to the *Applause* Committee, chaired by **Dr. Dolores McKeen**, for launching the successful program.

Awards

Individual (internal) – Presented to an individual in the department who has demonstrated a commitment to the department's vision and mission through concrete actions that are innovative, collaborative, forward-thinking and designed to position the department as a centre of anesthesia excellence.

Team (internal) – Presented to a team in the department who best exemplifies achievements as a result of an interprofessional team effort producing an outcome, product or service that is widely regarded as innovative, unique and superior as well as of benefit to the department.

Individual (external) – Presented to an individual external to the department who is making an outstanding contribution to the

department's vision and mission via a joint initiative, an innovative clinical procedure, a collaborative research project, or an interdisciplinary educational initiative.

Team (external) – Presented to a team external to the department that is making an outstanding contribution to the department's vision and mission via a joint initiative, an innovative clinical procedure, a collaborative research project, or an interdisciplinary educational initiative.



First Awards of Excellence (cont'd)

Awards of Excellence Recipients

Dr. Alison Kelland (top right), staff anesthesiologist at the QEII Health Sciences Centre and Hants Community Hospital, is recognized as a leader in interdisciplinary care, an outstanding teacher, and an advocate for patients. *She is an unsung hero of Capital Health anesthesia and shows we are more than an urban centre.*

The Women's & Obstetric Anesthesia Research Staff Team (second from top, right) of **Ms. Karin Wallace**, **Ms. Faye Jacobson**, **Mr. Colin Boyd** and **Ms. Denina Wells** is the foundation upon which successful research in W&O Anesthesia is built. The team is considered to be fundamental to the development and maintenance of the culture of excellence in research at the IWK.

Faye, Karin, Denina and Colin are unwavering in their commitment to patients and the integrity of research, whether supporting research undertaken by faculty, residents or students. *This team, led by Faye Jacobson has worked tirelessly as energetic, engaged and exceptional ambassadors for quality research work and most importantly patient-focused research.*

Mr. Craig Lucas (third from top, right) has been a volunteer hospital liaison for Jehovah's Witnesses for more than 10 years, all the while taking every opportunity to learn more about the Perioperative Blood Management Service and blood management, and supporting educational opportunities for others to learn more as well. He is highly respected for being an exceptional resource for patients of the Jehovah's Witness faith, for the Perioperative Blood Management Service, and for the QEII. *Mr. Lucas has an outstanding attitude, and possesses a willingness to do whatever is necessary to ensure that patients of the Jehovah's Witness faith are supported in their decision to refuse blood or blood products.*

The Transcatheter Aortic Valve Implantation (TAVI) Team (bottom right), which includes healthcare providers from more than eight disciplines, implanted the first transcatheter aortic valves at Capital Health in the fall of 2012, placing Capital Health and Dalhousie on the leading edge of cardiac surgery and anesthesia around the world. *The implementation of transcatheter valve technology at Capital Health will ensure trainees are exposed to what will be a new paradigm in the treatment of valvular heart disease.*





Anesthesia Research Advisory Committee

Anesthesia, Pain Management and Perioperative Medicine is one of few clinical departments at Dalhousie University to host a research advisory committee – and is likely the only department to include external research advisors.

The Anesthesia Research Advisory Committee includes researchers and administrators from the department, Dalhousie, Capital Health and the IWK Health Centre. Its role is to:

- Act as an advisory body to the Executive Director on matters pertaining to the Office of Research, specifically the strategic plan, resource requirements, research accomplishments and related issues
- Act as an advisory body to the Medical Director on matters pertaining to Dalhousie University, CDHA and IWK research initiatives, strategies, issues and plans
- Serve as a communication link between researchers, stakeholders and administrators

The committee, which is chaired by the department's Medical Director of Research, was initiated in 2009 by **Marilyn Girouard**, Executive Director in the department with responsibility for the research portfolio.

"The department's research was gaining momentum, and we wanted to benefit from others' insights, knowledge and perspectives, particularly on the external research landscape. We also looked at it as an opportunity to share the department's research efforts with external stakeholders," says Ms. Girouard.

Many recent research accomplishments can be traced back to conversations among committee members, including the department's research being featured in Capital Health's *Research Focus* publication, the increasing number of collaborative research projects in the department, and the perioperative research team laboratory space in Dalhousie Faculty of Medicine's Tupper Medical Building.

"From a researcher administrator's point of view, the Anesthesia Research Advisory Committee provides a forum to exchange information on a wide range of issues, including new initiatives, the changing landscape, potential roadblocks and so on. When all of these things are better understood, researchers are better equipped to do the work that is so vital to better health care and research administrators are better able to meet the needs of researchers," says **Marjorie Sullivan**, Research Services, IWK Health Centre and committee member.

"The committee provides an opportunity to profile the innovative and patient care focused research of our department. Each member is part of a diverse team, delivering true commitment to research excellence throughout the research community at Capital Health, the IWK, and Dalhousie"

– **Dr. Orlando Hung**
Medical Director of Research



Collaborative, Creative Thinking Keeps Operating Rooms on Track

Dr. Ian Morris, Associate Clinical Chief, VG Site, QEII Health Sciences Centre, has chaired Capital Health's OR Executive Committee since 2003. During this period, the committee and the QEII's operating rooms have gone through many changes. What has remained consistent is the involvement of anesthesiologists and the support of the department for the committee's efforts.

The committee establishes perioperative policy, provides direction to perioperative services, maintains standards and facilitates improvements in the perioperative portfolio. Compensation and supply costs are reviewed periodically and mitigation strategies developed to address variances. The committee includes anesthesiologists, surgeons, nurses and administrators from Capital Health.

On any given day, 31-33 operating rooms are active at the QEII and more than 25,000 surgeries are performed annually.

In 2012-2013 the OR Executive met the challenge of maintaining the number of surgeries performed at the QEII despite budget reductions and a nursing shortage. The committee led efforts to implement efficiencies, improve patient flow and realize cost savings on supplies.

Dr. Morris acknowledges there will always be work to do to ensure patients receive

the best possible perioperative care that is administered sustainably, but he also points out some significant milestones.

One of the milestones was increasing the number of surgeries performed at the QEII in 2011-2012 by 404 (889 hours) as compared to the previous year, whereas the budget was decreased during this period. That means things are being done differently, responding to the realities of healthcare today in a way that continues to ensure people get the quality care they deserve.

Anesthesiologists, surgeons, nurses and administrators work together as team members on the committee just as they do in the operating room. The participation and interaction of anesthesia, surgery and Capital Health are a large part of what makes the OR Executive Committee effective. All parties are committed to the committee's mandate to ensure the smooth operation of the perioperative care portfolio and the provision of the highest quality care possible.

In 2012-2013 the OR Executive met the challenge of maintaining the number of surgeries performed at the QEII despite budget reductions and nursing shortages.



Atlantic Mentorship Network – Pain & Addiction Expands Through Partnership and Collaboration

The Atlantic Mentorship Network – Pain & Addiction now includes members in five provinces and the state of Nevada, a network in Newfoundland & Labrador, and a partnership with the Nova Scotia College of Physicians & Surgeons to support the province's methadone prescribing program. The network had humble beginnings, starting as the Nova Scotia Chronic Pain Collaborative Care Network pilot project in the South Shore Health District (Nova Scotia) in 2008-2009.

"We have managed to expand our membership, scope and geographic reach by identifying opportunities and collaborating with similar networks, provincial governments, professional organizations, Dalhousie University, Capital Health and many others," says **Dr. Peter MacDougall**, Network Director. Dr. MacDougall is also a staff anesthesiologist and director of continuing professional development in the Department of Anesthesia, Pain Management and Perioperative Medicine.

The Atlantic Mentorship Network's primary mandate is to connect mentees, most of whom are primary care providers from a range of disciplines, with chronic pain and addictions mentors to build capacity for chronic pain and addictions diagnosis, treatment and management. Members participate in an annual mentor/mentee workshop, maintain regular contact via online case discussions and mentorship and mentor group meetings, and participate in research studies. The outcome is intended to be better care for patients with chronic pain and/or addictions.

Currently, the Atlantic Mentorship Network hosts networks in Nova Scotia and Newfoundland and Labrador. Its mandate also extends to providing continuing professional development opportunities, including mentorship training, pain management workshops, an opioid prescribing course, and administering a methadone prescribing quality assurance program in Nova Scotia.

Within the last year, the Atlantic Mentorship Network held its first conference in Newfoundland and Labrador, co-hosted the first national network meeting in Ottawa, developed an opioid prescribing course, and became a founding member of a research group formed to study the impact of networks on pain and addictions management.

"We have experienced tremendous and relatively rapid growth. Our focus now is on solidifying and stabilizing that growth. That noted, we will continue to identify collaborative opportunities to improve patient care through building capacity among primary care providers and can foresee the mentor/mentee network model being applied to many chronic diseases in the future," says Dr. MacDougall.





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It Takes a Village: Transcatheter Aortic Valve Implantation

Capital Health began offering a less-invasive alternative to open heart surgery in 2012 – welcome news for people with aortic stenosis for whom traditional open heart surgery is too invasive and traumatic to withstand.

Transcatheter Aortic Valve Implantation (TAVI) is an innovative method for replacing stenotic aortic valves that involves inserting a replacement valve into the heart. TAVI has been shown to substantially improve survival and quality of life for people who are not eligible for open heart surgery.

Drs. Najaf Nadeem, Division of Cardiology, Department of Medicine, and **John Sullivan**, Division of Cardiac Surgery, Department of Surgery, championed the availability of the procedure at Capital Health.

One of the first steps was to assemble a team of collaborators who would help to plan for and implement the changes necessary to offer the procedure. **Dr. Blaine Kent** was identified as the cardiac anesthesia lead.

“Our role, from the outset of the planning, was to ensure all of the implications of anesthesia care would be considered and managed appropriately,” says Dr. Kent. *“Assembling a multi-disciplinary team and consulting with many others outside of the core team helped give the initiative a better chance of succeeding.”*

Cardiac anesthesiologists were and are an integral part of the core TAVI team. They served a consultative role for about two years leading up to the first procedure at Capital Health and now provide the specific anesthesia care required for the procedure.

“We provided input into the design of the space where the procedure would be performed, went to St. Paul’s Hospital in Vancouver to learn more about TAVI, and regularly consult on patients’ suitability for the procedure and on their pre-, peri- and post-operative care,” says Dr. Kent.

TAVI is one of Capital Health’s most collaborative clinical initiatives and one Dr. Kent believes has set a standard for the inclusion of anesthesia expertise from the early planning stages through implementation.

TAVI has been shown to substantially improve survival and quality of life for people who are not eligible for open heart surgery.

Left: TAVI team members are pictured with Dr. Dolores McKeen (middle) at the Anesthesia, Pain Management and Perioperative Medicine Awards of Excellence dinner.



Patient Care

High quality patient care and patient safety are hallmarks of the Department of Anesthesia, Pain Management and Perioperative Medicine.

The department is one of few in Canada to develop a clinical accountability framework and establish annual reporting against published targets. It also includes an Office of Quality Assurance/Patient Safety, which is led by director, **Dr. Greg Dobson**, and associate director, **Dr. Andrew Milne**. Anesthesia, Pain Management and Perioperative Medicine expanded the role and responsibilities of the Office of Quality Assurance/Patient Safety and its investment in quality assurance administration in 2012-2013 following an extensive review of the department's governance model.

In keeping with its focus on quality assurance and providing the best possible patient care, the department established a Clinical Advisory Committee in early 2013.

The committee, which includes members in clinical areas across the department, identifies and advises the department's director of quality assurance and patient safety and head/ chief on all clinical issues. It reports on targets in the clinical accountability framework; develops, reviews and approves clinical policies and procedures; and evaluates and monitors the impact of those policies and procedures.

The department's leading quality assurance efforts are possible, in part, because of its implementation of a powerful anesthesia information system. *Innovian* hosts and provides physicians with access to an incredible amount of information, everything from a patient's height and weight to who delivered anesthesia care, what care was provided, when and for how long. While a patient is in the OR, *Innovian* records their physiological data, such as blood pressure and heart rate, every 15 seconds. It links to other information systems throughout Capital Health and the IWK enabling physicians access to lab results, diagnostic scans, x-rays and other tests the second they are available. All of this better enables the department to capture data it uses to improve patient care and safety and to conduct research.

The intent is to strengthen data collection and systems, reporting and research to further improve the quality of anesthesia care and patient safety within the department and in anesthesia departments across Canada by going beyond the established high standards for anesthesia care and safety.

The department collaborated with other clinical departments, Capital Health, the IWK Health Centre and with funders and suppliers to make 2012-2013 a banner year for new equipment.

While quality assurance is a significant contributor to providing the best possible anesthesia care, so too is the right equipment. Anesthesia, Pain Management and Perioperative Medicine collaborated with other clinical departments, Capital Health, the IWK Health Centre and with funders and suppliers to make 2012-2013 a banner year for new equipment.

Anesthesiologists at the IWK Health Centre are now using a fleet of new anesthesia machines in the operating rooms. The machines, which represent the latest in medical technology, were selected via a proposal process that included a review by a number of staff anesthesiologists. The pediatric and women's & obstetric anesthesia teams worked with the IWK's biomed and IT departments to acquire and install the machines.

Computerized pharmacy dispensing stations are also new to the operating rooms at the IWK. In early 2013, anesthesia carts, which house anesthesia tools and drugs, were replaced with Pyxis OR Pharmacy Dispensing Stations through a co-initiative with the IWK's pharmacy department. The dispensing stations provide a more stream lined individual record of narcotic administration and help Pharmacy to monitor the use and inventory of non-controlled medications.

New airway equipment carts were installed in the post anesthesia care units at the QEII Health Sciences Centre. The equipment

includes a video laryngoscope to help with difficult airway situations. Also at the QEII, the cardiac anesthesia and cardiac surgery teams are using new ultrasound machines in the operating rooms and intensive care units at the Halifax Infirmary site. The integrated ultrasound system is being used for transesophageal echocardiography and guided central line placements.

One of the consistent factors in acquiring the new medical equipment is the necessity to work with others and fulfill the appropriate role. In some cases, Anesthesia, Pain Management and Perioperative Medicine took the lead in identifying the need, determining and meeting budgetary requirements, and working through the procurement process. In others, it played a more supportive role.

The successful acquisition of substantial new equipment in 2012/2013 is a testament to the department's collaborate-first approach.

The department's support of the QEII's OR Executive Committee emulates the same principle. The committee is chaired by anesthesiologist, **Dr. Ian Morris**, Associate Clinical Chief, VG Site, and has included anesthesiologists from its beginning.



As a contributor to the committee, Anesthesia, Pain Management and Perioperative Medicine has provided extensive input into the committee's recommendations for changes, and the anesthesia team was instrumental in helping to achieve its budget goals (*more about the OR Executive Committee on page 17*).

Highlights in 2012/2013 also include cardiac anesthesia's involvement in making Transcatheter Aortic Valve Implantation available at the QEII beginning in September 2012 and in designing the necessary operating room/laboratory space for the procedure (*read more on page 21*).

The acute pain service expanded a process to identify and support patients who are highly tolerant of opioids. Through the service, patients awaiting surgery are assessed for their tolerance to opioids by staff of the pre-admission clinic. If the patient's tolerance of opioids is deemed high, the acute pain service is contacted to support the patient and ensure the best possible control of the patient's pain during and after surgery. The acute pain service implemented the process at the VG site of the QEII in 2010 and expanded it to the HI site in 2012 as a result of positive feedback from patients, physicians and nurses. The acute pain service is currently exploring ways to study the impact of the process.

24/7 Airway Coverage at the VG Site, QEII Health Sciences Centre

By Mary Jane Webber, Capital Health; Excerpts from *Capital News*



The Code Blue Team at the VG site of the QEII grew in November 2012 with the addition of anesthesia assistants. For the past several years since the reallocation of services, there was limited coverage for a timely response to airway emergencies on site after 5 p.m.

"These individuals will contribute significantly to enhancing our patient safety efforts on a 24/7 basis," explains **William Hill**, Manager. *"Anesthesia assistants are very well trained and prepared to support resuscitation activities, particularly airway management. This around-the-clock coverage will also give further support to operating rooms and the post anaesthetic care unit (PACU) activities after hours."* There are currently 10 full-time anesthesia assistants.

Anesthesia assistants have been part of Capital Health for more than 10 years. They are specially trained respiratory therapists who provide anesthesia care including the insertion of intravenous lines, arterial lines, and administration of intravenous drugs. They also provide airway management and assessment under the supervision of an anesthesiologist. In addition, they relieve anesthesiologists by observing stable patients in the operating room to allow for breaks, combating fatigue and thus increase patient safety, especially during long surgeries.

"This extra set of hands allows the operating rooms to function continuously throughout the day and positively influences patient flow," says Hill. *"We now have the right people on standby at the bedside to be available in a timely manner. This is already having a very positive impact."*



Patient Care by the Numbers • 2012-2013

Service Delivery

In 2012-2013, anesthesiologists provided anesthesia care for more than 49,000 procedures at the **QEII Health Sciences Centre**, the **IWK Health Centre**, the **Saint John Regional Hospital**, the **Dartmouth General Hospital** and the **Hants Community Hospital**.

Within the Anesthesia specialty, there exists a number of subspecialties for which anesthesiologists receive extended skills training to provide the necessary anesthesia care.

Department of Anesthesia subspecialty areas include:

- Anesthesia for liver, kidney and kidney pancreas transplantation
- Blood management
- Cardiac anesthesia
- Neuroanesthesia
- Pain management
 - Chronic
 - Acute, including regional block
- Pediatric anesthesia
- Thoracic anesthesia
- Women's & Obstetric anesthesia

A great majority of the anesthesia care provided for the 49,000 annual procedures was performed at the QEII Health Sciences Centre and IWK Health Centre. The following is a breakdown of OR procedures by anesthesia subspecialty area for the 2012-2013 fiscal year:

Anesthesia for liver, kidney and kidney/pancreas transplantation	116
Cardiac anesthesia	2,047
Neuroanesthesia	1,004
Pediatric anesthesia	5,085
Thoracic anesthesia	825
Women's & Obstetric anesthesia	3,767

In addition to the surgical procedures represented above, tens of thousands of others performed during the 2012-2013 fiscal year required general anesthesia support. Those include orthopaedic surgeries (5,982), ENT (ear, nose, throat) surgeries (1,681), ophthalmological (eye) surgeries (7,162), urological surgeries (6,577) and others.

Outside of the OR, two of the Department of Anesthesia's largest services are **Blood Management Services** and **Pain Management Services**. Here is a breakdown of their numbers:

Blood Management Services

New patient consults, QEII Health Sciences Centre and IWK Health Centre (adults)	311
Patient visits	1,533

Pain Management Services (Adult)

Acute inpatient consults at the QEII Health Sciences Centre	1,182
Regional blocks performed at the HI Site, QEII Health Sciences Centre	2,185
Chronic pain inpatient consults at the QEII Health Sciences Centre	82
Patients seen by the chronic pain team (QEII: 4,234, Dartmouth General Hospital: 2,467, Hants Community Hospital: 691)	7,392
New referrals to the chronic pain team	1,150



Investigator-Initiated Clinical Trials

The research landscape in Canada and around the world is changing. Investigators and public and private organizations are coming together more often and in more ways to advance health research. Anesthesia, Pain Management and Perioperative Medicine is adapting to the broader shift underway.

Here we illustrate the efforts of two department members and the department's Office of Research to launch investigator-initiated multi-site clinical trials that are publicly and privately funded.

Unlike studies that are initiated and sponsored by industry, investigator-initiated studies require the investigator to bear full responsibility for the clinical trial. This includes managing the complex regulatory process leading up to its start and throughout the conduct of the trial.

Two large-scale clinical trials initiated by **Drs. Mary Lynch** and **Myron Kwapisz**, supported by **Sara Whynot**, Research Facilitator, and **Heather Butler, PhD**, Managing Director of Research, required approximately two years each to be shepherd through Health Canada's research regulations. In so doing, the researchers and the department established new relationships with local and national stakeholders, broadening the department's network of collaborators.

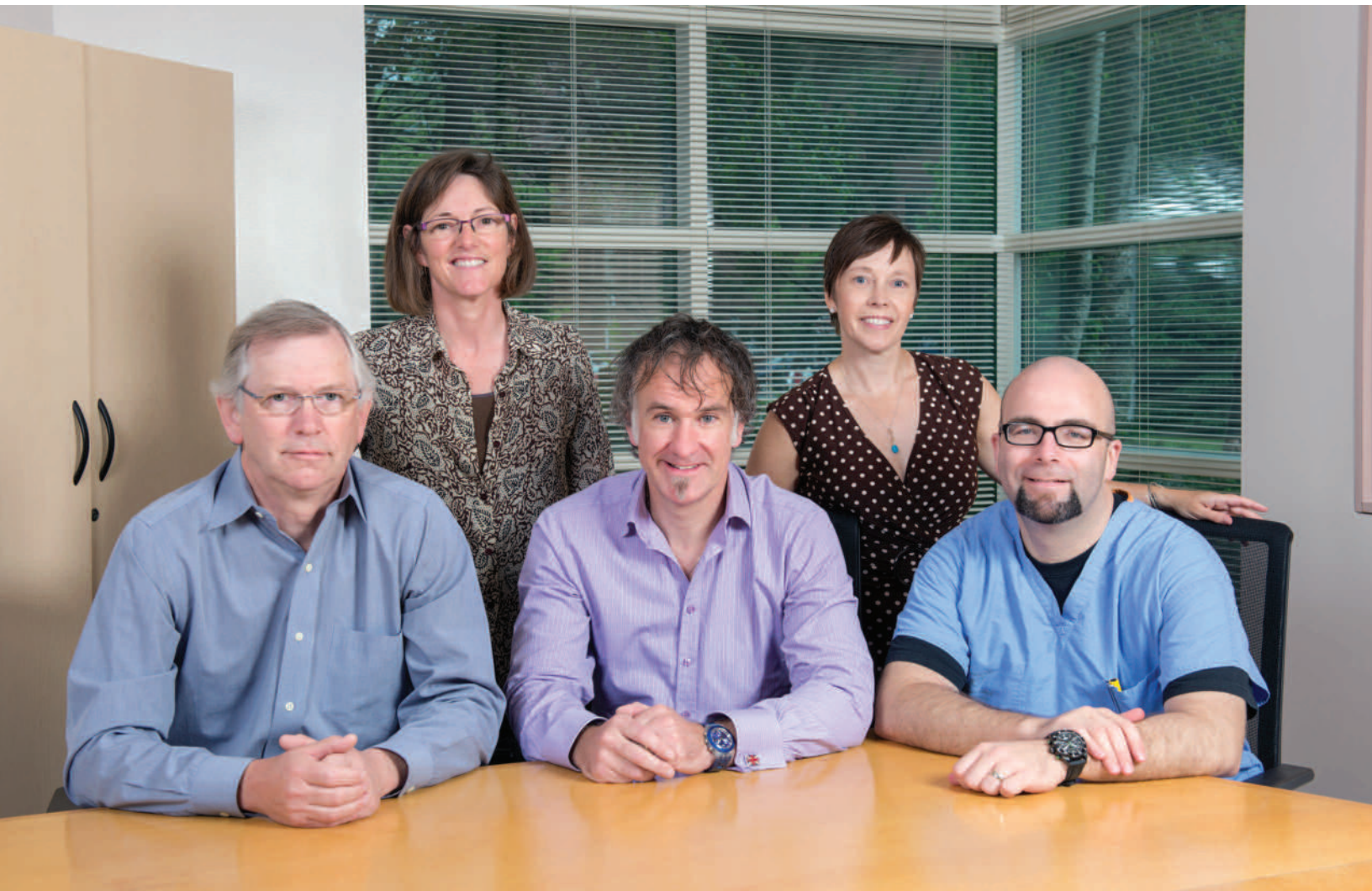
Dr. Lynch's and Dr. Kwapisz's studies are the most recent externally funded investigator-initiated clinical trials to be successfully launched in the Department of Anesthesia, Pain Management and Perioperative Medicine.

"We liaised with Health Canada, Capital Health, research colleagues at academic health centres across Canada, and public and private funders. The networks established by the successful launch of these projects have enabled us to share our expertise and become a resource for other researchers at both Capital Health and Dalhousie," notes Ms. Whynot.

Dr. Lynch's study will examine whether *methadone* effectively and safely treats chronic neuropathic pain. Current treatments are often expensive, inadequate and accompanied by side effects. The study will involve three trial sites and will recruit a total of 135 patients.

Dr. Kwapisz's study will assess the effectiveness of administering concentrated *fibrinogen* to slow or stop bleeding that sometimes follows complex cardiac surgery. *Fibrinogen* is a protein that causes blood to clot. The study will recruit a minimum of 220 patients and hopes to involve a second site in the future.

"We are actively broadening our network of collaborators and reaching out to many stakeholders to continue to grow and strengthen research and innovation in the department," says Dr. Butler. *"Investigator-initiated clinical trials are still a new arena for us. Moving forward with Myron and Mary's studies enabled us to forge new relationships."*



Strength in Numbers: Dalhousie Pain Institute

Working under the premise that there is strength in numbers, **Drs. John Clark, Christine Chambers, PhD, Ron George, Mary Lynch, and Jason McDougall, PhD,** and twenty or so others in disciplines across Dalhousie are spearheading a Dalhousie Pain Institute, and they are gaining momentum.

“Our focus is to organize ourselves – that is researchers, clinicians, educators and others who have an interest in the study of pain – via a formal institute to encourage and facilitate more interdisciplinary research collaboration and to increase the quantity and quality of education about pain in the academic health sciences sector and among citizens,” says Dr. Clark, Director, Pain Management Services. *“The overall goal being better prevention, diagnosis, treatment and management of pain.”*

One in five Canadians have or will experience chronic pain and all Canadians have or will experience acute pain. Despite this, pain is not well understood here or around the world and as a result, it is not well treated.

Dr. Clark and his collaborators believe the creation of a Dalhousie Pain Institute would give them and the many other members of the institute a better opportunity to contribute to the world's understanding of pain.

“We are far from a done deal, but planning is well underway and we have the support of the research and clinical community at Dalhousie whose members came together in 2012 and again in early 2013 to create the institute’s vision, mission and priorities,” says Dr. Clark.

The many collaborators achieved consensus on the institute's foci. The institute and its members will develop:

- Research activities, initiatives and projects that are interdisciplinary, collaborative and contribute to population health and well being
- An interdisciplinary information management strategy linking various stakeholders and generating data to inform decision making
- Communications strategies that engage and inform all stakeholders, build community and establish a public profile
- A governance structure that reflects stakeholder diversity and supports and aligns with the team's vision and mission

Dr. Clark and his collaborators expect to sustain momentum in part because their work is supported by and complements local and national research agendas. As examples,

Dalhousie University's 2013 strategic plan identifies pain research as a priority and Dalhousie Faculty of Medicine's strategy emphasizes building capacity to mount large, nationally competitive research initiatives. The Nova Scotia government identified pain as a priority and the Nova Scotia Health Research Foundation has a mandate to improve the health of Nova Scotians through research that makes significant impacts on the physical and mental health of the thousands of families who are negatively affected by acute and chronic pain.



Collaboration in Research

Anesthesia, Pain Management and Perioperative Medicine reached two particular milestones in 2012-2013 that reflect its collaborative efforts to grow and strengthen research in the department. **Dr. Mary Lynch**, Director of the QEII Pain Management Unit, and **Dr. Myron Kwapisz**, staff anesthesiologist, launched large, investigator-initiated, multi-site clinical trials in early 2013. Perseverance, collaboration and a healthy dose of patience were critical to getting the studies underway (*more on page 29*).

The department has adopted the same recipe for growing and strengthening its research efforts, which is generating increasingly positive results year over year. For instance, department member publications increased from 109 in 2011 to 131 in 2012 and the number and value of grants and industry contracts continues to climb. Grant funded research totaled \$2.1M in 2012 as compared to \$1.8M in 2011. The total value of grants and industry contracts reached \$2.3M in 2012.

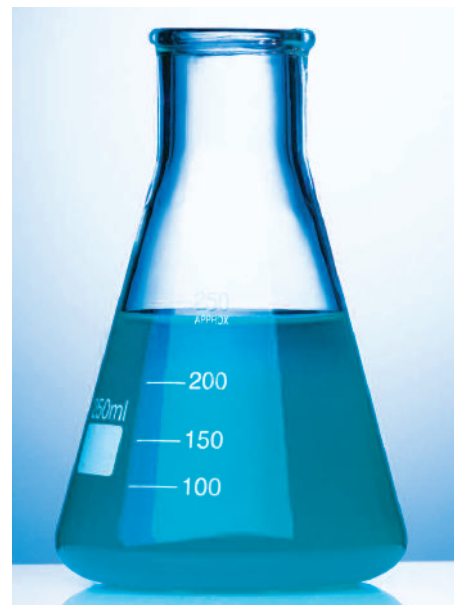
Planning for the Dalhousie Institute for the Study of Pain got a boost from Dalhousie's first Pain Day and institute strategic planning session. **Dr. John Clark**, **Jason McDougall, PhD**, **Dr. Mary Lynch** and **Dr. Ron George**, part of the Anesthesia, Pain Management and Perioperative Medicine research team, and their colleague **Christine Chambers, PhD**, Departments of Pediatrics and Psychology,

spearheaded the events. The group is also championing the institute with twenty or so others in disciplines across Dalhousie.

The Dalhousie Institute for the Study of Pain is intended to encourage and facilitate more interdisciplinary research collaboration to increase the quantity and quality of education about pain in the academic health sciences sector, and improve knowledge and understanding among citizens (*more about the institute and strategic planning on page 31*).

Pain Day, which was funded through a grant from the Dalhousie Faculty of Medicine, included a presentation by **Dr. Roger Fillingim**, President of the American Pain Society, 35 poster presentations, and a reception designed to encourage networking among researchers and clinicians from all areas of Dalhousie with an interest in pain.

The Women's Pain Multidisciplinary Research Group recently received notice of its successful Nova Scotia-CIHR Regional Partnership Program application. This project will describe the prevalence and course of development of genito-pelvic pain through pregnancy and postpartum and determine the influence of biological, psychological, and social variables on women's genito-pelvic pain and associated sexual and psychological difficulties. This is an exciting juncture in the development of the Research Group.



The department's Perioperative Research Team (PORT) lab opened in early 2013. It is the first basic science laboratory at Dalhousie University to be championed by the department. The lab was designed specifically for multi-team pre-clinical research to improve patient care. The PORT research space is true to the department's focus on multi-disciplinary, collaborative research. Lab users and the space they are assigned are selected based on the collaborative nature of the research project(s).

Anesthesia, Pain Management and Perioperative Medicine supported the first International MIDAS Microcirculation Meeting (3M), chaired by department member, **Dr. Christian Lehmann**, in 2012. Dr. Lehmann's many research efforts with investigators at Dalhousie and universities and health centres around the world led to the unique meeting. Proceedings from the meeting discussions will be published in *Clinical Hemorheology and Microcirculation*.

The department's emphasis on collaboration extends beyond individuals and teams to building relationships and establishing partnerships with organizations.

Together with the Dalhousie Medical Research Foundation, the department established the *Dr. Thomas Coonan Summer Research Studentship in Anesthesia, Pain Management and Perioperative Medicine*. **Dr. Thomas Coonan** is a Professor of Anesthesia at Dalhousie University who has dedicated most of the last 38 years to medical education and improving patient outcomes. The studentship provides funding for a student in first or second year medical school to participate in research projects being conducted by members of the department. The first award-ee is **Nada Ismaiel**. Nada is working with **Dr. Dietrich Henzler** to investigate the effects of protective ventilation and hypercapnia.

The winter 2013 edition of Capital Health's *Research Focus* publication featured anesthesia research for the first time. The pub-

lication, which is produced by Capital Health Research Services, is distributed to researchers at Capital Health, Dalhousie University, the IWK Health Centre and other organizations across Canada, granting and funding agencies, and research donors. As a follow up to the department's research being featured in the publication, anesthesia research will be the subject of a display at the QEII Health Sciences Centre beginning fall 2013.

One of the department's strategic priorities is to increase its relationships and partnerships with stakeholders. We have intensified our efforts to connect with stakeholders such as Dalhousie University's Industry Liaison and Innovation Office, the Nova Scotia Health Research Foundation, Hammock Facilitation, research services at Dalhousie, Capital Health and the IWK Health Centre and potential partners such as other departments of anesthesia nationally and internationally.

Granting and funding agencies have set standards and prerequisites for collaborative research teams. As this trend continues and researchers build multidisciplinary, multi-site research teams to undertake large-scale studies, such as those initiated by **Drs. Mary Lynch** and **Myron Kwapisz**, the necessity for organizational collaboration will grow. Anesthesia, Pain Management and Perioperative Medicine wants to and will continue to be in a position to capitalize on opportunities that emerge as a result.

Discovery & Innovation

There is a growing interest in the commercialization of medical technologies and new discoveries among researchers and clinicians alike in the Department of Anesthesia, Pain Management & Perioperative Medicine.

Drs. Orlando Hung and **Andrew Milne** are working with **Matt D'entremont**, an engineer at Dalhousie, to develop new devices to make patients even safer – starting with the breathing tube.

Once patients are under general anesthesia in preparation for surgery, anesthesiologists have just two or three minutes to place the ventilation tube in the patient's airway.

To ensure the breathing tube can be placed accurately and quickly, Drs. Hung and Milne are working with an engineer from Dalhousie's Innovations in Design Lab to develop the next generation of a device called the *Light Wand*.

The device is fitted with a light that can be seen through the skin when it is placed properly. If the anesthesiologist isn't able to see the light, they know the breathing tube was not placed accurately. They can then remove it and place it again without losing much time.

Anesthesia Research Day 2013 Winners



Drs. Bould and Shukla presenting awards to Dr. Karim Mukhida and Nadia Al-Banna, PhD.

Dr. Dylan Bould, MB ChB, MRCP, FRCA, Med. (*keynote speaker*) is a member the Department of Anesthesiology at the University of Ottawa where his research program focuses on simulation-based medical education and includes an ongoing multi-centre study on simulation for the purposes of assessment.

1st Prize – Resident/Fellow Category

Dr. Chris Hinkewich, *The impact of etomidate on mortality in trauma patients* (**Dr. Chris Hinkewich** went on to win the *Best Overall Research* award at the Dalhousie Faculty of Medicine Resident Research Awards 2013)

2nd Prize – Resident/Fellow Category

Dr. Karim Mukhida (*picture top left*), *Historical intersections between anesthesiology and neurosurgery: Wilder Penfield's German experiences and the development of awake craniotomy anesthesia and surgical techniques*

1st Prize – Student Category

Nadia Al-Banna, PhD, (*picture bottom left*) *In vivo evaluation of the safety and tolerability of a novel iron chelater in ocular tissue*

2nd Prize – Student Category

Jaclyn DesRoches, *Microcirculation of pregnant women before and after epidural.*

Awards

Congratulations to Jill Chorney, CPA Award Winner



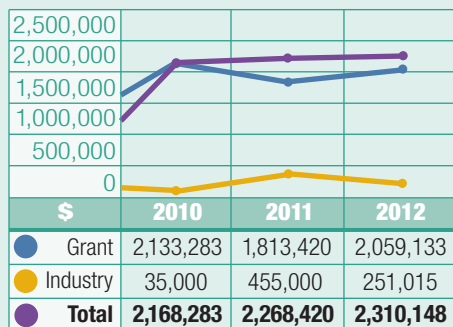
Jill Chorney, PhD, is the 2012 recipient of the Canadian Psychological Association's *Scientist-Practitioner Early Career Award*.

The award recognizes members who, within their first 10 years of practice, exemplify the integration of clinical practice and training and psychological science and research.

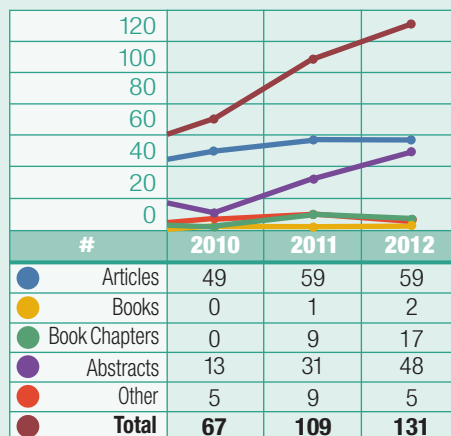


A Snapshot of Research Excellence

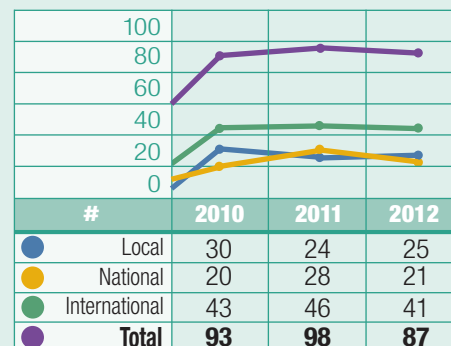
Research Funding



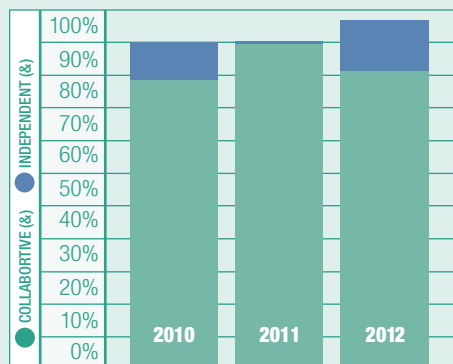
Publications



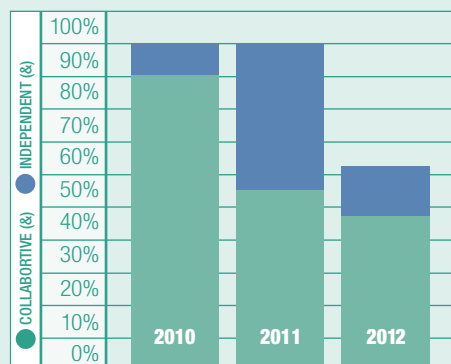
Presentations



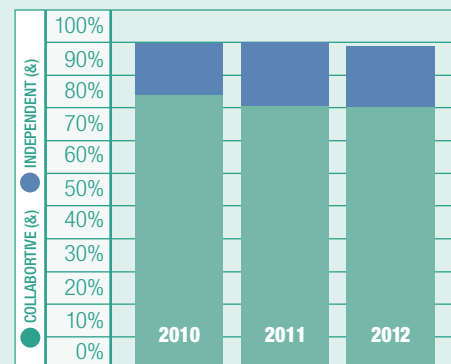
Collaborative Publications



Collaborative Research Projects



Collaborative Publications & Projects





Anesthesia Re-enters Third Year Medical School Curriculum

Students in their third year of medical school will soon have the option of spending a week in the Department of Anesthesia, Pain Management and Perioperative Medicine as part of Dalhousie's undergraduate curriculum. The opportunity will enable them to gain anesthesia knowledge and hands-on experience, and may influence their future choice of a desired medical discipline.

Dalhousie's Undergraduate Medical Education Office approved the anesthesia selective in 2012. The approval was granted thanks to ingenuity and collaboration.

*"After we were unsuccessful with two initial proposal submissions, we approached **Drs. Sam Minor**, Undergraduate Education Coordinator, Critical Care, and **Neil Finkle**, Director of Undergraduate Education, Department of Medicine, for support. We then developed a joint proposal that would allow students to spend one or more weeks in anesthesia as part of their critical care rotation," says **Dr. Ben Schelew**, Director, Undergraduate Medical Education, Anesthesia, Pain Management & Perioperative Medicine. "We also raised the issue with Dalhousie's Dean of Medicine at our strategic planning session so that he was aware of the status of our proposals."*



The joint proposal was later accepted. Beginning in the 2013-2014 academic year, *Med III* students who choose a four-week critical care rotation, will be exposed to one week of Anesthesia.

"This is a start. We hope to extend the rotation to two weeks in future," notes Dr. Schelew.

The anesthesia selective will draw one to two medical students into the department at any given time enabling students to be exposed to anesthesia before the critical fourth year of medical school when they choose a medical discipline.

"We expect the change will help increase the number of students who consider anesthesia as a specialty of choice," says Dr. Schelew.

Students in their third year of medical school will soon have the option of spending a week in the Department of Anesthesia, Pain Management and Perioperative Medicine as part of Dalhousie's undergraduate curriculum.



Curriculum Mapping & Renewal

Anesthesia, Pain Management and Perioperative Medicine is attracting attention with its curriculum mapping and renewal initiative.

The project has so far earned a \$20,000 grant through Dalhousie University's Academic Innovation Funding Program, an invitation to present at Dalhousie's symposium on medical/health professions education, and an invitation to present at the 2013 Royal College of Physicians and Surgeons of Canada International Conference on Residency Education.

The initiative, which began in 2012, is the Department's first effort to review and revise its postgraduate education curriculum in a strategic and comprehensive way. It was prompted by the Royal College of Physicians and Surgeons of Canada accreditation process, which the department successfully completed in early 2012.

Drs. Janice Chisholm, Director, Postgraduate Medical Education, and **Patty Livingston**, Medical Director, Global Health, Anesthesia, Pain Management and Perioperative Medicine, lead the project with the support of a curriculum renewal committee.

The curriculum mapping and renewal initiative's successes to date, which include being on-schedule and on-budget, are due, in large part, to the collaborative nature of the work. From its outset, Drs. Chisholm and Livingston

decided on co-leadership and assembled a curriculum renewal committee, which includes resident and faculty department members and education consultants from Dalhousie's Faculty of Medicine and Acadia University.

The curriculum renewal committee was charged with:

1. Redesigning the anesthesia postgraduate education curriculum so that its outcomes better align with those prescribed by the Royal College of Physicians and Surgeons of Canada and assist in the transition to competency based medicine.
2. Defining the Entrustable Professional Activities (the knowledge, skills, and attitudes necessary for consultant-level practice applied in variable clinical environments) that are expected of anesthesia residency graduates.
3. Applying custom-designed mapping software to meaningfully connect the learner with program content and flow.

The revised curriculum was launched July 1 with the start of the 2013-2014 academic year. It employs a spiral design whereby topics are penetrated more deeply with each iteration and includes:

- short courses that cover basic practical details (*orientation*)
- a one-year course to teach the fundamentals of anesthesia practice (*foundation*)
- resident-led sessions that cover practical evaluation and management of anesthesia emergencies (*problem rounds*)
- a two-year course investigating the body systems and how multiple disease states impact anesthesia practice (*core*)
- a course to integrate multiple components of anesthesia to prepare for consultant level practice (*review*)

"In the late summer through fall our focus will shift to implementing and evaluating the initiative and subsequently the new curriculum," says Dr. Chisholm. "The initiative will be evaluated through a research project designed to assess the curriculum review process and the impact of the revised curriculum and mapping software on learners and instructors."



First of a Lifetime Experience: Anesthesia Residents from National University of Rwanda Complete Observership

Dr. Isaac Nshimyumuremyi and Dr. Gaston Nyirigira undertook a 14-week observership in Anesthesia, Pain Management and Perioperative Medicine in early 2013.

The two anesthesia residents from the National University of Rwanda spent many hours observing anesthesia care in operating rooms and in clinics, participating in academic days, presenting at the Bethune Roundtable in Vancouver, and enjoying various cultural and social events with new and old friends in Halifax. They were here to see how anesthesia care is delivered, to learn more about the specialty, and to experience healthcare in a developed country. **Megan Chipp**, Academic Coordinator, was instrumental in ensuring that all attributes of the observership program were achieved.

"Here we see that patients – all people – are treated with such respect. There is a way that doctors and patients talk with one another, and people talk with one another, treat each other, that is very real, very accepting, very kind. If I take nothing more home with me than this learning, the trip will have been worth it," says Dr. Nshimyumuremyi.

Drs. Nshimyumuremyi and Nyirigira are the third pair of anesthesia residents who have come to Halifax since 2010. The two will share

their experiences and learning upon their return to Rwanda as have their colleagues. They are now a part of an ongoing connection between our department and Rwanda – whether through research projects, the simulation and skills centre, or working with the department's staff and residents when they teach in Rwanda.

The observership was directed by **Dr. Patty Livingston**, Medical Director, Global Health and organized by Megan Chipp, Academic Coordinator, who helped ensure all attributes of the observership program were achieved. It was made possible through a partnership with the Canadian Anesthesiologists' Society International Education Foundation (CASIEF).

Dr. Franco Carli, President, CASIEF, and **Dr. Angela Enright**, President, World Federation of Societies of Anaesthesiologists, shared the following in response to Dr. Livingston's efforts and the accomplishments of Drs. Nshimyumuremyi and Nyirigira:

Dear Patty;

This is wonderful! Thanks so much for all the hard work you have put in supervising and training Gaston and Isaac. It is truly a blessing having you so involved in this endeavor and all my colleagues of CASIEF and I are very proud to have you leading the Rwanda project. It

is clear that you and your colleagues at Dalhousie have taken this project at heart and the results are obvious. Two more Rwandan residents are returning to Rwanda with great strength and self confidence to build a group of outstanding individuals who are leaders of anesthesia in Rwanda. I have no words to say how grateful I am for your enthusiasm and so much dedication.

Franco

Francesco Carli, MD, MPhil, FRCA, FRCPC
Professor of Anesthesia, McGill University

Congratulations to all at Dalhousie and to Gaston and Isaac on a very successful rotation. I am sure that Gaston and Isaac have had a wonderful experience and will be charged up to finish their residency and join the consultant staff in Rwanda. They will be able to inspire the other Rwandan residents. Equally they will have inspired the Dalhousie residents who realise what a great programme they have and how lucky they are, and we all are, to have all the facilities and training we have in Canada.

Well done team.

Angela

Milestone for Rwanda: First Simulation & Skills Centre Opens



Dr. Patty Livingston, Medical Director of Global Health, led the planning and development of the Faculty of Medicine Simulation and Skills Centre at the National University of Rwanda. The centre opened in early 2013. Senior clinicians and residents from the National University of Rwanda departments of anesthesia, surgery, emergency, and obstetrics and gynecology are now able to teach everything from simple skills to team management of emergencies in the centre. The centre has hosted more than 500 learners since February 2013.

Dr. Livingston received a Rising Stars in Global Health grant from Grand Challenges Canada in 2012 to help fund the project, which is multi-pronged and includes research and evaluation components.

A former colleague of Dr. Livingston, **Dale Morrison**, provided early inspiration for the project. Dale travelled to Rwanda as an anesthesia assistant in the Department of Anesthesia in 2009 to help teach nurse anesthetists and residents how to use and repair equipment. He fell in love with the region and its people, and planned to return with a vision to help support simulation education. Dale died suddenly in June 2010 before he could return.

Dr. Livingston's achievements are the result of a strong multi-disciplinary, international team that includes:

Prof. Patrick Kyamanywa (Dean, Faculty of Medicine, NUR), **Dr. Georges Ntakiyiruta** (Medical Director of FOMSSC, Chair of Surgery, NUR), **Dr. Christian Mukwesi** (Anesthetist, Assistant Medical Director, FOMSSC), **Dr. Peter Brindley** (Division of Critical Care Medicine, Edmonton), **Michelle Murray** (Coordinator, Skills Centre for Health Sciences, Halifax), **Dr. David Kirkpatrick** (Chair, Department of Surgery, Dalhousie), **Dr. Jon Bailey** (Surgery resident, Dalhousie), **Dr. Lauren Zolpys** (Anesthesia resident, Dalhousie) and **Dr. Terri Skelton** (Anesthesia resident, University of Toronto, and MPH candidate, Harvard).



Education

The education portfolio encompasses undergraduate medical education, postgraduate medical education, fellowships, continuing professional development, mentorship, simulation, global health, and promotion and tenure.

This inclusive education portfolio puts Anesthesia, Pain Management and Perioperative Medicine in the advantageous position of coordinating all education efforts, resulting in outstanding educational programs and initiatives at all levels.

The department reached a number of significant milestones in education in 2012-2013, many of which could not have been achieved were it not for collaborations within the department, with other academic departments, and with other stakeholders.

For example, the curriculum mapping and renewal initiative advisory committee includes faculty, residents and experts in education from Dalhousie and Acadia universities. The department reestablished a presence in Dalhousie's third-year medical education curriculum by working with Critical Care. As well, all of the department's efforts in global health are undertaken in partnership with others such as the Canadian Anesthesiologists' Society, the National University of Rwanda and Dalhousie University.

The department continues to seek opportuni-

ties to collaborate with stakeholders at Dalhousie, Capital Health, the IWK Health Centre and beyond in areas such as simulation, skills training, faculty development and global health. Actively exploring new partnerships will help the department to offer many and varied education opportunities to anesthesia members and their colleagues in other disciplines.

The department reached a number of significant milestones in education in 2012/2013:

- Launched a curriculum renewal initiative that reviewed and assessed all of the department's postgraduate education offerings and made recommendations for further aligning the postgraduate program with outcomes set by the Royal College of Physician and Surgeons of Canada
- Reestablished a presence in the third year undergraduate medical curriculum at Dalhousie with an Anesthesia Selective as part of the critical care rotation
- Accepted its first clinical fellow in women's and obstetric anesthesia
- Facilitated a 14-week observership for two residents from the University of Rwanda and a one-week rotation for five paramedicine students from Holland

College in Prince Edward Island

- Introduced a new model, Multiple Mini Interviews, for interviewing prospective anesthesia residents. Interviewed 76 residents for the department's six available spots in 2013/2014
- Launched a resident mentorship program that matches senior and junior residents together for peer mentorship, and senior residents with staff mentors for career mentorship
- Implemented the Anesthesia Learner Scheduling Application to record and track the education activities of all learners

In 2012-2013, the department also:

- Graduated eight residents, five of whom stayed in Nova Scotia to practice anesthesia
- Guided four fellows through airway, regional and acute pain, women's & obstetrics, and pediatric fellowships
- Continued providing counsel and administrative support to create a new simulation centre at Capital Health
- Provided educational experiences to a record number of nursing students and nurses

Education (cont'd)

- Through its Global Health Office, led the coordination and delivery of the SAFE Obstetrical Anesthesia Course for 116 anesthesia providers from across Rwanda. The course was a collaborative effort between various international agencies.
- Offered two Grand Rounds jointly with the Department of Surgery
- Appointed **Dr. Dolores McKeen** as Associate Program Director, Postgraduate Medical Education, replacing **Dr. George Kanellakos**, and **Dr. Narendra Vakharia** as Medical Director, Education, effective July 1, 2013. **Dr. Romesh Shukla**, Head & Chief, Anesthesia, Pain Management and Perioperative Medicine, served as interim Medical Director in 2012-2013

Teaching Awards (Presented December 2012)

Dr. Ana Sjaus, Clinical Teacher of the Year
Dr. Jennifer Szerb, Undergraduate Teacher of the Year
Dr. William Gallacher, Mentor/Role Model of the Year
Dr. George Kanellakos, Resident Advocate of the Year

Teaching Awards (Presented June 2013)

(Pictured clockwise from top left)

Dr. Shawn Hicks, Clinical Teacher of the Year

Dr. Matthew Simms, Undergraduate Teacher of the Year
Dr. André Bernard, Mentor/Role Model of the Year
Dr. Janice Chisholm, Resident Advocate of the Year

Promotions

Six department members were promoted in 2012-2013. Congratulations to:

Dr. Janice Chisholm, Associate Professor
Dr. William Gallacher, Professor
Dr. Sam Minor, Associate Professor
Dr. Matthew Simms, Assistant Professor
Dr. Arnim Vlatten, Associate Professor
Juan Zhou, PhD, Associate Professor

2012 Graduating Residents

(Pictured right ((l to r)) with Dr. Janice Chisholm, Director, Postgraduate Medical Education, and Dr. George Kanellakos, Associate Director, Postgraduate Medical Education ((2012))

Dr. Steven Petrar
Dr. André Bernard
Dr. Shannon Bradley
Dr. Brady Warnick
Dr. Parvinder Sodhi
Dr. Robert Doyle
Dr. Chris Hinkewich
Dr. Marcus Peck



Education by the Numbers • 2012 - 2013 Academic Year

Undergraduate

Undergraduate Learners 99

99 medical students in 11 cities and towns

Halifax	68	Amherst	1
Moncton	8	Bridgewater	1
Saint John	5	Dartmouth	2
Sydney	5	Kentville	1
Charlottetown	4	Truro	1
Fredericton	3		

124 learners from disciplines other than medicine, including nursing, paramedicine, respiratory therapy

Respiratory Therapy	34
Nursing	33
Advanced Care Paramedicine	23
Anesthesia Technicians	2
Other	32

Anesthesia Elective Course Participation

Year 1 course: 13 medical student participants
Year 2 course: 14 medical student participants

Dalhousie Medical Student Shadow Day Participants 10

Summer Medical Students

Halifax 7 Moncton 3

Number of Department Member Undergraduate Tutors at Dalhousie Med School

16 Tutors 619 hours

Postgrad

Number of residents

PGY 1	4	PGY 4	6
PGY 2	4	PGY 5	4
PGY 3	5		

Number of fellows 4

Postgraduate off-service/elective rotations

Halifax, QEII Health Sciences Centre
37 residents Total weeks: 164

Halifax, IWK Health Centre
7 residents Total weeks: 28

Dartmouth, Dartmouth General Hospital
1 resident Total weeks: 4

Saint John, Saint John Regional Hospital
5 residents Total weeks: 20

Moncton, The Moncton Hospital
2 residents Total weeks: 8

Number of Applicants to Residency Program

Canadian Medical Graduates 114

International Medical Graduates 105

Continuing Professional Development

Number of Grand Rounds 30

Faculty Speakers 10 Fellow Speakers 3
Resident Speakers 10 Visiting Professors 7

Number of M&M Rounds 9

Number of Journal Club 6

Number of other CME and/or Events 10

Financial Overview 2012-2013

The Department of Anesthesia's operational funding for 2012-2013 totalled \$30,757,169 for the provision of clinical services at Capital Health and the IWK Health Centre, as well as teaching and research as part of Dalhousie University.

ADMIN – OPERATING 2.2%

ADMIN – SALARIES 3.5%

CLINICAL PAYMENTS 83.3%

RESEARCH 6.7%

EDUCATION 3.4%

GLOBAL HEALTH 0.3%

ASPENS 0.1%

PAIN 0.6%

