



**Submitted by:**  
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## ABOUT THIS DOCUMENT

The document is a self-study of the Bachelor of Science Physician Assistant (BScPA) Professional Degree Program in the Department of Family and Community Medicine, Faculty of Medicine, at the University of Toronto, prepared as part of the University of Toronto Quality Assurance Process (UTQAP).

UTQAP outlines the procedures for the assessment of academic programs. This is a provincial initiative to review standard indicators of academic excellence, and was implemented in 2012, as part of the Ontario Universities Council on Quality Assurance. At the institution level, this self-study represents the first comprehensive submission for the BScPA program. The Department of Family and Community Medicine completed their first UTQAP review in 2012, at the time when the BScPA program was very new, and only a small portion of the self-study. The next scheduled DFCM UTQAP review is in 2021-22. It was thus determined that the BScPA program have its own review in 2017-2018 and not wait until the Department's next UTQAP review.

The University of Toronto is committed “to being an internationally significant research university, with undergraduate, graduate, and professional programs of excellent quality.” Hence, the University welcomes the opportunity provided by the Ontario Council of Academic Vice-Presidents’ Quality Assurance Framework (QAF)<sup>ii</sup> assigning the responsibility for academic standards, quality assurance and program improvement, in the first instance, to universities themselves. The University of Toronto’s approach to quality assurance is built on two primary indicators of academic excellence: (1) the quality of the scholarship and research of faculty and (2) the success with which that scholarship and research is brought to bear on the achievement of Degree Level Expectations. These indicators are assessed by determining how our scholarship, research and programs compare to those of our international peer institutions and how well our programs meet their Degree Level Expectations. Reviews provide the opportunity to celebrate successes, identify areas where we can do better, and vigorously pursue improvements<sup>1</sup>.

This self-study provides reflection and insights on important information about faculty, curricular organization and delivery, student experience, infrastructure, and metrics of research and student success. Content is provided both in this report and in non-confidential and confidential appendices that follow.

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<sup>1</sup> University of Toronto Quality Assurance Process (UTQAP). Sept 21, 2012. *Available at:* <http://vpacademic.utoronto.ca/wp-content/uploads/2015/08/utqap.pdf>

## EXECUTIVE SUMMARY by the Medical Director



*Inaugural Class of 2011, Welcome Ceremony, Michener Institute, January 2010*

This self-study of the Bachelor of Science Physician Assistant program provides an overview of the Physician Assistant profession, the faculty, the academic program including quality indicators, and the associated scholarship. Information and reflections on the organizational and financial structure, academic services, and stakeholder relationships, including alumni are also provided. We include recommendations for future directions on how we can progress further. We view this external review as an opportunity to guide the future direction of the program and to provide important insight into opportunities for growth. Reviewers are invited to read the entire report and related appendices to appreciate the full scope of our program.

We train our students to become competent Physician Assistants, embodying the roles of the Medical Expert, Communicator, Collaborator, Health Advocate, Leader, Scholar and Professional. Our greatest pride is the success of our students, and the impact that they make each day on patient care and on our healthcare system in general.

As the founding Medical Director, after 9 years, I see this first self-study UTQAP report is not only a historic reference, but also a path for the future direction. As I prepare for the succession of the role to a new Medical Director, I hope that this report is one of the valuable tools to aid in the transition ahead.

Reflecting on this program, I am truly proud to see the growth, commitment and conscientiousness of our teaching faculty. The dedication, empathy and insights of the educators that I have had the privilege to work with is exemplary. They continually strive towards improving the student experience, and advocating for the PA profession. Recognizing that this program is a product of a small group of incredibly dedicated individuals, I often have to remind myself of how far we have come in the past 9 years. We have produced a robust curriculum, came back from a financial deficit,

restructured the calendar, and established relationships with over 330 clinical sites for student placements. Our faculty and administration are continually open to trying new things, be it embracing the new role of a Program Director, in addition to a Medical Director, or becoming an early adopter to test the University's new learning management system. Our online teaching experience has allowed for faculty involvement at the central University level in academic technologies and online teaching tools. Our leadership within the PA profession nationally has enabled us to impact the University's Interprofessional Education Curriculum and to aid in the establishment of the national PA education association. We continue to collaborate and advocate with The Canadian Association of Physician Assistants (CAPA), from advising on the national competency standards to the future procurement of a new professional accreditation body for physician assistants.

The uniqueness of the BScPA program is that it operates under the support and guidance available through the Consortium of PA Education (Consortium). We established this tripartite Consortium in 2009, with the expectation that the Faculty of Medicine, University of Toronto degree program will be delivered in collaboration with the Northern Ontario School of Medicine (NOSM) and The Michener Institute of Education at UHN<sup>2</sup> (Michener). It was evident from the outset that the development, administration and delivery of the UofT degree program would benefit from the collaborative contributions of all three institutions, and this continues to hold true almost a decade later.

Our reputation for excellence and collaboration is evident, as we have acted as consultants to the University of Calgary, academics in Japan, and the Department of National Defence (Canada), among others, on their own PA education initiatives. We engage current graduates to become teachers, and we continue to attract more graduates and other PAs and clinicians who want to teach in our program.

The purpose of UTQAP is an academic review, and this report should be interpreted as such. We have aimed to be constructive and thoughtful in our reflections and recommendations for the future, while being realistic of the challenges and barriers that lay ahead. This academic program is only possible because of the PA profession for which we train, however this profession, in 2018, is still in its infancy in Ontario. The major barriers of lack of professional regulation and lack of robust health human resource plan that includes funding to support the profession directly threatens the future viability of this endeavor. However, there have been great strides at the provincial level to address these challenges, and the BScPA program leadership must remain as active stakeholders, engaged in finding the solutions.

While there is always room for growth, the BScPA Professional degree program has been a labour of love. As an academic family physician, the experience as Medical Director has provided me the opportunity to strengthen my leadership skills, my collaborative skills, and, even more, my advocacy skills, as I truly believe in the product.

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<sup>2</sup> Previously known as The Michener Institute for Applied Health Sciences

Final words of acknowledgement are to the incredible team who participated in the compilation of this self-study: the faculty, students, academic leaders and administrative personnel and administration for their input, contributions and reports.

Respectfully submitted,

Dr. Maureen Gottesman, MD MEd CCFP  
Medical Director, BScPA Program  
January 2018

## 1.0 INTRODUCTION and CONTEXT

The impetus behind the initial development of PA Education in Ontario was based on the 2006 Health Human Resources plan developed by the Ontario Ministry of Health and Long Term Care (MOHLTC). This included a call for the introduction of Physician Assistants into the Ontario healthcare system to contribute to decreased wait times and improved access to primary care.

HealthForceOntario Pilot and Demonstration projects began in 2007 with PAs in various clinical positions in Ontario. In 2009, the Consortium of PA Education (Consortium) formed to develop the U of T degree, which was the second<sup>3</sup> PA program available to civilians in Ontario. The Consortium includes UofT's Faculty of Medicine, the Northern Ontario School of Medicine (NOSM) and The Michener Institute of Education at UHN (Michener). The three institutions collaboratively contributed to the development, administration and delivery of the U of T degree. The driving force, since 2006, continuing today, is to put the right level of health care provider in the right place in healthcare. Physician Assistants were identified early on as part of this solution.

The Department of Family and Community Medicine (DFCM) at the University of Toronto is the home department for the Bachelor of Science Physician Assistant degree (BScPA) program as it is the most aligned with generalist education that defines Physician Assistant training. The DFCM is an academic department composed of healthcare professionals dedicated to leadership in teaching, research, service and the advancement of the discipline of Family Medicine, locally, nationally and internationally.

### Physician Assistant Profession - Definition and Role

Physician Assistants (PA) are academically prepared and highly skilled health care professionals who provide a broad range of medical services. PAs are physician extenders, not independent practitioners; they work with a degree of autonomy, negotiated and agreed upon by the supervising physician and the PA. PAs work across the spectrum of medical care; they are trained as generalists and develop their clinical specialty expertise in their work environment under their supervising physician.

The role of the PA is unique among healthcare providers in that PAs are not autonomous practitioners; the supervising physician determines what services and/or procedures the PA is permitted to carry out as delegated acts. Although there are established competencies and a defined scope of practice for PAs in Canada, the role of the PA is specifically determined by the scope of

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<sup>3</sup> In September 2008, McMaster University (Hamilton, Ontario) began a BHScPA program, and the University of Manitoba (Winnipeg, Manitoba) began a Masters-level PA program. As of 2009, the University of Nebraska confers a bachelor's degree to the PA graduates of the Canadian Forces Military Services School (CFMSS) for the Department of National Defence (DND). In 2017, DND put out a request for interest from Canadian universities who may wish to be the degree-granting institution in the future.

practice of the supervising physician and by the physician/PA relationship. The exact role and responsibilities of the practicing PA may change over time as the physician/PA relationship evolves.

The Physician Assistant profession is not yet regulated in Ontario, and it is not a requirement that PA graduates become certified by the national body in order to practice. However, in order for a PA to be eligible to write the National Certification Exam, offered annually by the Physician Assistant Certification Council of Canada (PACCC), they must be a graduate of an accredited PA program. Thus, the accreditation of the education program is an important aspect towards building the national profession.

### **Physician Assistant Education - BScPA Program Overview**

The BScPA program is a full-time, professional, second-entry undergraduate degree, based in the Department of Family and Community Medicine (DFCM) in the Faculty of Medicine at the University of Toronto (U of T). The program is designed to meet the competencies outlined in the National Competency Profile as established by the Canadian Association of Physician Assistants (CAPA). The aim of the program is to equip graduates with the competencies necessary to establish the foundation for a sustainable Canadian Physician Assistant profession.

Physician Assistants are typically educated in the “medical-model” adapted from physician education plans. The BScPA program at U of T is no different, as it is modelled after the same competencies that are used for physician education.

Until February 2018, the Canadian Medical Association Conjoint Accreditation Services (CMA) was the body that offers accreditation to Physician Assistant education programs in Canada. In 2011, the BScPA program initially achieved full, 6-year accreditation status. The 2017 submission was again ratified by the Committee on Program Accreditation and the program, once again, received a 6-year accreditation status, which is the maximum achievable status.

### **Mission, Guiding Strategies and Core Values**

The following section is quoted directly from the Program’s website:

<http://www.paconsortium.ca/mission-and-values>

Our mission is to deliver Physician Assistant education programs built on a foundation of social accountability, particularly to rural, remote and underserved communities.

The Consortium of PA Education is guided in the development of the professional degree programs by the following core strategies:

- The collaboration of multi-institutional delivery of innovative professional degree programs, by way of academic excellence, simulations and interprofessional education, and diverse clinical placements.

- The optimization of technology to support and deliver leading-edge curriculum, including web-based, audio-visual, experiential simulation and distance education technologies.
- The commitment to educate PA students and to encourage and support clinical experiences in rural, remote and underserved areas, in order to increase access to healthcare throughout Ontario.

Our Core Values [are to] equip graduates with the capability to establish a sustainable Canadian PA professional identity based on principles of:

- Social accountability: contributing to a sustainable healthcare system
- Professionalism: that entails the establishment of an identity for PAs in a variety of healthcare settings, focusing on primary care
- Inter-professional collaboration: that includes the advancement of collaborative patient-centred practice
- Critical thinking and life-long learning: that enhances the effectiveness of services provided by physicians and other members of the healthcare team

The Consortium institutions facilitate the achievement of the academic mission. The UofT academic home provides the academic frame, medical and educator expertise, faculty resources, policies and infrastructure for students. The clinical education component is delivered under the auspices of NOSM, who is responsible for the clinical rotation schedule. The Northern Ontario geographic catchment area includes an established system of medical educators and clinical placement networks. Through our collaboration with NOSM, the BScPA students gain direct access to clinical experiences in rural and Northern Ontario. The NOSM clinical office also coordinates the non-Northern clinical placements across the province. Contributions from Michener as part of the Consortium are confined to educational administration and academic leadership, providing valuable mentorship on all our committees with respect to health care education. Michener is also instrumental in our recruitment efforts and admissions interviews. The Consortium prides itself on offering students a balance in academic and clinical orientation, extensive access to health care relevant resources and a curriculum delivery model that maximizes rural training and geographic accessibility throughout Ontario

### **Significant Developmental Milestones**

The BScPA program has evolved since 2010 through a number of internal and external developments. Each of these significant milestones allowed the faculty to consistently re-evaluate the program content, delivery and timing, with purpose and efficiency at the foundation. Like our practice of patient-centered care in the clinical setting, student-centeredness is our driving force for everything we do in the education realm. Four milestones are highlighted here, in chronological order.

### ***Restructuring and Integration Task Force***

Due to impending budgetary concerns and inefficiencies in program operations, the Dean, Faculty of Medicine, called for a Physician Assistant Program Restructuring and Integration Task Force. This Task Force replaced the Management Committee in 2014-15 and oversaw the restructuring of the academic and organizational management of the BScPA program. The goals were to ensure fiscal and human resource efficiencies with a view to sustainability and ongoing successful outcomes. The goals of the Task Force were achieved. (See Appendix 1.1)

The Task Force report identified outstanding tasks which have since been addressed as follows:

- i) The implementation of the revised clinical education administration model, with a Clinical Course Director and a full time Clinical Placement Officer (see section “Task Force Activities and Deliverables” in Appendix 1.1). There continues to be challenges in the areas of confirming clinical placements sites and new processes are being implemented to address this.
- ii) The program leadership was updated to include a 0.4 FTE Medical Director (from 0.8) and initiate a 0.5 FTE Program Director. Formal contracts with job descriptions were implemented for all Course Directors. Faculty status for course directors has been initiated for those who qualify and is almost complete.

An additional beneficial outcome of the Task Force was establishing more formalized arrangements with the Office of the Registrar, Faculty of Medicine (see section “Task Force Activities and Deliverables” in Appendix 1.1). This is an area for efficiencies, allowing more consistent support for admissions and recruitment. This arrangement continues to grow and flourish.

### ***Transition of Program Schedule to Fall Start***

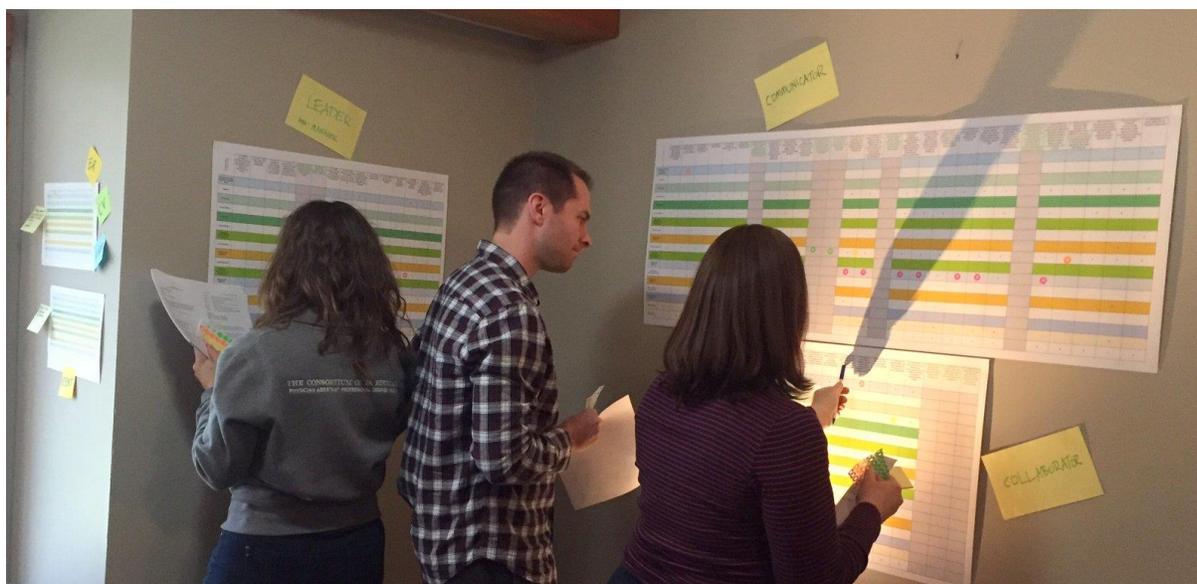
Due to internal and external enthusiasm to proceed with this new degree program as soon as possible, the program initially ran from January to December annually. After several years, the program shifted to the more traditional Fall to Summer academic year. This occurred with the support of the Registrar’s Office and various other University authorities. This transition provides an excellent example of how, with planning, communication and foresight, the BScPA program leadership was able to shift a major component of this program’s operations with minimal disruption.

This transition began in 2014, with one cohort (Class of 2015) starting the program in January (old schedule) and one cohort (Class of 2016) starting the program in September (new schedule). This led to an overlapping of Year 1 cohorts in Fall 2014. The transition to a traditional Fall start concluded in the 2015-16 academic year. The Fall 2015 semester, like the previous Fall, also included overlapping cohorts, wherein two cohorts were participating in clinical rotations at the same time. The Class of 2015 was the last class to have nine rotations scheduled, with seven rotations set at four weeks each, and two primary care rotations of six weeks each. The Class of 2016 was the first class to move to the new schedule of ten rotations of four weeks each.

By shifting the clinical rotations to start in September, students are able to complete up to two clinical electives in a discipline and setting of their choice (upon faculty approval) at the end of their clinical training, instead of the middle. This shift allows them more time to plan an elective placement according to their interests and with employment in mind. Historically, students have been successful in gaining employment at a site in which they completed an elective, an opportunity which may not have occurred had the physician supervisor not had the experience of supervising the learner. Now the elective opportunities are closer in timing to program completion, when the graduates will be seeking employment. As of November 2017, the Program is aware of 38% of students becoming employed in a location where they participated in a clinical rotation.

### ***Implementing CanMEDS- PA as the Competency Framework***

The Canadian Association of Physician Assistants (CAPA) released CanMEDS-PA 2015 to replace the 2009 version of the National Competency Profile for Physician Assistants (Appendix 1.2). While not required to adopt these revisions immediately, we chose to do so in early 2016, so that we would undergo our upcoming professional program accreditation using the new standards. Members of the BScPA program Curriculum Committee participated in the Curriculum Retreat in March 2016 in order to revise the curriculum map to meet the new CanMEDS-PA competency document. We completed a matrix exercise with our Course Directors and student representative, and achieved the main objective: the revised CanMEDS-PA competencies were drafted into our existing courses, in which the outcomes of the academic program were clearly defined and cross-referenced to this CanMEDS-PA competency framework for the profession. Additional work was identified by key curriculum themes in efforts to scaffold content and integrate more across the program. The revised curriculum competencies were in place for the 2016-17 academic year.



*PA program faculty and student working on curriculum mapping at Curriculum Retreat, Town of Blue Mountains, 2016.*

### ***BScPA Program Awards of Excellence***

As the program matured it became appropriate to formally start to recognize the contributions of teachers, students and alumni who make significant contributions to the program. The first awards were created in 2017 and announced at the November 2017 convocation. The details of each award are listed in Appendix 1.3.



*Excellence in Teaching Award winner, Dr. Peter Tzakas, St George Campus, Toronto Nov 2017*

### **Strengths, Characteristics and Risks**

The strength of the BScPA program continues to be the academic rigour and high expectations of our learners. We provide a supportive teaching environment wherein students are challenged to gain the necessary competencies with expert teaching faculty and experienced practicing PA professionals. This results in high levels of student achievement on the National Certification Exam as well as in employment as PAs upon graduation. Our unique blended distance and distributed curriculum continues to be our defining characteristic, allowing our students to be exposed to a variety of clinical environments both in their home communities and away from home, in geographic areas they might not ever have been to otherwise.

The BScPA program has been tracking the impact of our curriculum delivery model since our inception, specifically as it relates to the clinical placement scheduling for students in both their “home” and “swap” communities. Overall, 18% of BScPA graduates report they were influenced to find employment in an area of need (remote or underserved). Annually, 40-60% of graduates report

finding employment in their “home” community, with 50% of all graduates employed in their home community<sup>4</sup>.

Although it may still be too early and the numbers too small to recognize any trends in the data, the program remains committed to its mission and values as there is a sense of responsibility for the healthcare delivery options in Ontario.

In the initial years, the opportunities for clinical placements in some of our U of T clinical teaching sites were limited. As these sites have gained experience with hiring and integrating PAs into their own systems, PAs themselves have become some of the clinical preceptors and the institutions have become more open to ongoing teaching commitments for our PA learners. However, this has only recently begun, and much work remains to ensure ongoing sustainable clinical placement sites, specifically in some disciplines such as Women’s Health, Mental Health and Pediatrics (corresponding to areas in which few PAs are employed).

The ongoing risk to the program remains the limitations of the Physician Assistant profession in Ontario and in Canada. The support and investment of the Ontario Ministry of Health and Long Term Care in the PA profession has a direct impact on our program’s enrolment, access to reliable clinical placement opportunities and eventual employment of our graduates. Until such time as the regulation and funding of the PA profession on Ontario are addressed, the future for the education of PAs in general, including at the University of Toronto, will remain at risk.

### **Preparation of this Report**

The self-study was commissioned by the Dean, Faculty of Medicine in Fall 2016, for review in 2017-18. As we are a relatively small program undergoing the same UTQAP process as large departments, a summary of our Self-Study Process is provided here for context.

The final version of the self-study submission was possible through the active engagement of a number of individuals, supported by the UTQAP project leads (Ms. Lisa Slack, Mar-Oct 2017 and Ms. Carly Ladouceur, Nov-Dec 2017). The core BScPA leadership team was involved in reviewing and finalizing the Terms of Reference:

- Dr. Maureen Gottesman, Medical Director
- Dr. Peter Tzakas, Program Director
- Ms. Sharona Kanofsky, Academic Coordinator
- Ms. Elizabeth Whitmell, PA Program Manager

In addition to the above team, in order to develop the list of potential External Reviewers, the Consortium of PA Education senior leaders were consulted:

- Dr. Lynn Wilson, Vice Dean, Partnerships, Faculty of Medicine, University of Toronto

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<sup>4</sup> As of November, 2017, Classes 2011-2017 inclusive

- Dr. David Marsh, Associate Dean, Community Engagement and Deputy Dean and Professor, Clinical Sciences, Northern Ontario School of Medicine (NOSM)
- Sydney Redpath, Dean of Students and Senior Director, Academic Operations and Quality, The Michener Institute of Education at UHN

The finalized Terms of Reference and list of potential External Reviewers was submitted to the Office of the Dean on January 30, 2017, with subsequent final approval by the Vice-Provost, Academic Programs. The date for the site visit was confirmed in June 2017 and the external reviewers were confirmed by July 2017. The initial Project Lead established an initial task list, timeline and compilation of relevant data and reference material from March – October 2017. As the BScPA program was undergoing CMA Accreditation<sup>5</sup> in October 2017, the majority of the efforts for the accreditation preparations in 2016-17 were made with the UTQAP perspective in close consideration.

The subsequent Project Lead continued where the previous Lead left off, assisting in the dissemination of the faculty survey, collection of faculty CVs, and interaction with student leadership for their input. In consultation with Dr. Maureen Gottesman, Medical Director, the sections in the self-study were assigned as follows:

1. Introduction and Context – Dr. Maureen Gottesman
2. Faculty – Dr. Maureen Gottesman, with Dr. Peter Tzakas
  - Report of Faculty Members – Ms. Sharona Kanofsky
3. Academic Programs – Dr. Peter Tzakas with Dr. Maureen Gottesman and Ms. Sharona Kanofsky
  - Report of Students – Dr. Peter Tzakas
4. Scholarship – Dr. Maureen Gottesman
5. Organization and Financial Structure – Ms. Elizabeth Whitmell
6. Resources and Infrastructure – Ms. Elizabeth Whitmell with Dr. Maureen Gottesman
7. Academic Services – Dr. Maureen Gottesman
8. Internal & External Relationships – Dr. Maureen Gottesman
9. Previous Review Recommendations – Ms. Elizabeth Whitmell
10. Future Directions – Dr. Maureen Gottesman

The Program Objectives section was reviewed by Dr. David Tannenbaum, Deputy Chair, Partnerships, Department of Family & Community Medicine, Faculty of Medicine, University of Toronto.

The UTQAP process and developments were initially discussed at the BScPA program Management Committee in October 2016, with progress updates at subsequent quarterly meetings. Section leads worked on a collaborative document, ensuring consistency and purposeful overlap, consulting with each other as required. The Program leadership team had regular meetings (with and without the Project Leads) for updates and collaborative decision-making on the various elements in the report. The challenges and critiques presented in the report were also discussed as a group.

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<sup>5</sup> Canadian Medical Association Conjoint Accreditation Services

Student feedback is an ongoing source of information for the Program, and it is one of the key drivers in the many adjustments and ongoing quality improvement over the years. Much of the data provided in this report has been generated from the various student feedback mechanisms<sup>6</sup> that are embedded in our program. When possible, action is taken towards improvement based on student input. Most recently, a live, shared document in Google Drive is maintained and updated by the Program Director so that all student feedback sources can be recorded in one place.

On September 21, 2017 the BScPA program Management Committee members were notified of the identity of the UTQAP external reviewers and of the site visit scheduled for March 26, 2018. On January 15, 2018, the draft self-study was submitted to the Academic Affairs office for comment and review. After reviewing the feedback from the Vice-Dean, Academic Affairs, the final report will be submitted by February 5, 2018. The final document will be placed on the BScPA program website.

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<sup>6</sup> Feedback mechanisms from students include, and are not limited to: Town Hall meetings with senior leadership (Department Chair, Vice Dean), class reflection meetings (Stop/Start/Continue); online surveys (of courses, faculty, teachers); asynchronous online Discussion Boards; and through the various student reps (committee reps, class reps, course reps)

## 2.0 FACULTY



*BScPA Program Faculty, Sue Berry, Sharona Kanofsky, Zlata Janicijevic, Maureen Gottesman, Brad Olmstead, John Shea, Zaka Khan, Spring Convocation, St. George Campus, Toronto, 2012*

### Faculty Complement (by Academic Status)

Academic Status	Name	BScPA Program FTE as of January 2018	BScPA Program Involvement
<b>Tenure and Tenure-Stream Faculty</b>			
Associate Professor, Department of Surgery	Paulo Koeberle BSc, PhD		Course Director PAP112
<b>Clinical Faculty</b>			
Assistant Professor, Department of Family and Community Medicine	Maureen Gottesman MD, MEd, CCFP	0.4 FTE	Medical Director
Associate Professor, Department of Psychiatry	Rima Styra MD, MEd, FRCPC		Course Director PAP138
Assistant Professor, Department of Family and Community Medicine	Peter Tzakas BSc, MSc, MBChB	0.5 FTE	Program Director and Course Director PAP131 & PAP241
Adjunct Lecturer, Dalla Lana School of Public Health	Audrey Campbell MD, MHSc, FRCPC		Course Director PAP258
<b>Teaching-Stream Faculty</b>			
Associate Professor, Department of Family and Community Medicine	Sharona Kanofsky BSc (Hons),PA-C, CCPA, MScCH	1.0 FTE	Academic Coordinator; Course Director PAP111; Co-Course Director PAP269, IPE Curriculum Lead
Associate Professor, Department of Physiology	Nohjin Kee BSc, MSc, PhD		Course Director PAP113
<b>Other Faculty</b>			
Adjunct Lecturer, Department of Family and Community Medicine	Muhammad ZakaUllah Khan MD, MHPE		Course Director PAP122 & PAP265, DFCM
Lecturer (Status Only), Department of Family and Community Medicine	Zlata Janicijevic MSc, PA- C, CCPA		Course Director PAP131, PAP121, & PAP131, DFCM; Physician Assistant and Clinical Preceptor, Sunnybrook Health Sciences Centre
Lecturer (Status Only), Department of Family and Community Medicine	Patricia (Trish) Marr BScPharm, PharmD		Course Director PAP127, DFCM

Academic Status	Name	BScPA Program FTE as of January 2018	BScPA Program Involvement
Lecturer (Status Only), Department of Family and Community Medicine	Jeffrey Straw MPH, PA-C, CCPA		Course Director PAP114, PAP134, & Medical Terminology (pre- course), DFCM; Physician Assistant and Clinical Preceptor, Sinai Health System
Lecturer, Northern Ontario School of Medicine	Britton Sprules, CCPA	0.2 FTE	Course Director PAP250 & PAP260; Physician Assistant and Clinical Preceptor, Superior Family Health Team
Status Pending <sup>7</sup>	Christian LeBouthillier, CCPA		Course Director PAP125 & PAP135, DFCM; Physician Assistant and Clinical Preceptor, Downtown Doctors
Status Pending	Brad Olmstead MMM, CD, MPAS, CCPA		Course Director PAP269, DFCM and Physician Assistant, Canadian Armed Forces

The BScPA program ensures that didactic personnel have the relevant professional certification/registration or academic qualifications to fulfill their role in supporting learning. The Program involves the expertise of certified Physician Assistants, physicians, educators, allied health professionals and content experts in the development and delivery of the curriculum.

Physician Assistants, to retain their certification, are required to complete 250 hours of continuing professional education (CPE) per five-year cycle. Members of the College of Family Physicians of Canada or the Royal College of Physicians and Surgeons of Canada are similarly required to maintain certification through continuing professional education.

Core faculty include:

- Medical Director (0.4 FTE) - licensed academic Family Physician with a Master's in Education
- Program Director (0.5 FTE) - licensed academic Family Physician, with a Master's of Science in Medicine and Pathobiology, completing a Master's in Education
- Academic Coordinator (AC) (1.0 FTE) – certified PA with a Master's of Science in Community Health

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<sup>7</sup> Status Pending = Applications for faculty appointments within DFCM for these individuals is in progress.

Course Directors include:

- Clinical faculty (academic physicians) with appointments in their respective departments
- University faculty in Basic Sciences, other Faculties (Pharmacy, Nursing, Social Work)
- Physician Assistants in the community
- Allied Health Professionals in the community

Teachers and Facilitators include:

- Physicians
- Physician Assistants
- Allied health professionals
- Post-graduate residents

Post-graduate resident facilitators are identified through DFCM's residency programs and engaged by the Program for their specific areas of content expertise (e.g. sports medicine, women's health). These guest facilitators are senior trainees interested in an academic career and well-positioned to teach the BScPA learners at the appropriate level.

Clinical Preceptor teaching personnel includes:

- Fully certified, licensed physician supervisor or group of physicians
- Certified Physician Assistants

Many of the clinical preceptors are faculty at NOSM, U of T, Michener, and/or other Ontario institutions.

### *Appropriateness of Faculty Complement*

The US PA Education Association publishes reports on its schools and faculty, and is the best likely comparator for our program. As of the 2015 Faculty and Directors Survey Report<sup>8</sup>, over 80% of PA program faculty in the US were actually PAs, and 78% had a master's degree as their highest degree. About half of the PA faculty are at the Assistant Professor level, and 22% are at the Associate Professor level. The majority of the faculty in PA schools in the US are either on non-tenure tracks (61%) or tenure track is not offered at their institution (20%). Our complement of teachers seems to be comparable.

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<sup>8</sup> Physician Assistant Education Association, Physician Assistant Program Faculty and Directors Survey Report, 2015, Washington, DC: PAEA, 2015. doi: 10.17538/fsr2015.001 Accessed January 8, 2018 <http://paeaonline.org/wp-content/uploads/2017/05/faculty-directors-report20160218.pdf>

The US Faculty and Directors Survey Report (2015)<sup>9</sup> confirms that almost all of the PA faculty and Program Directors (excluding the Medical Directors) had an FTE of 1.0 as PA faculty member. We have only one full-time faculty (the Academic Coordinator), though the US data seems to support this arrangement. US Medical Directors reported a mean of 38% FTE in PA Program duties, which included teaching, curricula development, and administration. These findings are consistent with the faculty complement and FTE within our program.

While the Medical Directors are typically physicians in the US PA schools, only about 16% of Program Directors are physicians, as most are PAs. 85% of faculty, 94% of Program Directors and 95% of Medical Directors reported that they are working clinically (on their own time, with or without release from the program). Over 54% of Program Directors receive release from their PA program duties to practice clinically, though they also work, on average over 10 hours more per week, as compared to other program faculty. The majority (87%) of faculty members who work clinically retain all their clinical income personally. Many of the PAs involved in teaching in the US also have clinical work, though they are reliant on the flexibility of their employer and schedules for their PA program responsibilities. Our Academic Coordinator position is a full time position and our current Academic Coordinator does not work clinically. A future consideration is to include clinical practice as a complement to this academic role.

### Faculty Awards

A summary of the faculty by rank, program involvement and publications, presentations, grants and awards is available in Appendix 2.1. In 2012, the BScPA program curriculum was recognized by our home department (DFCM, University of Toronto) and granted the award of Excellence in Course/Program Development and Coordination. This award is for outstanding work for teaching excellence and quality program/course development. Our program leadership, along with one of our course directors, have also each been recognized by the national PA Association (CAPA: The Canadian Association of Physician Assistants) for their respective contributions to the profession.

Maureen Gottesman	2016	CAPA Honour Roll (CAPA)
Peter Tzakas	2015	CAPA Honour Roll (CAPA)
Sharona Kanofsky	2013	Tom Ashman Physician Assistant of the Year (CAPA)
Brad Olmstead	2012	CAPA Honour Roll (CAPA)

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<sup>9</sup> Physician Assistant Education Association, Physician Assistant Program Faculty and Directors Survey Report, 2015, Washington, DC: PAEA, 2015. doi: 10.17538/fsr2015.001 Accessed January 8, 2018 <http://paeaonline.org/wp-content/uploads/2017/05/faculty-directors-report20160218.pdf>

### *Strength and Expertise of Teaching Faculty*

There are 209 US-based PA Education programs that participated in the latest 2016 US PA Program Report<sup>10</sup> compiled by the US-based Physician Assistant Education Association. In 2016 there were 115, 547 Certified PAs in the US<sup>11</sup>, yet the lack of qualified candidates is cited as a moderate to significant barrier to hiring new faculty in 80% of PA programs in the US. As of January, 2018, there are 737 Certified PAs in Canada<sup>12</sup>, but in 2009-10, there were closer to only 200 PAs across the country<sup>13</sup>. Given the relative lack of experience and limited PA educators in Canada, initially, program leadership relied on teaching expertise within our own institutions. Over time, the Program looked to the PA profession in general, identifying potential excellence in practicing PAs with limited teaching experience, and investing in their growth with excellent results.

The history of our Course Directors is provided in Appendix 2.2, highlighting the relatively low turnover since program inception. Some changes were initiated by the teachers themselves, however, some changes were initiated by the program leadership, in part due to both student and management feedback on the effectiveness of the course leadership. It is noted that on many occasions, the collaborative sharing of teaching responsibilities led the way for eventual change in leadership, which has typically been a very successful model.

The BScPA program's inaugural teaching award winners are further examples of the excellence in our teaching staff, and the success of our investment in their growth. **The Excellence in Teaching Award** was bestowed on our Program Director, Dr. Peter Tzakas, recognizing his outstanding teaching in the Primary Care Medicine courses. **The PA Role Model Award** was granted to Mr. Jeff Straw, and included nominations from both students, graduates and clinical personnel with whom he works, recognizing his excellence as a practicing PA in our community. (See Appendix 1.3 for the award descriptions)

The recent experiences in the recruitment of PA teachers for the BScPA program has demonstrated that we have established a place where people want to teach. In summer 2017, the BScPA program posted 2 part-time small group facilitator positions for the online PBL (problem-based learning) portion of the Clinical Skills courses. The Program was elated with the number of applicants (more

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<sup>10</sup> Physician Assistant Education Association, By the Numbers: Program Report 32: Data from the 2016 Program Survey, Washington, DC: PAEA; 2017. doi: 10.17538/PR32.2017 Accessed January 8, 2018  
[http://paeaonline.org/wp-content/uploads/2017/10/ProgramReport32\\_2017\\_2.pdf](http://paeaonline.org/wp-content/uploads/2017/10/ProgramReport32_2017_2.pdf)

<sup>11</sup> [i] 2016 Statistical Profile of Certified Physician Assistants (an Annual Report of the National Commission on Certification of Physician Assistants)  
<https://prodcmsstoragesa.blob.core.windows.net/uploads/files/2016StatisticalProfileofCertifiedPhysicianAssistants.pdf> Accessed January 11, 2018

<sup>12</sup> 2016 Statistical Profile of Certified Physician Assistants (an Annual Report of the National Commission on Certification of Physician Assistants)  
<https://prodcmsstoragesa.blob.core.windows.net/uploads/files/2016StatisticalProfileofCertifiedPhysicianAssistants.pdf> Accessed January 11, 2018

<sup>13</sup> Extrapolated from Hooker, Hogan, Leeker The Globalization of the Physician Assistant Profession, JPAE 2007; 18(3):76-85 <https://www.thepalife.com/wp-content/uploads/2012/04/The-Globalization-of-Physician-Assistants.pdf> Accessed January 11, 2018

than 15) for these positions. Applicants included not only alumni, but other PAs, physicians and even international candidates. It is seen as a great strength of the program, and of the faculty, that any former students are interested in giving back to the profession, and becoming involved in the program that helped them on their own professional path. It is also noted as a strength that we are attracting applicants from outside of our own small pool of alumni.

### *Use of Faculty Human Resources*

The 2016 US PA Program Report<sup>14</sup> provides data on student to faculty ratios, to address the question of “In the average PA program, how many PA students are there for every core faculty member?”. The overall mean is 15.4 students per core faculty, with a median of 14.6 and a standard deviation of 6.5. Based on the calculation of total number of students (n=60) to total number of core faculty (FTE=2.0), in our BScPA program, the ratio is 30:1. However, we have a large established pool of teachers who are not considered core faculty, but who complement the core as course directors, guest lecturers and small group facilitators. As the Course Directors do not have an FTE-based contract, and our ad hoc small group facilitators and guest lecturers do not often have a formal contract with us, it is impossible to accurately calculate a true student-to-faculty ratio. For simulated patient encounters we aim for a ratio of 5 or 6 students to 1 facilitator/teacher. The perception of students is generally positive regarding access to the faculty for teaching and support. Our best estimate is, then, that our ratios are sufficient.

### *Challenges and Evolution of the Clinical Curriculum Leadership Role*

The Clinical Year curriculum has been an element of the program that has seen considerable evolution in terms of its leadership and operations. At its inception, the role of Clinical Coordinator was filled by a PA with expertise from the Canadian Forces, both clinically and at the academic administration level. Mr. John Shea successfully managed to secure hundreds of clinical teaching sites for our program, starting in 2010. These efforts included cold-calling, site visits and hundreds of hours in communication both synchronously and asynchronously, with numerous institutions and preceptors. The initial position of Clinical Coordinator was strategically created to be an academic NOSM role, in part to facilitate formal access to Northern Ontario teaching sites, and to demonstrate our commitment to our program’s mission and vision.

There was a lengthy period in 2010-2012 when there was limited access to administrative support due to internal HR issues (including a strike) within NOSM. Despite this, the clinical placements continued to be scheduled, and while building our network of clinical sites, we also aimed for previous preceptors to continue to take our learners. The 2015 PA Program Restructuring and Integration Task Force (see Appendix 1.1), brought forth recommendations that led to the subsequent evolution of the Clinical Coordinator position. The investment in more administrative support for the clinical curriculum was realized and the faculty role evolved to focus more on clinical

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<sup>14</sup> Physician Assistant Education Association, By the Numbers: Program Report 32: Data from the 2016 Program Survey, Washington, DC: PAEA; 2017. doi: 10.17538/PR32.2017 Accessed January 8, 2018 [http://paeaonline.org/wp-content/uploads/2017/10/ProgramReport32\\_2017\\_2.pdf](http://paeaonline.org/wp-content/uploads/2017/10/ProgramReport32_2017_2.pdf)

content and less on administrative aspects. This fine line has taken some time to realize as there is considerable overlap. For example, ensuring a student is placed at the most appropriate clinical site is not a purely administrative exercise, for the student's learning needs, preferences as well as logistics must be considered.

Mr. Shea continued as NOSM faculty in this new role of Clinical Course Director (0.1 FTE)<sup>15</sup>, until his contract was completed. In summer 2017, the role of Clinical Course Director was again posted. Similar to those interested in the small group facilitator roles (see above), applicants included alumni, international PAs and non-PA candidates. The successful candidate was one of our first alumnae, Ms. Britton Sprules, who understands the nuances in scheduling and providing student support. With her leadership, in 2018, the Year 2 students have been given one-on-one mentorship and guidance with faculty. This is to both assist them in reflecting on their clinical experiences and in selecting their clinical electives, with the hopes of providing them more insights into the type of PA positions they wish to secure upon graduation. The Clinical Curriculum is also evolving to ensure more standardized content among all students.

### *Upcoming Changes*

The University of Toronto is undergoing a major reform in 2018 with the implementation of Canvas, the Learning Management Engine that replaces the current Portal. All courses that currently exist in Blackboard will be transitioned into Quercus, the new course management platform. Faculty will require additional support and training as we evolve in the delivery of our online teaching materials. As of the end of 2017, plans are already underway on behalf of Academic & Collaborative Technology (ACT)<sup>16</sup> at the university. PAP 125 Diagnostic Techniques and Procedures I is participating as one of 40 "Early Adopter" courses across the University in the Winter 2018 term. We expect a soft rollout of our other courses over Summer 2018 and into the 2018-19 academic year. The support of ACT's Toolbox Renewal Project support team at U of T will remain an essential resource to ensure our success. The focus for our Curriculum Committee for the near future will be on the successful adoption and implementation of the new learning platform for all our courses.

The current Academic Coordinator, Sharona Kanofsky, is a full time Associate Professor, Teaching Stream and is scheduled for a one-year research leave as of July 2018. Recruitment will be underway to cover her role and responsibilities until her return. The responsibilities include: Teaching (Course Director and small group facilitator); Interprofessional Education curriculum lead; student and faculty support; and academic progress tracking. Upon her return, including some protected time in her workload for clinical work as a PA should be considered. This would have to be negotiated within her current academic position, the University and the potential clinical site. Protected time for education

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<sup>15</sup> John continues to remain involved in teaching in the PA program and is one of the small group ePBL facilitators in the PAP 114 and 124 Clinical Skills 1 and 2 courses.

<sup>16</sup> "ACT is a partnership between the Centre for Teaching Support & Innovation (CTSI) and Information + Technology Services (ITS) (Office of the CIO) at the University of Toronto. ACT provides strategic and tactical leadership in the development and implementation of information technology services that support the academic mission for the university as a whole". <http://act.utoronto.ca/>

scholarship, such as formal research and writing, is also an area for development in her role as Academic Coordinator.

As of July 2018, the role of the Medical Director will have new leadership. Dr. Gottesman has decided not to pursue a further contract in this role, allowing for new leadership for the program after almost a decade. The Medical Director role not only provides academic oversight, but also provides leadership with partners and stakeholders, and Dr. Gottesman is confident that a strong successor can be identified who will bring the program into the next phase. The future of the program is reliant on fostering solid partnerships with clinical sites, potential employers, and in participating in the future success of the profession itself.

### **Faculty Development**

The BScPA program facilitates the professional development of our teaching staff and preceptors through a variety of avenues, including developing its own offerings specific to the needs of the BScPA program, as well as utilizing resources available within the institution and beyond.

#### **Curriculum Committee:**

All course directors sit on the curriculum committee. At this quarterly meeting there is dedicated time for all course directors to exchange ideas on new teaching resources that they have discovered and/or effective teaching strategies they have employed. This recurring agenda item is named “practice exchange”. Additionally the DFCM Librarian is also a regular member of this committee. She brings forward and educates faculty on new resources and also on policies such as university policies on plagiarism.

With the introduction of the new CANMEDS-PA 2015 competency curriculum, a facilitated, 2-day Curriculum Retreat for Course Directors was held in March 2016. This was an opportunity for faculty to work together on the overall integration of content within the Program, as well as to consider changes to the courses to enhance cohesiveness of material throughout the semesters and to ensure we are fully mapped to the competencies required for the profession.

#### **Teacher Resources:**

Clinical Preceptors are provided with the Clinical Handbook (see Appendix 2.3) and direct support from the Clinical Course Director (CCD) as the initial orientation and preparation for their role in supervising BScPA learners. Clinical Preceptors who are associated with a hospital or institution that is affiliated with the University of Toronto are subject to the Guidelines for Ethics & Professionalism in Healthcare Professional Clinical Training and Teaching. NOSM clinical faculty are expected to follow the NOSM Faculty Handbook policies. Clinical Preceptors who are not already affiliated with an academic institution may be eligible for a faculty appointment at U of T or NOSM.

All new DFCM faculty members have the opportunity to attend the DFCM Basics Workshops. These are seminars spread over one year that cover theoretical and practical aspects of teaching and evaluating trainees. Many of our faculty have successfully completed this training. Faculty are also

invited to participate in the Centre of Faculty Development's array of offerings<sup>17</sup>, including workshops, on subjects such as Teaching for Learning and Collaboration, and Effective Communication for the Learner in Difficulty. The CFD also offers more formalized certificate programs for those interested.

Program-specific resources have been created for teaching faculty, such as the Course Director's Handbook. This evolved over the accumulation of years of experience and refinement of processes and resources by our teachers and academic leaders. This guide is now an indexed location for commonly asked questions on how to deliver curriculum, set up examinations and find information on university policies.

The Centre for Teaching Support and Innovation (CTSI) is the university's centre for leadership in teaching and learning, by providing "support for pedagogy and pedagogy-driven instructional technology" for all teachers within the institution. The BScPA program directs teaching faculty to various CTSI resources for support and to develop and enhance skills. Some specific examples include Blackboard Training & Support, Teaching Strategies, and Assessing Learning. There is no fee to the program or faculty to access CTSI services.

CTSI highlighted the BScPA program as part of its ongoing project, Profiles in Innovation, which aims to focus on creative teaching practices, both online and in the classroom, across the University of Toronto.

The Discovery Commons (DC) is the Faculty of Medicine's divisional support for teaching and educational technology<sup>18</sup>. In 2009 and the early years of the Program, we were trailblazers in terms of using the University's LMS (Learning Management System), Blackboard, to its fullest. For example, we ran (and still run) our student assessments in this platform, while others still used paper and Scantrons. With a pay-per-use arrangement, our formal use of DC for instructional technology support has diminished, as course directors and teaching faculty have become more familiar with the platform. As we transition to the new LMS in 2018, Canvas, we anticipate an increase in direct support from both the divisional Discovery Commons and institutional CTSI experts.

#### **Northern Ontario School of Medicine (NOSM) (Institution-Specific) Resources:**

NOSM provides an array of faculty development topics on an on-going basis that community-based clinical preceptors can access remotely both synchronously and asynchronously. NOSM's annual faculty development retreat, "Northern Constellations", is well attended by NOSM's clinical faculty preceptors, including many who precept for the BScPA program. The Clinical Course Director also attends these retreats, and the Medical Director presented "Physician Assistants 101" at Northern Constellations in 2016.

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<sup>17</sup> <https://cfd.utoronto.ca/programs>

<sup>18</sup> Support for the Learning Management System, Blackboard, is also available through Centre for Teaching Support & Innovation (CTSI), at the institutional level.

The Continuing Education and Professional Development opportunities at NOSM support the “interdisciplinary nature of the school curriculum and the geographic disbursement of the clinical faculty”<sup>19</sup>. The Faculty Development Unit offers sessions on orientation to clinical teaching, teacher training, theory and teaching skills as well as learner assessment.

*Report of Faculty:* See Appendix 2. 4 for the faculty report.

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<sup>19</sup> [www.NOSM.ca](http://www.NOSM.ca)

### 3.0 ACADEMIC PROGRAM

The Physician Assistant program is guided by the Mission, Vision, strategies and principles of the Consortium of PA Education and are presented in the introduction section. The format and delivery of the BScPA program is built on these foundational principles and the outcome data presented in this report serve as our evidence that we are meeting our mission.

#### Program Description

The BScPA program is a distance and distributed education program with the majority of the program delivered online. It is expected that students will carry out the online learning at home in the first year. Students are required to attend classes in person in Toronto (‘residential blocks’) for specific time periods to integrate interprofessional education and simulation-based learning for skills development and for hands-on assessments. The second year of the program is centered on clinical education, with experiences in both Northern and Southern Ontario.

#### Program Overview

The program runs continuously for six semesters (24 months). Short periods of time are spent in Toronto, but otherwise the student may remain in their home location during the first year. In year two, the student participates in clinical activities, with two brief returns to Toronto during the year and two short periods of online learning.

Year 1 (3 semesters) is academically focused:

- Completion of 15 courses in total, including 120 hours of longitudinal clinical experience
- 4 Mandatory Residential Blocks occur: a 4 week block in September, a 2 week block in December, a 3 week block in April/May and a 5 week block in July/August.

Year 2 (3 semesters) is clinically focused:

- 40 weeks of supervised direct clinical contact in rural and urban settings. There are 10 rotations of 4 weeks each, in core clinical areas as well as elective opportunities.
- Half of the clinical rotations are scheduled in Southern Ontario, half in Northern<sup>20</sup> Ontario. Mandatory Residential Blocks for core teaching, simulation, interprofessional learning and assessments are also scheduled throughout Year 2.

#### Clinical Experiences in Ontario

The BScPA program is designed so that students may remain in their “home” community for much of the Program. Although core clinical placements occur during Year 2 of the program, students are expected to participate in clinical experiences throughout the first year. Students must determine their individual “home” training location for the purposes of scheduling their rotations. For all

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<sup>20</sup> Northern Ontario is defined by communities affiliated with NOSM.

students whose primary residence is in Northern Ontario, their “Home” Training Location will be in the North. For all students whose primary residence is in Southern Ontario, their Home Training Location will be in the South. It is expected that, as much as possible, the student’s Home Training Location will be in the same community as their primary residence. However, if the community in which they usually reside is not suitable for PA student training, the student will be expected to relocate to a suitable community within their geographic region (North/South). All students will be allocated to a “Swap” training location(s) in the other geographic region (North or South) from their “home” for the other half of their rotations.

## Program Objectives

The objectives of the BScPA program are to educate Physician Assistants, academically, clinically and professionally. Our graduates are prepared to provide clinical care under supervision in Ontario upon program completion. Under the guidance and support of the University of Toronto, Faculty of Medicine, Department of Family and Community Medicine, the Physician Assistant Professional degree program, as delivered by the Consortium of PA Education, successfully achieves these program objectives.

“The **University of Toronto** is committed to being an internationally significant research university, with undergraduate, graduate and professional programs of excellent quality.” The university supported the initiative to develop a novel education program, upon the direction of the Ontario government, for the training of Physician Assistants, a new health care provider in Canada. Valuing academic excellence has been a consistent theme of the BScPA program, and is demonstrated by the high calibre curriculum and teaching staff, and by the success of our graduates.

It is acknowledged that, although we are part of a university that prioritizes research, research is not a specific component in the BScPA program curriculum. Nevertheless, faculty have participated in and continue to demonstrate education scholarship, and our hope for the future is to enable more formal research and knowledge dissemination in regards to PA education. Given the paucity of literature on the role of Physician Assistants in our Canadian healthcare system, our program may, in future, contribute to studies regarding best practices in the implementation of Physician Assistants in Canada.

The BScPA program proposal was approved by the University of Toronto Governing Council in June 2009. This followed a call by the Ontario Ministry of Health and Long-Term Care for PA education programs. As part of the University approval process, the proposal discussed the appropriateness of placing the program within the Faculty of Medicine. The BScPA program aligned with a major objective of the Faculty of Medicine Academic Plan 2004-2010 to

“advance our scientific and professional training platform for the 21st century.  
The Faculty will: a) strategically *leverage newly created programs*...and new collaborative programs; b) *capitalize on* national attention and capacity-building needs of areas such as Public Health and bioinformatics and our expanding role

in global health; and c) *exploit emerging competencies* in knowledge translation, innovative simulation tools, and inter-professional education, to name a few. We shall prioritize the programs that will best prepare future leaders in research and education, consistent with the Faculty's vision statement."

The current **vision** for the University of Toronto's **Faculty of Medicine** is "Leadership in improving health through education, research and partnerships". The **mission** statement reads: "We develop leaders, contribute to our communities, and improve the health of people and populations through the discovery, application and communication of knowledge".

It is fitting that the Faculty of Medicine includes one of Canada's Physician Assistant education programs. Our unique program is well aligned to the mission of the Faculty. We operate our current distance and distributed model with the successful collaboration of our NOSM colleagues, who facilitate access to clinical rotations throughout Northern Ontario. Along with NOSM sites, numerous other distributed clinical training sites allow us to aim to improve the health of individuals across the province. Many of these sites are the communities from which our students come, and where our graduates eventually work as practicing PAs.

The BScPA program serves as a complement to the University of Toronto's MD Program in promoting generalism and primary care as a career path for trainees, a socially accountable strategy that contributes to a sustainable healthcare system. This focus on generalism was identified as a key recommendation in the 2010 Future of Medical Education in Canada Report. Through clinical placements in primary care and generalist medicine, PA students are able to acquire broad-based skills while also addressing individual learning needs and areas of interest. The BScPA program's competency-based academic curriculum enables graduates to demonstrate their proficiencies upon program completion, proficiencies that are based on the national set of standards for practicing Canadian PAs<sup>21</sup>.

The **vision** of the home department of the BScPA program, the **Department of Family and Community Medicine (DFCM)**, is "Excellence in research, education and innovative clinical practice to advance high quality patient-centred care". This encompasses the establishment of the education of PAs as the newest member of the healthcare team in Ontario. The department's **mission** is to "... teach, create and disseminate knowledge in primary care, advancing the discipline of family medicine and improving health for diverse and underserved communities locally and globally". The department identifies core values that support its mission. The values that are directly applicable to the establishment and ongoing support of Physician Assistant education include:

- "Commitment to innovation and academic and clinical excellence"
- "Promotion of social justice, equity and diversity"
- "Advocacy for access and quality patient care and practice"
- "Multidisciplinary, interprofessional collaboration and effective partnerships"

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<sup>21</sup> CanMEDS-PA 2015. See Appendix 1.2

DFCM's most recent strategic plan (2015-2020), "Advancing Family Medicine Globally through Scholarship, Social Responsibility and Strategic Partnerships" includes five strategic directions:

1. Develop strategic partnerships to improve health and family medicine scholarship
2. Increase our impact on health through education, clinical and health services research
3. Advance quality primary care through scholarship and innovation across all of our education endeavours
4. Enhance health services through quality improvement and health system integration
5. Promote engagement and leadership in our faculty and staff

The University, faculty and departmental missions are reflected in the BScPA program. These mission statements assisted in forming the mission, vision and guiding principles for the Consortium of PA Education. Through the support of DFCM leadership, faculty and various stakeholders, the BScPA program appears to be well positioned to continue to grow in terms of clinical partnerships and the promotion of the PA profession in Ontario.

The practical responsibilities of the training of PA students rests within the BScPA program itself. Although no formal agreement has been made, the MD Program has consistently been collegial in sharing its curricular resources with the BScPA program. To assist in the PA student education, they offer access, when requested, to valuable education material prepared for the MD students.

It must be noted that the structure and relationships within DFCM and the MD Program are substantially different from those of the BScPA program. The complement of BScPA teaching faculty has been established through recruitment of Faculty of Medicine educators, practicing PAs and other experts, rather than through focused recruitment within our home department. The PA curriculum was independently created for the BScPA program, and was not systematically borrowed nor adapted from the MD curriculum.

As for clinical education, since the BScPA program's inception, there has been recognition that DFCM is at full capacity with its direct responsibilities for the training of Family Physicians, and that the training of PAs was not a mandate for the DFCM teaching units. Hence, BScPA students do not universally participate in clinical placements within the core Family Medicine Teaching Units of our department. The structure and scheduling of PA learners in the clinical year mandates training in the home communities of the PA learner, and also has both a north and south component. It is generally less challenging to find community-based Primary Care clinical placements, outside of DFCM teaching units, across both the Greater Toronto Area and the province. In fact, since 2011, only a handful of clinical rotations have been placed within DFCM's core teaching units. Some Family Health Teams have since employed our graduates (and other PAs), and there may be future opportunity to more formally align the Primary Care rotations within our home department.

Overall, the objectives of the BScPA program align with the vision and mission of the Faculty of Medicine and DFCM. Effective delivery of the BScPA program to meet its stated objectives will be

improved in the future through greater integration with host clinical and training institutions and the recruitment of physician educators dedicated to PA education.

### Admission Requirements

The goal of the admissions requirements to the BScPA is the selection of individuals who will enable the program to accomplish its mission to graduate socially accountable and professionally competent Physician Assistants who are well suited to practice in rural and underserved communities in Ontario, and to assist in the growth and development of the Physician Assistant profession in Canada.

The program admissions process requires that both cognitive (GPA, course prerequisites) and non-cognitive (assessed via Multiple Mini Interviews) competencies be assessed to determine eligibility for admission into the program.

Applicant Guidelines are provided on the program website<sup>22</sup> for applicants from different backgrounds (undergraduate applicants, CEGEP, Graduate, applicants from non-Canadian Universities and International Medical Graduates). The BScPA program has the following admission requirements:

1. Canadian Citizenship or Permanent Resident Status required.
2. Minimum 10 full-year courses (20 half-year courses) or the equivalent of 4 semesters full time of undergraduate university education from a recognized university.
3. Minimum cGPA of 2.7 calculated on the OMSAS (Ontario Medical School Application Service) scale. All completed undergraduate studies will be considered in the calculation of the cGPA.
4. Minimum of 910 hours of healthcare experience (all forms, including employment, clinical education, or as a volunteer). Healthcare experience is evaluated based on: level of involvement in direct patient care, type of clinical duties performed, level of supervision, total number of hours, type of clinical setting, and recency of experience.

Preferred candidates include those with credits in preferred courses, those with healthcare experience that is more recent, paid and included direct patient contact, those who are current residents in Ontario, and those who have been a resident of a rural or northern community.

These requirements and preferred criteria closely align with the learning outcomes of the program, which in turn align with the competency profile of the PA profession in Canada, as established by the Canadian Association of Physician Assistants' competency framework, CanMEDS-PA (2015) (See Appendix 1.2). The program requirements and preferred criteria establish a foundation whereby accepted candidates are best suited to an education that aspires to the seven CanMEDS-PA roles.

**Medical Expert:** Academic success predicts future academic success. Students entering the program must have strong academic achievements. Successful candidates typically have higher GPAs than the minimum requirement (See Figure 2 in the Quality Indicators, Students section: cGPA of incoming

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<sup>22</sup> Accessed January 8, 2018 <http://www.paconsortium.ca/admission-requirements>

students). A core strategy of our Consortium is to deliver a program based on academic excellence. By establishing admission criteria that values previous academic performance in addition to healthcare experience, our successful candidates are well prepared to develop in the role as medical experts.

**Communicator:** The application process is designed to help us select candidates with excellent communication skills. The supplemental application assesses written communication, and the MMI interviews assesses verbal communication. Because of the distance nature of the program, proficiency in electronic communication is also specifically assessed during the application and selection process. Excellent communication is one of the most significant attributes of a successful PA.

**Collaborator:** A PA, by definition, must practice as part of a team. Candidates with previous healthcare experience generally already have experience in team-based healthcare and are interested to do more. Students in the program are required to build on their collaborator competencies throughout, so the selection process includes opportunities to assess these baseline attributes of candidates.

**Leader:** Applicants to the BScPA program distinguish themselves as leaders first and foremost by their willingness to join a profession that is still in its early stages of development and integration into the healthcare system in Canada. Previously named Manager, this role also emphasizes the ability of PAs to promote sustainable team practices, make appropriate judgements about allocation of resources, and enhance the efficiency of their practices. These are all qualities that are valued in the application process and enhance the applicant's success in the program.

**Health Advocate:** As health advocates, PAs must understand the healthcare system in which they serve, including social determinants of health. Having previous direct patient contact as part of their healthcare experience is invaluable for successful candidates, as they are better equipped to become stronger advocates as PAs. The application process allows candidates to demonstrate their appreciation of current issues in healthcare and on unique healthcare needs in rural and Northern communities.

**Scholar:** As candidates with previous healthcare experience who wish to advance themselves academically and professionally, program applicants demonstrate a commitment to lifelong learning. Value is placed on demonstration of knowledge and commitment to learning, and many successful candidates have demonstrated their abilities in research, publications and advanced degrees. See Figure 1 (in the Quality Indicator: Students section) for the tally of academic degrees by incoming students.

**Professional:** Many elements of the BScPA program are designed to emphasize professionalism, ethical decision-making, reflective practice and lifelong learning. The application process mirrors these professional values. Candidates must reflect and express their goals in becoming a PA. They

must interact professionally with their MMI rater and fellow candidates. Completing the application, including providing all appropriate supplemental documentation, is a further assessment of the candidate's conscientiousness.

### **Management of Program Admissions: Historic Oversight and Future Evolution**

The responsibilities for BScPA program admissions have evolved since the program inception in 2009. The BScPA program Admissions and Selection (A&S) Committee (reporting to the Management Committee) remains the academic oversight responsible for initiating and implementing policies and procedures with respect to the selection and admission of all applicants to the BScPA program, as well as for assessing the qualifications of applicants seeking admission.

In the initial years, the BScPA program administration developed the application process and handled all applications with the assistance of a seasonally-hired admissions coordinator. U of T's central Enrolment Services (then called Admissions and Awards) directly supported the program by collecting, collating and assessing all transcripts and English Language Facility tests. Central Enrolment Services also provided official communication to applicants as to their application standing (i.e. did not meet the minimum requirements; not invited to the Program; OR invited to the Program). Beginning in Fall 2015, the Office of the Registrar, Enrolment Services – Undergraduate Medical Education, Faculty of Medicine (Registrar's Office) began providing support year-round, corresponding with/speaking with potential applicants, managing online applications, and preparing file review and interview results for the A&S Committee to review.

As was the desired goal, the involvement of the Registrar's Office has allowed the BScPA program administrative team to become more distanced from the day-to-day activities of the admissions process. In late 2017, the BScPA program leadership, in collaboration with the Registrar's Office, began working towards the eventual transition of services currently provided by U of T's central Enrolment Services (as above) to the Faculty of Medicine. This transition is welcomed by the Program, due to the Registrar's Office experience in management of undergraduate medical school admission candidates.

Another example of how the BScPA program has successfully leveraged the support and expertise of its Consortium members is with the candidate interviews. The Multiple Mini Interview (MMI™)<sup>23</sup> process was initially run independently by the BScPA program team at Michener's facility. As of April 2016, the MMI process is managed by Michener (one of our Consortium members), integrated into their admissions week<sup>24</sup>, relieving the administrative responsibilities from the relatively small BScPA program team.

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<sup>23</sup> Developed and pioneered by McMaster University in 2002. The Faculty of Medicine, University of Toronto holds a license agreement with McMaster University for use of the MMI Stations

<sup>24</sup> Michener has a separate MMI license with McMaster, and uses the process to interview approximately 800 candidates to the various programs available at Michener over one week in late April/early May each year.

## Curriculum and Program Delivery

### *Overview*

The BScPA program is a distance and distributed education program with the majority of the academic program delivered online. Students are expected to participate in online learning from home throughout the didactic phase in Year 1, and participate in face-to-face (“residential weeks”) teaching sessions, simulations, labs and assessment on campus at the University of Toronto at specific intervals throughout the program. During Year 2, students participate in 40 weeks of clinical placements, distributed throughout Ontario, some of which are in their home communities and some of which are ‘swap’ in the opposite geographic region (Northern or Southern Ontario).

### *Program Requirements and Learning Outcomes*

The first year is the academic component of the program where students acquire the knowledge and skills required for their clinical rotations in the second year of the program.

The course descriptions are listed by semester and are available in Appendix 3.1. The degree-level expectations for the program are available in Appendix 3.2. The entire academic curriculum is mapped to the CanMEDs-PA competencies, to ensure that the program is meeting the end targets required by graduating physician assistant students. This was reviewed and accepted as part of our CMA Accreditation in 2017.

### *Program Delivery*

The competencies required for program completion are taught as part of the integrated curriculum. The successful completion of each course is a prerequisite for the following semester’s courses. These requirements are listed in each course outline. The content is sequenced to integrate, overlap and scaffold learning in both basic science and applied clinical competencies.

The Program uses online synchronous and asynchronous learning activities, such as lectures and self-directed modules when introducing topics or presenting overviews at the novice level. When delivering more complex content, such as those requiring analysis, interpretation, and application, the Program may use online workshops, interactive discussions, and flipped classrooms. Essential to the successful strategy of the Program is scheduling the sequence of face-to-face sessions over 24 months to provide learning opportunities using simulations, practical labs, and small and large group learning activities. Hands-on clinical experiences are embedded throughout the Program. Students begin to develop basic clinical skills as early as within the first 4-week face-to-face Residential Block; they continue to practice during their Year 1 student-directed clinical practicums, progress to Year 2 and begin their first formal clinical rotation in primary care. After their primary care experience, they then continue in their subsequent specialty core clinical rotations, finishing with student-directed clinical electives.

Supporting evidence is provided to highlight the curriculum content, sequence and delivery. The Model Route (see Appendix 3.3) lists the courses by semester, including course weighting and

duration, and reflects the scaffolding of concepts over time. The Program at a Glance is a high level schedule overview that demonstrates the overlap in course sequences within semesters and includes the student study (“reading”) week, vacation weeks and examination weeks (see Appendix 3.4). The schedule also highlights the strategically placed face-to-face Residential Blocks which bookend the semesters, allowing for clinical skill practice with simulation experiences and cumulative face-to-face assessment of student competence. The Residential Blocks follow a logical sequence, using the valuable time to promote professional identity, comradery amongst the cohort and connection with the University as a whole.

The focus of the second year of the BScPA program is clinical learning. Students are required to gain experience in ten 4-week clinical rotations across the province in both Northern and Southern Ontario; five rotations occur in the student’s “Home” geographic location, and five rotations occur in the opposite “Swap” geographic location.

The 10 Clinical rotations are:

- 2 X 4 weeks in Primary Care (Family Medicine)
- 4 weeks in Emergency Medicine
- 4 weeks in General Surgery
- 4 weeks in Internal Medicine
- 4 weeks in Mental Health
- 4 weeks in Women’s Health
- 4 weeks in Pediatrics
- 2 X 4 weeks of Electives

Students are placed on rotations with a clinical supervisor who is typically a physician preceptor. Physician Assistants can also be clinical supervisors, and may often be the one who works most directly with the student. The Goals and Objectives for each of the core rotations are stated in the course outline for PAP 250 Clinical I/PAP 260 Clinical II (See Appendix 3.5), which in addition to the Clinical Handbook, may be a valuable resource for both students and preceptors.

### ***Curriculum Creativity and Innovation***

The BScPA program at U of T can be considered an innovation in and of itself with respect to medical curricula. It is one of only two PA civilian programs in the province (and one of three across Canada). This program is truly unique in its delivery of a blended online Canadian medical curriculum.

Areas of creativity and innovation within the BScPA curriculum are presented within the following themes:

- *Adjusting a traditional teaching format into the online environment:*
  - Problem based learning is a well-established education model for student-driven learning. We adapted this to the online platform (ePBL). Students are dispersed geographically, yet work together online, both asynchronously and synchronously

- according to a set schedule.
- Learning Modules provide course content in an organized, scaffolded fashion. Electronically accessible, students move through the material independently. Faculty support is available as needed via synchronous discussions or scheduled class meetings.
  - *Utilizing best practices in online and adult education principles:*
    - The “flipped classroom” is implemented to optimize time spent in the traditional classroom, and can drive learning. The most efficient use of precious synchronous learning time (whether online and face-to-face) is in applying knowledge and practicing skills. Didactic learning can otherwise easily occur asynchronously. Lectures can be recorded and viewed independently, similar to course reading assignments. As such, students are typically required to view lectures online and complete any pre-reading or preparatory assignments before attending synchronous class sessions.
    - Rather than traditional face-to-face presentations, students are expected to prepare videos of themselves for assessment. This type of submission enables the faculty to assess the work asynchronously and allows for multiple graders to be involved. Some examples include:
      - Patient Case Presentation (PAP 124 Clinical Skills II), where students create and present a patient case
      - Final Assignment: Reflections on a Case (PAP 269 Medical Ethics), where students use multimedia to reflect on an ethically challenging case from their clinical experiences
  - *Using assessments to drive online learning:*
    - While online learning can be convenient and tailored to the individual student’s pace and schedule, students can also more easily fall behind in their coursework. Students are at risk of procrastination or becoming disorganized due to the competing course priorities. The program faculty has learned to use incentives to help students stay on track. Some courses provide regularly scheduled, low-stakes quizzes at the start or end of a learning module. This formative assessments, for credit, allow the faculty to monitor student performance as the course progresses.
  - *Supporting distance student learning by simplifying logistics:*
    - To enable students to stay at home for the maximum amount of time during the online portions of the program, we have established a process of remote test proctoring, when feasible. The BScPA program office arranges proctor sites for students to write at test centres near their home or clinical placement site.
  - *Practicing what we preach - emphasizing reflective practice:*
    - The program emphasizes reflective practice across the curriculum. Examples are

provided in the DLE document (Appendix 3.2).

### ***Effective Mode of Delivery***

The unique distance and distributed curriculum was designed and continues to support the mission and vision for the program. It is through this online delivery that we can support our learners in their home communities, utilize best practices in online education, and expose students to the variety of clinical experience across the province to support their future as practicing PAs.

### ***Opportunities for Student Learning Beyond the Classroom***

BScPA students learn the practical skills of clinical medicine and advocating for their profession throughout the program.

PAP 111 Introduction to the Physician Assistant Role is a robust course that covers several elements of becoming a PA. These include aspects of advocacy, as well as professionalism, communication and collaboration. This course includes a PA Panel, where students participate in dialogue with practicing PAs who represent a variety of health care settings, disciplines and levels of experience.

In the Longitudinal Clinical Experience (LCE) courses (PAP 110, 120, 130), students participate in practicums, which, by definition, expose them to the practical aspects of clinical medicine. From the first semester in the program, students consistently describe how these LCE opportunities help to solidify their knowledge and enhance their level of confidence. These experiences only strengthen their confidence and competence in Year 2 during clinical rotations.

Throughout the program, the Interprofessional Education (IPE) modules provide students with opportunities to build on their professional identity and influence other healthcare profession students. BScPA students have commented that they appreciate that the timing of these IPE experiences are intentional, as all students are in similar positions of building their respective professional identities, and note that the practice of effective team-based care will only be possible with mutual trust and respect. One student reported the effect is particularly great “especially before professional egos develop within the health profession”.

The most notable learning beyond the formal classroom occurs in the Year 2 clinical placements. As one current BScPA student (Class of 2018) reflected, *“I have felt proud as a PA learner, especially when I consistently see first-hand my medical knowledge, assessment and communication skills are comparable to or may sometimes exceed 4th year medical students and some residents, and especially so when this has also been acknowledged by preceptors and other medical learners.”*

### ***Enabling Student-Faculty Interaction***

Given that the majority of the didactic program is delivered by distance, the use of technology is critical for timely access to support. The faculty uses a combination of e-mail, teleconference and/or

videoconference in order to connect with students. All faculty are available by e-mail and can arrange meetings with students as requested.

In addition, each course has a student-elected student representative who acts as a liaison for the rest of the cohort and the Course Director. Informal interactions are expected in the event of concerns from either the student or faculty perspective.

As well, in-person teaching uses a combination of interactions with faculty and students in large group and small group workshops and interactive lectures. In recent years, there have been well received formative feedback sessions planned regularly in every residential block whereby students work directly with a faculty member to receive feedback on their clinical examination techniques and to be signed off once they correctly conduct each required patient examination.

### **Assessment of Learning**

We operationalize the University's Assessment and Grading Practices Policy with the following specifics:

- Students are informed of the methods of evaluation via Course Outlines, which are provided to them, at the latest, on the first day of the course. For clinical rotations, the format and evaluation criteria are provided to both students and preceptors who evaluate them, via the Course outline and the Clinical Handbook. (see Appendix 2.3)
- The University Grading Policy outlines that no one assessment should be worth more than 80% of the course grade; the BScPA program follows the principle of "multiple types of assessment tools used in multiple ways". As a result, most assessments are worth less than 40% of the course grade and the majority of assignments are worth 30% or less.
- Where performance is assessed according to standardized expectations (such as physical examination skills), checklists are provided to students to help them learn the techniques, and the same checklists are used to assess them.
- Final course grades are presented to for approval as per the Faculty of Medicine Faculty Council by-laws. The BOE operates under the authority of the Dean for the Faculty of Medicine.

In the BScPA program, assessments are used at various intervals, so that the students receive feedback on their progress. Feedback is often in the form of detailed rubrics with extensive comments, available in the student's view of their grade online. The class may also be provided with summarized feedback on commonly noted knowledge gaps as this may represent a typically challenging area for many to master.

All courses are checked annually to ensure they have assessed students in their respective course objectives. These course objectives are already mapped to the competencies set out by the CAPA CANMEDS-PA and were recently approved by the 2017 CMA Accreditation process. Future work at the Evaluation and Assessment Committee level is already underway to build an assessment map for the entire program, similar to the curriculum map, even though this not yet an accreditation standard.

By using continuous, multiple forms of assessments throughout the BScPA program, the faculty are able to have an ongoing picture of student progression in attainment of competence. Course Directors are able to early-detect students who are in potential academic difficulty, and act to support the student learning in an appropriate and timely manner. This may include intervention to review content, referral to the Office of Health Professions Student Affairs for help with learning strategies, and/or the development of a learning plan with formal deliverables in a specific timeframe. The Program has outlined the expectations and processes that relate to students in academic difficulty, including the steps regarding remediation (See Section 2.7 “Students in Difficulty” in Appendix 3.6).

For clinical rotations, evaluations of student performance are completed by the preceptors in an online system<sup>25</sup>. The evaluations are based on the CanMEDS-PA competencies. The PAP 250 Clinical I/PAP 260 Clinical II Course Outline (Appendix 3.5) explains how grades are calculated and the criteria for demonstrating competency.

One way to document that clinical rotations provide students the opportunities to apply their knowledge and gain adequate experiences is by the student-generated Case Logs. PA students are expected to log patient encounters (including diagnosis and/or, procedures) in an online tracking tool, which is designed to track their progress from the list of requirements (taken from CanMEDS-PA).

New in 2017-2018, all second year students have progress review meetings with faculty. This check-in with students includes their own reflections about meeting rotation specific competencies, reviews their Case Logs of clinical encounters and how they are progressing in the formative external End of Rotation Exams<sup>26</sup>. The intention is also to help students plan elective experiences in areas where any gaps in clinical exposure or ability to obtain competencies are identified. As a result of this new initiative, we have identified several students who had not been logging adequately, missing clinical opportunities, or struggling with gaining a variety of clinical exposure. Through early identification, we can work with the individual student while there is still an opportunity for resolution.

Beyond the completion of the requirements in clinical rotations, the final requirement to assessing learning and to successfully complete the program is to pass the objective structured clinical

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<sup>25</sup> The PA Program uses a third-party online Program Management System, E\*Value, for clinical scheduling, evaluations and case logging. We also use this system as a database to track personnel and clinical placement agreements.

<sup>26</sup> The End of Rotation Exams (ERE) are secure, online exams administered remotely by the US-based Physician Assistant Education Association (PAEA). UofT students are required to complete the 7 exams after each specialty rotation with a benchmark grade of 60%. ERE is a formative experience only and the student performance does not count towards their Clinical Course grade.

examination (OSCE). This standardized clinical simulation assessment is developed from a blueprint of competencies matched to the core clinical rotations.

In the processes described above, the program first ensures that students are meeting all the academic requirements, attaining competencies in basic medical science knowledge and performing all examination skills to progress to the second (clinical) year of the program. Students are then monitored to ensure that they are exposed to required clinical experiences, or otherwise activities are supplemented. Lastly, student performance is assessed in a standardized examination to ensure that they have attained the competences required for the profession.

### **Student Awards and Professional Development**

Scholarships or competitions specifically for UofT Physician Assistant students do not exist yet, nor are there provincial or national options.

As a professional degree program, much of the curricular content is by definition professional and transferable skills. The BScPA curriculum, centered on the CanMEDS-PA competency profile, teaches students the specific transferable skills they will use in day to day practice. These include medical clinical expertise, professional behaviour, advocacy, and communication. Courses that are based on acquisition of biomedical knowledge, such as Anatomy or Physiology, also teach with an emphasis on the application of scientific knowledge to clinical practice.

Student initiatives and the evolution of student leadership are also measures of success. Our student cohorts include active student leadership positions<sup>27</sup>, from formal committee members to social and IT support for fellow classmates. Each course has a student rep, allowing for more leadership opportunities across the cohort. Student leadership roles often include both Year 1 and Year 2 students, so this also facilitates interactions and support between the cohorts. Our graduates have gone on to hold PA leadership positions within the Canadian PA Education Association, CAPA (Canadian PA Association) and within their own healthcare institutions. Many have become involved in clinical education and as clinical preceptors.

#### **Professional Development: Learning about Advocacy for the Profession:**

One creative assignment in the Intro to the PA Role course is an Opinion Editorial. Students are provided with expert guidance on advocacy and the use of printed media to disseminate their position. Students who are successful in publishing their piece may receive bonus marks. (See Appendix 3.7).

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<sup>27</sup> Student-elected leadership positions include: Class Rep (and Management Committee Member), CAPA Student Rep, PA Student Association (PASA) President and PASA Vice-President, Social Committee Lead, Interprofessional Health Student Association (IPHSA) Rep, IT student Rep and student reps on committees (Admissions and Selection Committee, Evaluation and Assessment Committee Rep/Faculty of Medicine Appeals Committee and Curriculum Committee)

When opportunities arise from the arrangements of other stakeholders, the BScPA program has been supportive of students participating in PA advocacy events. For example, in September 2017, CAPA organized a provincial PA Advocacy Day at the Ontario provincial legislature building, and arranged for meetings with the Members of Provincial Parliament (MPPs). Program leadership, alumni and current students were all in attendance, with opportunities to network with the Ontario Minister of Health, and the opposition health critic. Students participated in discussions about the current challenges of funding and lack of regulation for the profession provincially.

Advocacy includes not only the promotion of the profession, but also of the education program. Students are effective ambassadors in the recruitment of potential applicants. At the 2017 University of Toronto Fall Campus Day intended to promote and highlight academic programs, one faculty member, Jeff Straw, presented an information session to a standing room only crowd. Essential to this success were the current students who supported our booth and interacted with the public.

In addition to recruitment fairs, our students are instrumental in the interview stage for applicants, participating as raters at stations, including the station that assesses technical proficiency and following instructions. Our current students also facilitate information sessions during the interview day to address questions from candidates that only they can provide. We engage current students to contact successful applicants who have been offered positions in the program. These initial peer-to-peer phone calls are structured to provide incoming candidates with support from current students (sometimes to help them make the decision to accept the offer). These lead to mentor-support for the new students, as they adjust to their new program. Typically, there is an outpouring of interest from current students to participate in these recruitment opportunities.



*A small crowd of potential candidates gather after the PA program presentation by Mr. Jeff Straw, St. George Campus, Toronto October 2017*

## **Student Funding**

There are no merit-based nor faculty-derived financial awards available for BScPA students. Funding available to students in the program is in the form of financial aid. Students registered in the BScPA program are eligible to receive full OSAP (Ontario Student Assistance Program) and UTAPS (University of Toronto Financial Aid), which is administered through the Office of Enrolment Services, at U of T. In addition, students who are eligible have access to bursaries and “Other Grants”, which are issued by OSAP (as study grants for low income, students with dependents or Canada Millennium Scholarships).

Table 1 summarizes the previous 6 years of Financial Aid accessed by registered BScPA students, as of the respective year. There is a range by year of the percent of students that receive financial aid in the past 6 years. 30-70% of registered students per year have received some type of OSAP financial aid.

Table 1: Financial Aid Funding for BScPA Program Students, by Year

Financial Aid	2011	% students	2012	% students	2013	% students	2014	% students	2015-2016	% students	2016-2017	% students
OSAP	\$333,562	31%	\$479,229	41%	\$721,798	39%	\$616,110	38%	\$647,036	59%	\$ 788,717	70%
UTAPS	\$20,500	16%	\$26,500	19%	\$75,700	28%	\$94,307	17%	\$ 96,208	32%	\$ 80,375	30%
Disability Grants	\$2,625	3%	\$0	0%	\$0	0%	\$0	0%	\$ 2,000	2%	\$ 8,000	7%
High Need Grants	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$ -	0%	\$ -	0%
Other Grants	\$793	6%	\$0	0%	\$0	17%	\$93,092	33%	\$ 74,975	41%	\$ 123,476	56%
<b>TOTAL</b>	<b>\$357,480</b>		<b>\$505,729</b>		<b>\$797,498</b>		<b>\$803,509</b>		<b>\$820,219.00</b>		<b>\$1,000,568.00</b>	
Average per student receiving award	\$35,748		\$36,864		\$42,459		\$23,632.62		\$24,855		\$25,014	
# of registered student	32		32		46		90		56		57	

(data source: Financial Aid Services, UofT)

## Quality Indicators: Students

### Application and Registration

The BScPA program attracts highly qualified students from a diverse range of healthcare fields. Each cohort produces a class resume, with impressive results. We have seen the increase in cGPA in our incoming students, and continue to see the diverse and extensive academic degrees attained prior to PA school.

Figure 1: Tally of Highest Degree upon entering the BScPA Program by Graduating Cohort (2010-2019)

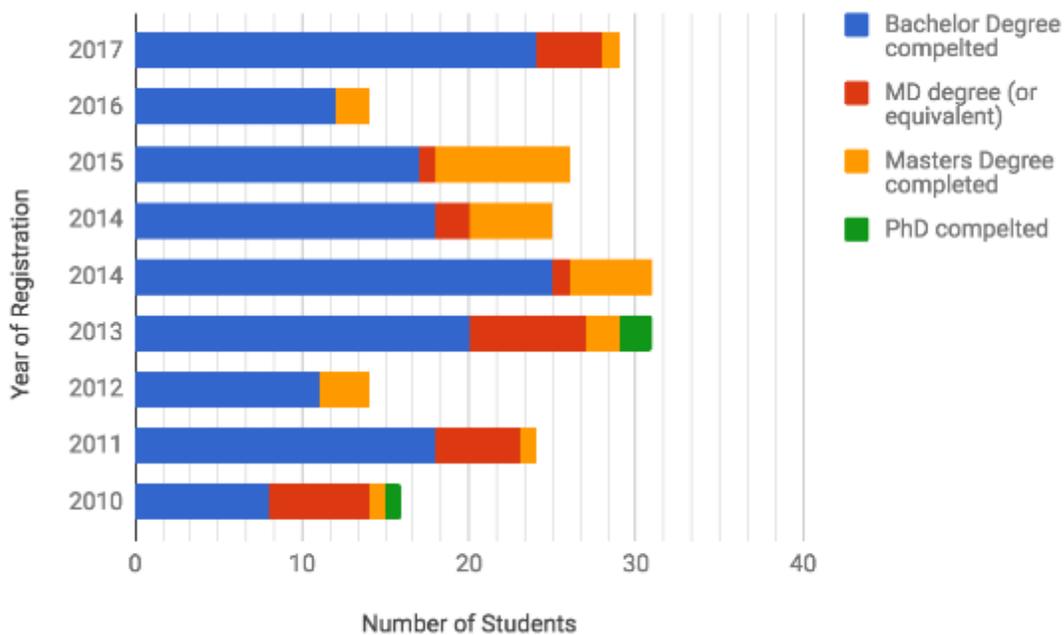
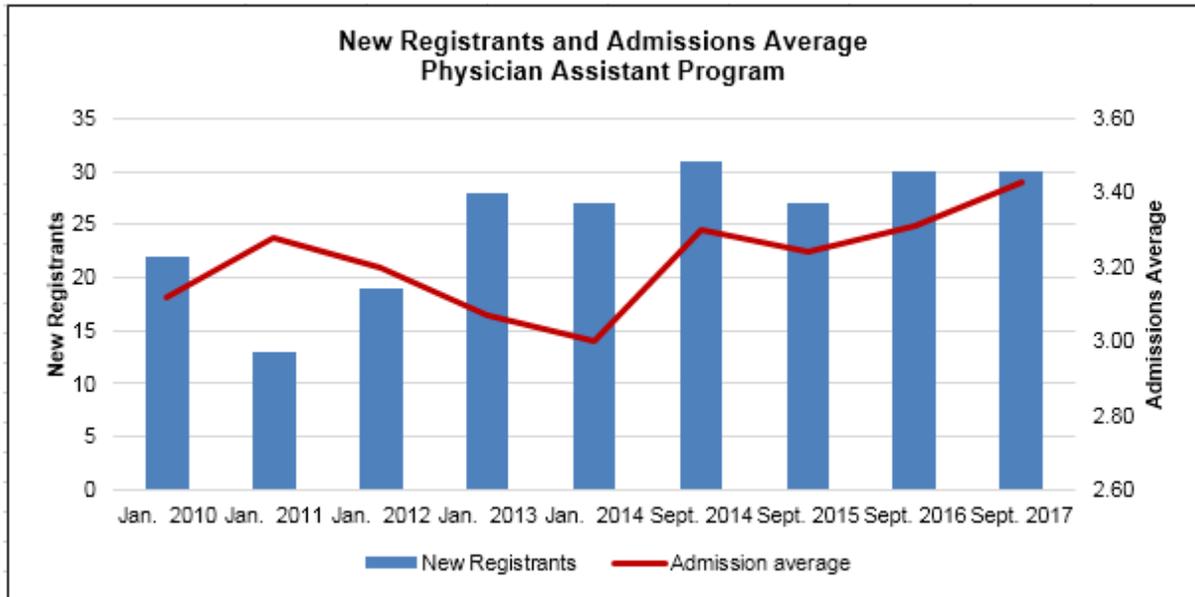


Figure 2: Mean cGPA of Admitted Students, by Cohort (2010-2017)



(data source: Undergraduate Enrolment Cube and BScPA Program files)

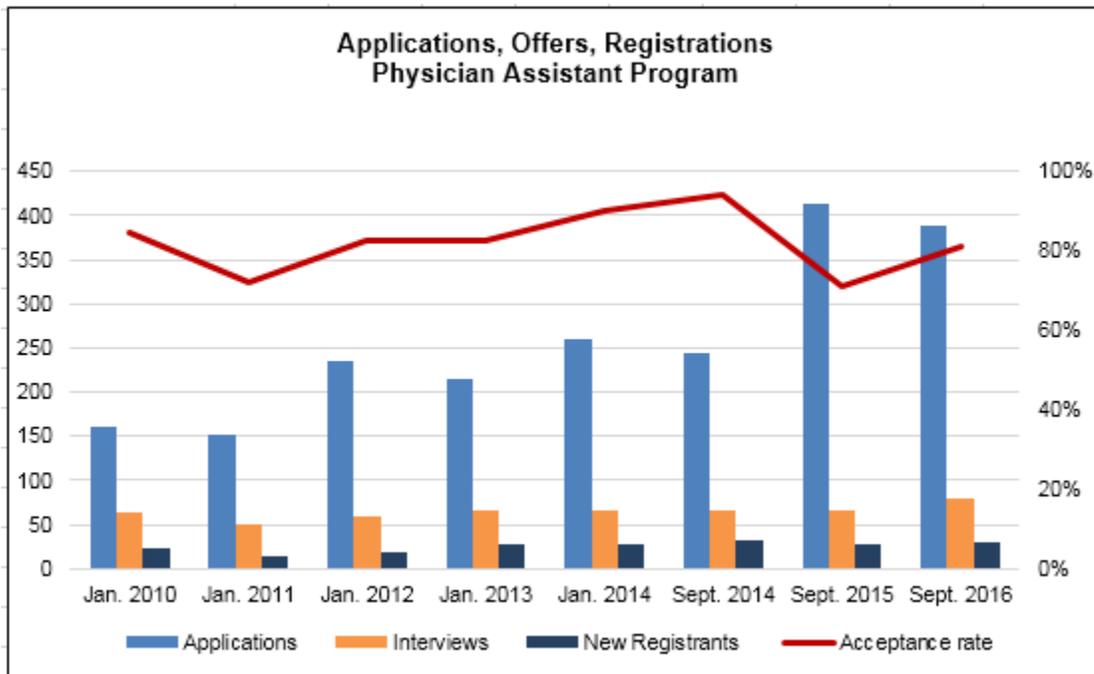
Changes were made to the admissions criteria for the September 2015 entry, to allow for a broader range of applicants and increase the applicant pool (in part, as a result of recommendations from the PA Program Restructuring and Implementation Task Force - See Appendix 1.1). A significant increase in applicants was realized for the September 2015 entry and this increase has been sustained (See Table 2). The program goal continues to be to admit 30 students per year. We consider our acceptance rate to be excellent, especially since we are competing with two other Canadian PA education programs for the same pool of people. Anecdotally, we know that some top candidates choose another PA program due to their geography, and others choose a different healthcare education program altogether.

Table 2: Applications, Offers, Registrations Physician Assistant Program 2010-2017

	Jan. 2010	Jan. 2011	Jan. 2012	Jan. 2013	Jan. 2014	Sept. 2014	Sept. 2015	Sept. 2016	Sept. 2017
Applications	160	152	236	215	259	244	413	388	515
Interviews	64	49	59	66	66	66	66	80	84
Offers	26	18	23	34	30	33	38	37	39
New Registrants	22	13	19	28	27	31	27	30	30
Acceptance rate	85%	72%	83%	82%	90%	94%	71%	81%	77%

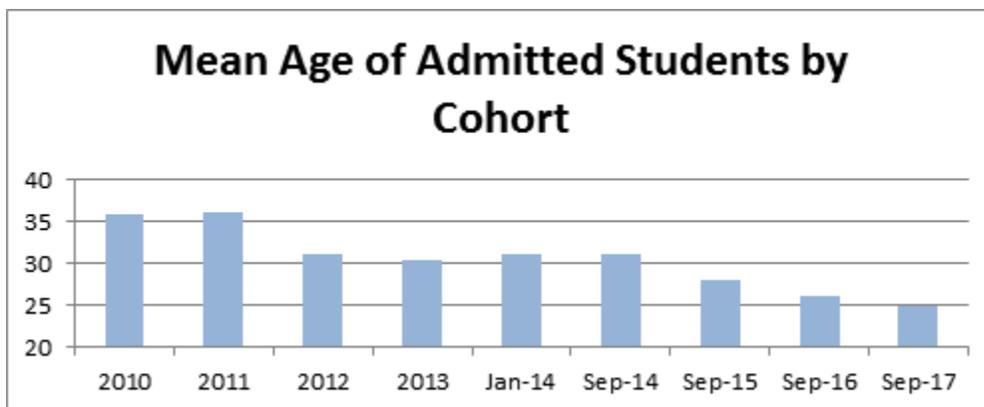
(data source: Undergraduate Enrolment Cube and BScPA Program files)

Figure 3: Applications, Offers, Registrations Physician Assistant Program 2010-2017:



With the adjusted admissions criteria we have seen a decrease in average entry age, and an increase in entry cumulative Grade Point Average (cGPA) (see Figures 2 and 3). This is simply a noted trend. We will analyze this along with incoming healthcare experience once there is enough data to determine significance.

Figure 4: Mean Age (y) of Admitted Students, by Cohort (2010-present)



**Attrition and Graduation Rates**

The BScPA program is committed to monitoring admitted students over time to determine if there are any effects within the program due to the expanded admissions criteria. One monitoring point is

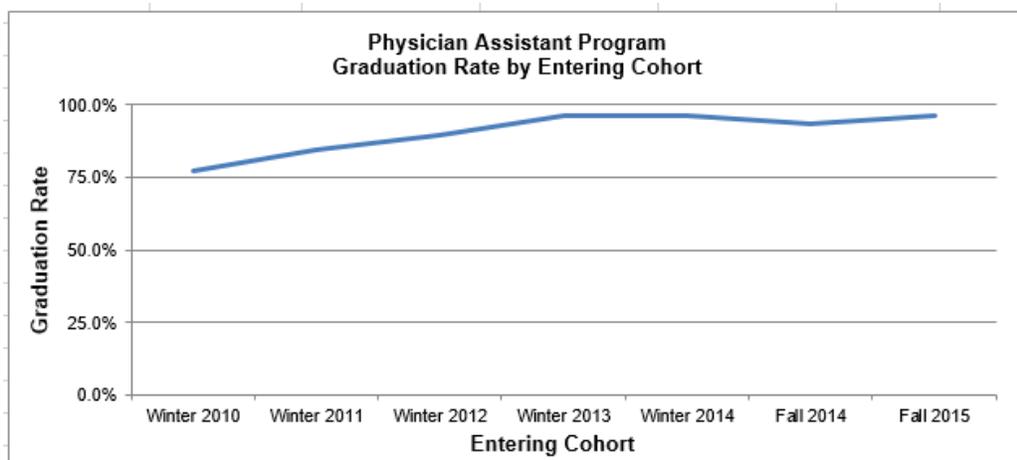
retention. While retention has typically been 85% or more, we have noted an increase in retention over the last couple of cohorts. Table 3 presents the historic retention rates by cohort<sup>28</sup>.

It is interesting to note that the attrition rate decline corresponds to the relative younger age of incoming students. We have not done a formal analysis of these figures. It may be reasonable to postulate that the younger students are more likely to remain committed to their goal of completing the BScPA program as they generally have fewer personal commitments. They may be less likely to return to their previous healthcare professions for financial reasons. In addition to individual factors that may result in attrition, as the program is gaining in popularity, our incoming students are much more aware of the history of the profession, and have often been planning for their application and potential enrollment for years. Thus, they are typically very committed to the program and to the profession.

Table 3: BScPA Student Graduation Rate by Year

Entering Cohort Term	Graduate Cohort Term	# of students in Entering Cohort	# of students who graduated	Graduation Rate
Winter 2010	Fall 2011	22	17	77.3%
Winter 2011	Fall 2012	13	11	84.6%
Winter 2012	Fall 2013	19	17	89.5%
Winter 2013	Fall 2014	28	27	96.4%
Winter 2014	Fall 2015	27	26	96.3%
Fall 2014	Summer 2016	31	29	93.5%
Fall 2015	Summer 2017	27	26	96.3%
		<b>167</b>	<b>153</b>	<b>91.6%</b>

(data source: ROSI and BScPA Program files)



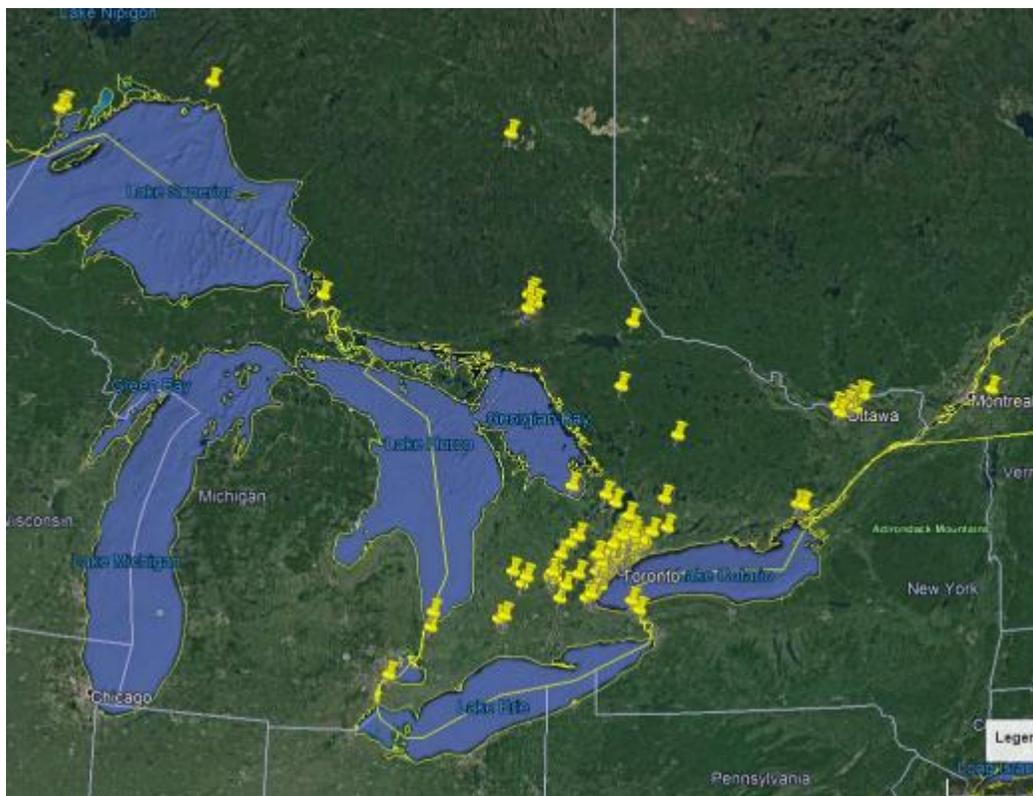
<sup>28</sup> Some students and graduates have left the PA profession to attend medical school or residency programs.

Our retention rates have been improving over time and seems to be at a reasonable level. By comparison, the mean enrollment of students in all PA programs in the US is about 46 per cohort (compared to our 30). The US data reports a 94.2% graduation rate, accounting for academic and non-academic dismissals, withdrawals for personal reasons and deceleration into a subsequent cohort.<sup>29</sup>

There has been no attrition of students since June 2017. Current class sizes are 30 (Class of 2019, September 2017 start) and 30 (Class of 2018, September 2016 start).

The Program continues to draw students from across Ontario. See Figure 5 for a map of the home locations of students. Each yellow pin on the map represents a student. Figure 6 presents applicant data pertaining to candidates self-identifying from Northern Ontario at the time of application. The acceptance for these offers averages at 72%. It is consistently noted that the ratio of offers to Northern candidates exceeds the ratio of Northern applicants to the program. The applicants from the North are generally very strong.

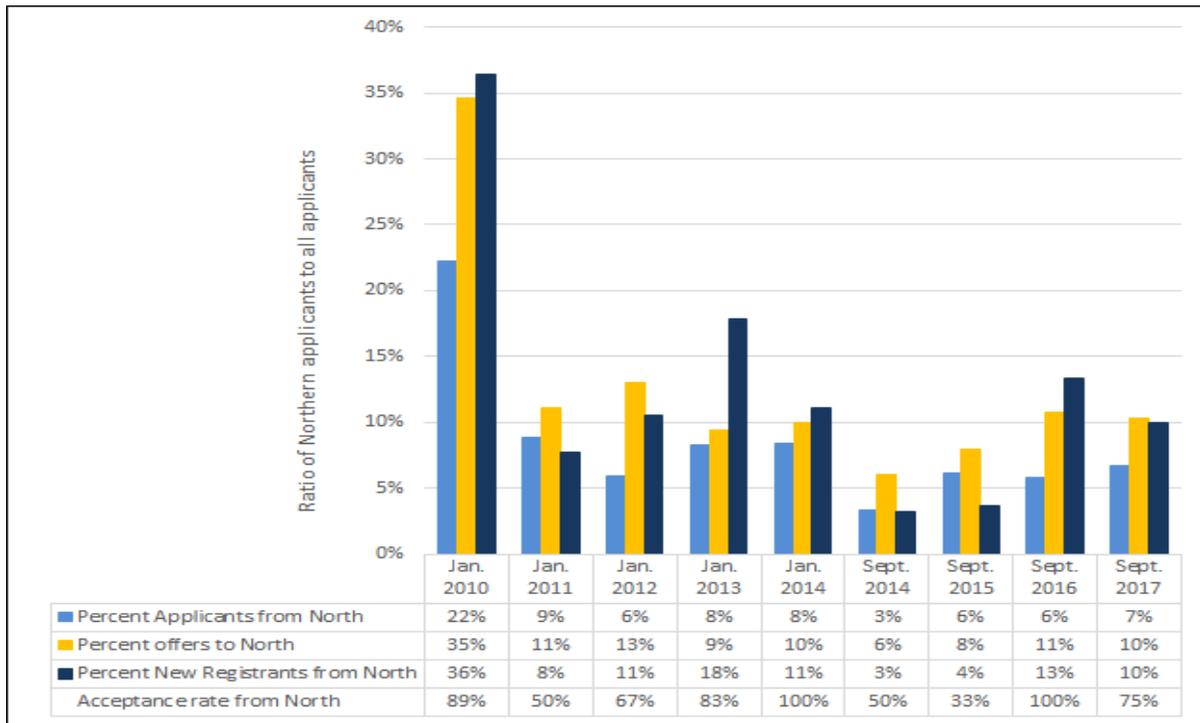
*Figure 5: Home locations, Classes 2011-2019:*



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<sup>29</sup> Physician Assistant Education Association, *By the Numbers: Program Report 32: Data from the 2016 Program Survey*, Washington, DC: PAEA; 2017. doi: 10.17538/PR32.2017 Accessed January 8, 2018 [http://paeaonline.org/wp-content/uploads/2017/10/ProgramReport32\\_2017\\_2.pdf](http://paeaonline.org/wp-content/uploads/2017/10/ProgramReport32_2017_2.pdf)

Figure 6: Applications, Offers, Registrations - percentage of totals from Northern Ontario Physician Assistant Program 2010-2017



### Final-Year Academic Achievement

The cumulative grade point average (cGPA) at graduation by cohort is provided in Table 4. GPA is calculated on a 4.0 scale. The academic excellence that we select for on admissions is noted to continue to graduation.

Table 4: Final-Year Academic Achievement by Year.

	2011-12	2012-13	2013-14	2014-15	2015-16
# of grads	17	11	16	27	26
cGPA Avg	3.74	3.78	3.8	3.55	3.69

(source: ROSI custom queries)

### Academic Awards

In the 2016-17 academic year, the BScPA program initiated a series of recognition awards, including awards for students (See Appendix 1.3). The **BScPA Program Academic Achievement Award** was established “to recognize the Academic Achievement of a graduating Physician Assistant student” and is granted based on highest cumulative GPA of a student in the graduating cohort. The **PA Student of the Year Award** was established “to recognize a Year 2 PA student for demonstrating exemplary qualities of a Physician Assistant”. The contributions of the individual are judged based on the familiar CanMEDS roles such as collaboration, leadership, advocacy, participating in scholarship

and professional, respectful and ethical behaviours. Service to advance the profession is another criteria that is considered. The awards are presented on Convocation day, at a BScPA Program Awards Event in front of an audience of graduates, their friends and family, BScPA faculty and teachers.

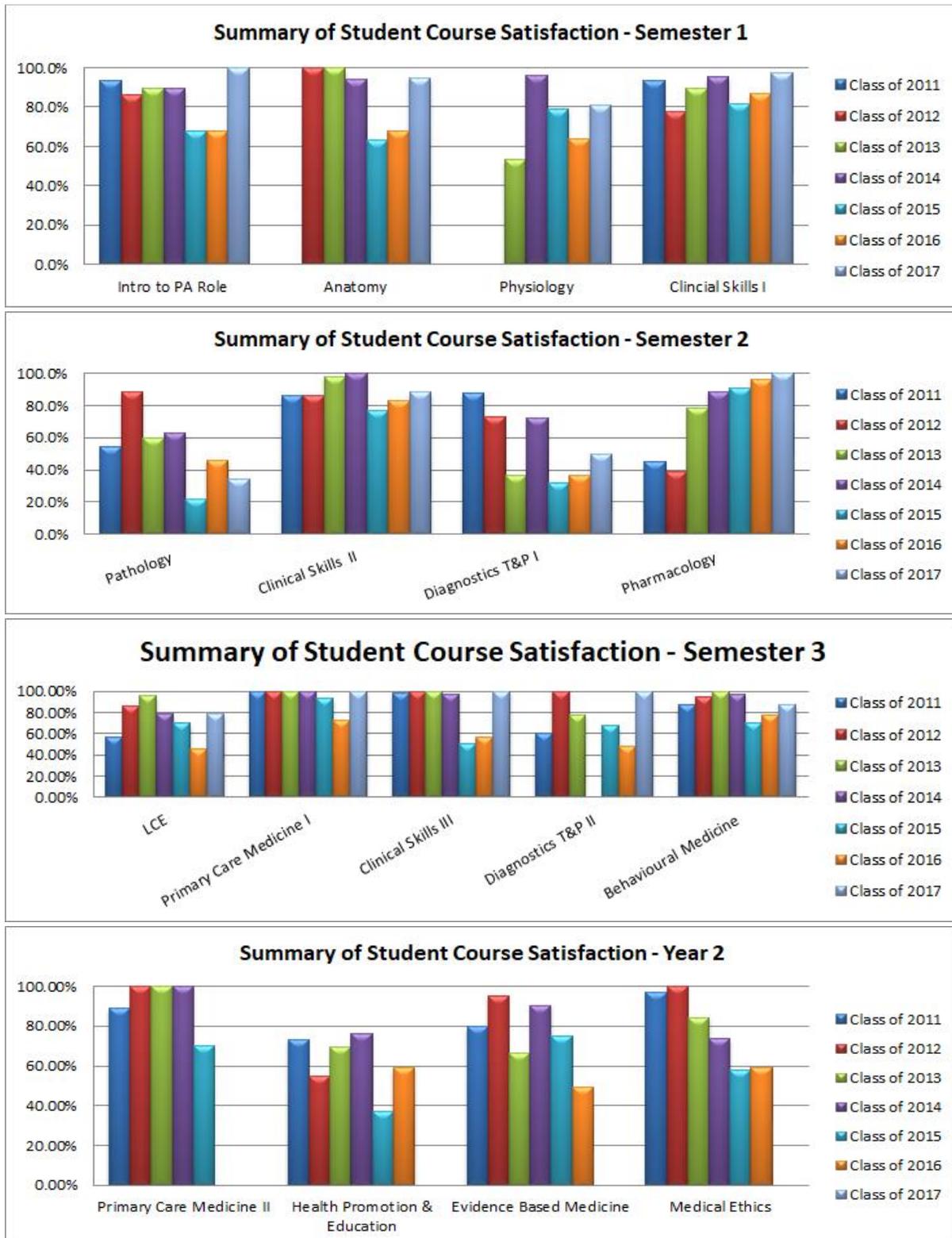
### *Student in-course Reports on Teaching*

Faculty of Medicine programs do not use the U of T course or faculty surveys as we create and manage our own. As such, the only comparator we have is to ourselves, year over year.

Figure 7 presents a summary of course satisfaction by students for the past 5 years, extracted from a series of questions in the course evaluations. Some courses have considerable variability in student satisfaction from one year to the next (Such as Anatomy (S1), Diagnostics Techniques and Procedures I (S2), Clinical Skills 3 (S3) and Health Promotion and Education (Y2)). Often the significant change in student satisfaction corresponded with a change in course leadership and often reflected the overall change in how the course was organized.

It can take up to three years for a course director to reach a steady state in terms of delivering a strong course. Course satisfaction tends to subsequently rise, once the new leadership is in place, which supports this explanation, as course content does not drastically change from year to year. Since the initial years of program development, we now have a consistent and strong faculty complement to deliver our courses, and can focus on minor adjustments within courses towards optimal course delivery in the near future. The immediate student feedback upon course completion is not the only metric to be considered, as many students report at the end of the program that their initial reactions (generally, more critical) often evolve into more positive opinions, once they have been able to reflect over the larger landscape of their training overall.

Figure 7: Summaries of Student Course Satisfaction by Semester



(data source: PA Program data)

Students complete faculty assessments regularly, at the end of each semester. These confidential assessments are reviewed by the Medical Director and the Faculty member and are used as feedback that may also help direct faculty development.

Table 5 is a summary of the overall student ratings for guest facilitators in the BScPA program for the past three academic years. These evaluations are reviewed before teachers are asked to return again. The overall high level of student satisfaction for guest facilitators is likely due to the close selection of teachers who are asked to facilitate again and again.

*Table 5: BScPA Student Evaluations of Teachers*

	<b># of evaluations completed by students</b>	<b>Average rating overall of teachers (/5)</b>	<b>% of ratings that are good (4/5) or very good (5/5)</b>
<b>2016 – 2017</b>	2194	4.30	80.47%
<b>2015 - 2016</b>	2442	4.14	75%
<b>2014 - 2015</b>	2212	4.24	75%

*(data source: BScPA Program data)*

## Quality Indicators: Graduates

### *Employment Rates Post-graduation*

Most of the BScPA program graduates have been employed through the Career Start granting program, an initiative supported by the Ministry of Health and Long Term Care (MOHLTC), operated by HealthForceOntario (HFO). Due to privacy concerns and lack of regulation of PA employment, the Program does not have direct access to graduate employers to survey them. Therefore, the Program continues to collaborate with HFO on the sharing of data and for future reporting from employers. This includes the MOHLTC 2017 initiative: the Physician Assistant Integration Working Group.

As of November 2017, 22 of our 26 graduates in the Class of 2017 had already started their new careers as physician assistants. Program data show that about 14% of our graduates to date are employed in Northern Ontario. Our graduates are part of the Ministry of Health and Long Term Care and HealthForceOntario PA Graduate Career Start opportunities by geographic area. We survey our students upon program completion to help track their eventual employment, but also to understand their experience in garnering their first employment as a PA through the Career Start initiative. Our graduates consistently send out 10 or more resumes for the 40 or so positions that are posted for them. They have provided thoughtful and constructive feedback on their job search experience, which the program has compiled and prepared for HFO’s future consideration.

It is not surprising that Primary Care is the largest employer of BScPA graduates, as this is the one discipline that has access to sustainable funding to support PA employment (through Family Health Team budgets) (see Table 6).

Table 6: BScPA Graduate Employment (by Discipline) Upon Graduation and Beyond:

	% of overall graduates (2011-15) employed by discipline upon graduation	Employment of graduate by discipline (Classes 2011-15)
<b>Primary Care</b>	35%	40%
<b>Internal Medicine</b>	32%	22%
<b>Emergency Medicine</b>	18%	16%
<b>Surgery</b>	11%	16%
<b>Other</b>	4%	6%

(as of October 2015; data source: BScPA Program files)

### Post-Graduation Study

There is no data available on the pursuit of further study by our graduates. We are aware, anecdotally, of one student pursuing a Masters in Physician Assistant Studies from the University of Nebraska and another pursuing a Masters of Public Health at the University of Toronto. Both are also working full time as Physician Assistants in Ontario.

Some students and well as graduates have left the PA profession to attend medical school or residency programs.

### Graduate Publication Rates

The BScPA program does not systematically track or record the research and scholarship work of our graduates. However, we are aware of some recent publications, posters and workshops delivered by graduates (and one current student). We also recognise additional Canadian trained PAs who are affiliated with our program in some way. While not our graduates, they represent the growing PA profession and the commitment to giving back in an academic way. This is likely only a sample, and the program intends to capture this productivity more formally moving forwards. (See Appendix 3.8 for the list of individuals, their additional affiliations with the BScPA program, and the work they have disseminated.)

### “Skills Match”

It would be premature to effectively comment on the skills matching of our graduates due to the relatively new role of the physician assistant in the healthcare system, and the lack of professional regulation in Ontario. Although there is a national set of competencies that are being used as

standards in education and national certification, this has yet to be validated<sup>30</sup>.

In 2015, a post-graduation survey was launched to the 71 graduates we had at the time, and we received a 58% response rate. The purpose of the study was to identify if the program is supporting graduate outcomes. The attempted census, non-anonymous survey found that about 10% of our graduates were not employed as PAs, an unemployment rate that is comparable to the national PA Data from CAPA<sup>31</sup>. 46% of our graduates were employed in the same home community where they trained, with the rates higher for those who had been working as PAs longer (as they likely moved jobs back to home, as opposed to new graduates who take jobs where available). 42% of our graduates consider themselves working in a rural, remote or underserved community. When asked if the format of the BScPA program assisted in finding employment in a place of need, 57% of the graduates agreed, and only 29% disagreed. Those employed in rural areas were more likely to agree than those in non-rural settings. Of the graduates surveyed, those employed in rural, remote and underserved communities were more likely to work in Primary Care, see more patients per week, have fewer supervising physicians and feel that they were working to their full potential as a PA. (See Appendix 4.5)

### *Alumni and Advancement*

Involvement of alumni in the ongoing delivery of the BScPA program has always been valued. The membership of the Management Committee includes positions for two graduates (employed in both Southern and Northern Ontario). Graduate contributions extend into the real world issues as faced by our current students and future alumni, and provide insights into the ongoing developments from within the profession as a whole. With just over 150 alumni at the time of this report, we recognize that we may have reached the point to start building a community association. Although most cohorts are well connected internally, there is little connection across cohorts, from one year to the next, and filling the gap can lead towards alumni advancement, networking and fundraising.

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<sup>30</sup> For more on the topic, see the 2014 Oral Paper presented by Dr. Gottesman “Is it time to validate the National Competency Profile for Physician Assistants?” in Appendix 4.3

<sup>31</sup> 2016 CAPA Member/Census survey. Accessed August 17, 2016 [https://capa-acam.ca/wp-content/uploads/2016/08/Member\\_Census\\_Results\\_mbr\\_summary\\_July\\_2016.pdf](https://capa-acam.ca/wp-content/uploads/2016/08/Member_Census_Results_mbr_summary_July_2016.pdf)



*Class of 2017 enjoying the moment, November 2017. St. George Campus, Toronto*

With a small profession, small number of graduates and no other Canadian alumni association in existence, the effort to develop a community of PAs, rather than an alumni association, has been at the forefront of building the profession. Graduates are focused on securing employment, advocating for the profession and building their own communities of practice. Any alumni efforts must be driven by the internal needs of the graduates.

Students in the Class of 2013 initiated a student association that took one more year to implement and another to reach a level of stability. The Class of 2016 has shown some interest in a more formal alumni association. Efforts were initiated in January 2017 with a BScPA graduate, the Faculty of Medicine Alumni Relations officer (Ms. Morgan Tilley-Woo), and the Medical Director.

Major discussion items included the following, with relevant action items or advances listed:

- Tracking alumni (employment, activities, etc.) at the alumni office instead of internally at the Program level. The Program has not yet initiated this transfer of information as its reliability in its current form is uncertain until another alumni survey can be conducted.

- Include alumni in existing social events hosted by the BScPA program or PASA (PA Student Association)
- Host alumni event(s) at the Canadian Association of Physician Assistants (CAPA) national conference
- Involve alumni in convocation events<sup>32</sup>
- Host enhanced events<sup>33</sup> with employers and alumni to showcase successful graduates and provide networking opportunities for PAs and their respective employers. This may be challenging for U of T to run solely and may require collaboration with McMaster's PA program and HealthForceOntario.
- Promote the University of Toronto's Spring Reunion as an opportunity to attract BScPA alumni to return back to the University Campus
- Involve alumni in the Year 1 practicum (Longitudinal Clinical Experience) as potential preceptors

Students and Alumni may be interested in networking with MD students/Post-graduate trainees (Residents or Fellows), since this models future practice teams (in that PAs must work under MD supervision). These types of interactions would provide great exposure of the PA profession to the physicians, and this is something that alumni would be interested in. Next steps would include approaching the existing student leadership within the undergraduate and postgraduate programs to assess their level of interest.

Establishing BScPA Alumni Association leadership may be a resource to assist in future graduate tracking, survey development and data collection, providing insights to the type of data that they see as most relevant for the their profession.

As the program grew with graduates so did it grow with dedicated faculty and alumni who remain involved with the program. When developing the program recognition awards in 2017, it was essential to include an award to recognize an alumna for their outstanding contributions to the PA profession. **The Rising Star Award** was granted to Mr. David Clutterbuck, Class of 2014. He remains involved as a Course Assistant in PAP122 Pathology, participates in the Curriculum committee and as a guest facilitator, and is also involved in admissions. He continues to advocate for the profession, as he did as a student (see his published Op Ed in Appendix 3.7)

### *Comparing the Program to those of its kind: National Certification Results*

The Physician Assistant Certification Council of Canada (PACCC) is the national body that administers the annual certification exam to graduates of accredited PA programs in Canada. This exam is a knowledge-based assessment of the national competencies as set out in the PA education programs. The results of the U of T PA students on the Canadian National Certification Exam continue to be

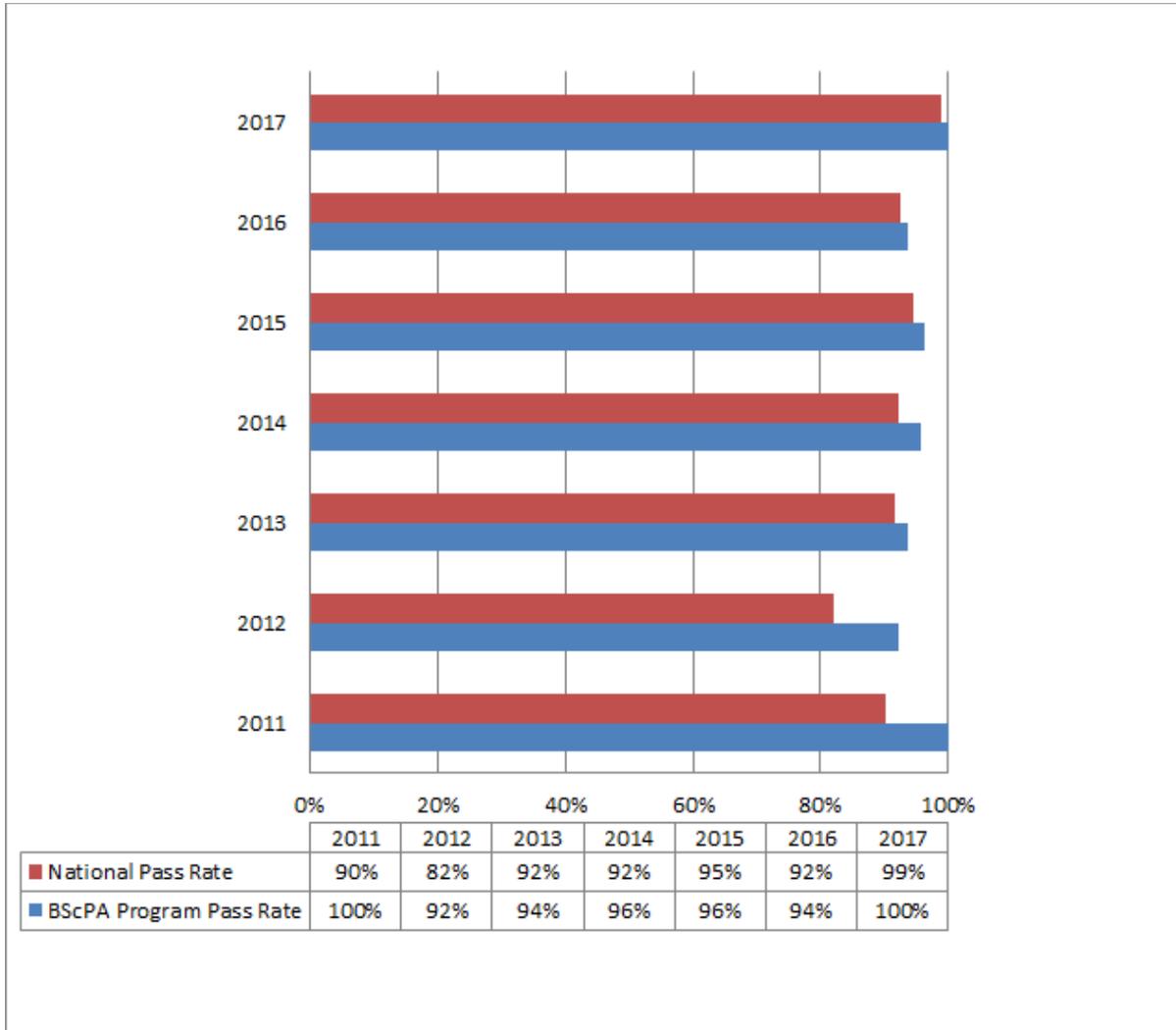
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<sup>32</sup> In Fall 2017, the PA program strategically scheduled the inaugural PA program awards event to occur in conjunction with convocation. Some alumni were present. Enhancements are planned for 2018 to improve attendance and logistics.

<sup>33</sup> A PA Career event already exists in the curriculum (The "PA Panel"), showcasing current PAs in practice.

impressive. The average performance of our students is consistently above the national average (past 5 years of data is provided). Figure 8 compares the U of T pass rate to the national average by year.

Figure 8: Comparison of U of T and National Pass Rate on PACCC National Certification Exam by Year

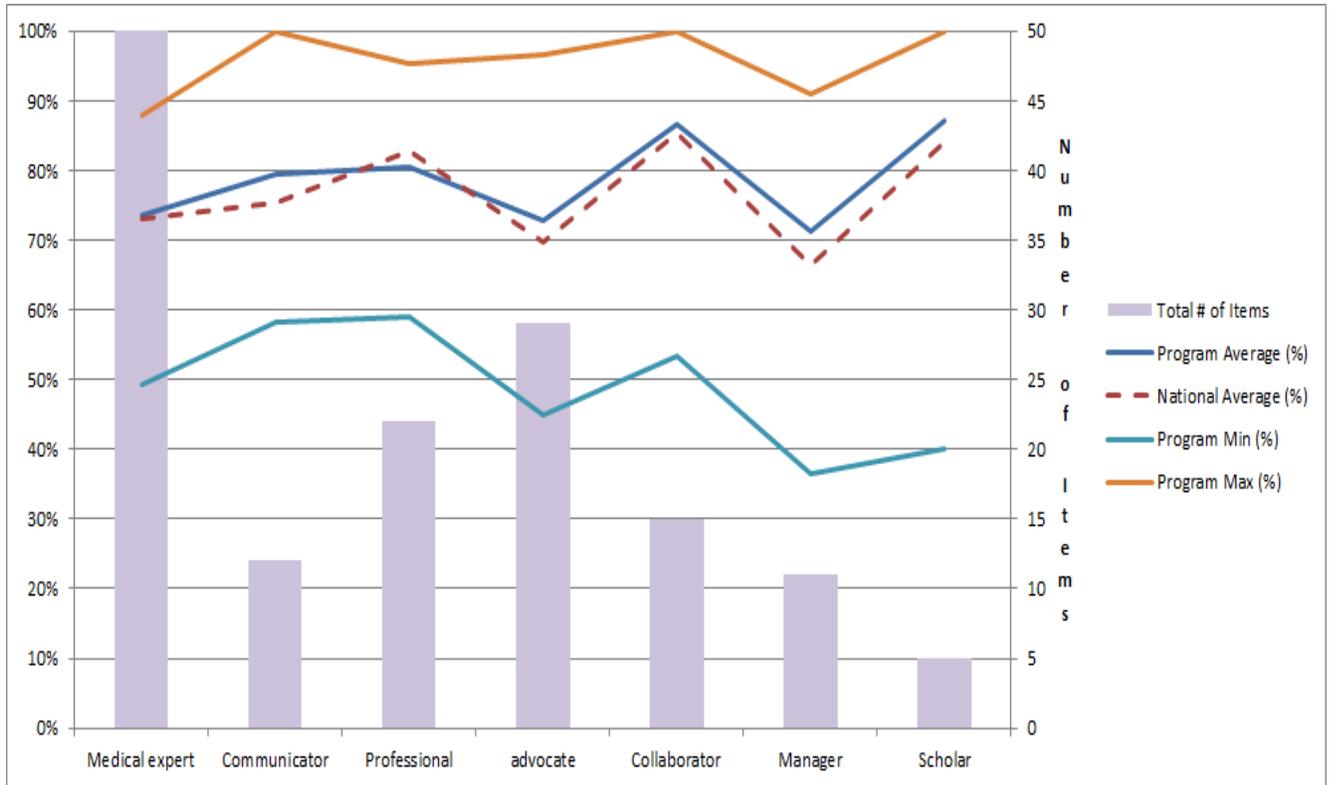


The pass rate for October 2017 was 100%. This is the second time in the past 7 years that the entire class wrote and passed the exam on the first attempt. **From 2011 to 2017, the overall, cumulative pass rate on the PA National Certification exam for first time writers from U of T is 95.3%, compared to 91.8% nationally.** As of 2017, almost 99% of our graduates have attempted and successfully achieved national PA certification. We are very proud of our graduates!

Analysis is provided in this report in Figure 9, for the previous year, 2016 national exam iteration. Our students represented 34% of the 92 individual candidates who wrote for the first time. The details of their performance is provided which breaks down scores by domain according to CanMEDS-PA (Medical Expert, Communicator, etc.). The bars represent the total number of exam questions in the

respective domains. Line graphs represent the program average, minimum and maximum scores in each domain, compared to the respective national average.

Figure 9: PACCC National Certification Exam 2016 U of T Results by Domain



## Quality Enhancement

The BScPA program is committed to continued quality improvement of our teaching and learning environments. Just as we value reflective practice in our learners, we attempt to model this attitude in our program’s culture, demonstrating our commitment to requesting feedback and acting on this feedback to improve the quality of the teaching and learning environments. Year after year, students and graduates comment on how open the BScPA program leadership is towards constant improvements. In this section, we describe 2 notable initiatives that have been taken to enhance the program quality. A comprehensive summary of program actions related to identified areas for improvement was prepared for our Professional program accreditation in October 2017, and is provided as additional evidence in Appendix 3.9.

### Student Course Rep

Each course has an elected student course representative who is the liaison for the class with the course director. The student course representative monitors for arising issues with the delivery of the course, logistics, communication, etc., and is expected to collaborate with the Course Director to

address student concerns. The course representatives also meet regularly with the elected student class representative to discuss the overall student experience in the program and bring forward relevant issues to the faculty (Program Director) at bimonthly class representative meetings. This process has helped to manage student and Course Director expectations and promote a sense of responsibility and leadership within the student body.

### *Course Review Process*

A robust course review process has been developed. It facilitates the ongoing improvement of subsequent iterations of the course from year to year. The course report template requires Course Directors to submit standardized information such as changes to learning objectives, assessments and scheduling. The Course Director is also expected to consider the data from student feedback collected in anonymous Course and Faculty Evaluation Surveys. Future directions and education scholarship opportunities are also to be included in the report. The Course Director then discusses their report with Program Leads, which is then followed up with discussion at committees. Changes are expected to be in place prior to the start of the next course iteration. The crucial piece is to help Course Directors realize the benefits of investing their time in this report, as their course and the students will benefit. This robust process allows for documentation of enhancements. Sharing with students the changes that were made from the past experience is well received as student appreciate seeing the evidence that feedback made a difference.

### *Accessibility and Diversity*

The BScPA program values diversity and is conscious of the accessibility needs of learners. We have thus adopted processes to address accessibility needs.

#### *Accessibility and Accommodations:*

Incoming students are provided with information on academic accessibility and accommodations as part of the Welcome Package (See Appendix 3.10) prior to the start of the program. Information on accessibility services across the university are also included in the Student Handbook, as well as the Faculty Handbook. The Academic Coordinator works closely with a number of university services, including Accessibility Services (AS), Office of Health Professions Student Affairs (OHPSA), and Test and Examination Services, to ensure individual student accommodations are met. The Academic Coordinator also acts as a central contact person for students and program faculty to facilitate arrangements and address questions and concerns regarding academic accommodation. All students are regularly encouraged by program faculty to access AS and/or OHPSA's services, as needed, for any personal or academic support.

Year 1 students are reminded of the potential difference in accommodation needs between academic and clinical activities. Students are advised to speak to the AS counsellors in advance of clinical placement scheduling. Upon registration with AS, the assigned AS counsellor provides the Academic Coordinator (on behalf of the BScPA program) with a confidential Letter of Accommodation on behalf of the student. The application of one's accommodations is also explained by AS to the student to ensure that it is clear that it is up to the student to decide how and when to

use their accommodations and in which setting (quizzes, tests/exams, assignments, group work and clinical rotations).

When students request for accommodations to the relevant Course Director, the logistics and details are fielded through the Academic Coordinator (AC). The AC, with the student's permission, shares the Letter of Accommodation with BScPA program faculty, staff and test proctors on a "need to know" basis, in order for the student's accommodations to be efficiently implemented. Problems and concerns related to meeting student accommodations or ensuring their best application are managed by the Academic Coordinator. Students are informed of their rights to formally address academic concerns via petition, appeal, or mediation.

#### *Diversity and Outreach:*

The accessibility and geographic diversity of our program is of central importance to us. The program was established on a mission of social accountability, to graduate PAs from a diverse geographic area who will eventually serve the same diverse communities in rural, remote and underserved areas in Ontario. The program is promoted to future PAs across the province of Ontario. By making the program accessible to students throughout the province, we have been able to achieve great success in our mission, with many of our graduates either returning, or relocating, to work as PAs in rural and remote communities.



*PA student interacting with visitors to the booth at Fall Campus Day 2017, St. George Campus, Toronto*

We are able to promote our program and increase awareness of physician assistants and their role within the healthcare field through our participation in outreach opportunities:

- Fall Campus Days (including BScPA program Information Sessions) at the University of Toronto (at all three campuses - Toronto, Mississauga, and Scarborough)
- Northern Ontario School of Medicine (NOSM) Winter Open House (at both campuses- Sudbury and Thunder Bay)
- The Michener Institute Fall Open House
- Career Explorations at Ryerson University<sup>34</sup>
- Summer Mentorship Program at University of Toronto

The Summer Mentorship Program (SMP) aims to give high school students of Indigenous or African ancestry a chance to explore health sciences at the University of Toronto over four weeks in July. With over a 20 year history within the Faculty of Medicine, the BScPA program is thrilled to be able to participate and increase awareness of the physician assistant profession and program. During the 2017 SMP, one of our alumni had a participant in the mentorship program shadow him and learn more about the program and the career opportunities for a PA in Canada.

These opportunities to promote the program to high school and university students may lead to increased interest in the program and eventual applicants. It certainly results in increased awareness in general for the PA profession.

### *Key Challenges and Opportunities: Enrollment and Student Education Experience*

Three key challenges are identified here as opportunities to enhance the student experience in the BScPA program. Although we may advocate for increased enrollment, there are practical limitations to be considered.

#### **Online User-Experience**

In 2009, building and establishing an online education program was novel and unique. However, to be critical and reflective is also to be honest. We have likely maintained our status quo, instead of pursuing further academic excellence in terms of online teaching and learning. Though our faculty have implemented some innovative tools, we have not used these experiences towards our development of the scholarship in these areas. There are opportunities before us. With the appropriate guidance and support, our faculty could be at the forefront of online blended education scholarship, since we have a prime “lab” or teachers and learners at our fingertips. The implementation of a new LMS at the University of Toronto will allow our faculty the opportunity to rebuild their courses into this new system. Once transitions have been made, the strategic vision should include bringing our scholarship to the next level. The BScPA program at the University of

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<sup>34</sup> The BScPA program was invited to speak about the program at Ryerson University to a second year Biomedical Sciences career exploration class, in the Department of Chemistry and Biology. The class “introduces career paths available to graduates of the program”. The Program presented to the class in Fall 2016 and Fall 2017.

Toronto is the only distance and distributed, blended online program of its kind in Canada, and only few others exist in North America. With the transition to Quercus, the new portal to online course work, we expect to realize an enhanced learning environment for our students.

### ***Clinical Training Sites***

As previously noted, the challenge of access to suitable clinical placements for students deserves action. Establishing core teaching sites that support the integration of the PA role in the team is essential to improve learning and overall student experience.

### ***Professional Practice***

Although applicant numbers are increasing, our enrolment numbers are limited based on a few factors. Ultimately, this is dictated by what the market can bear, and it is still unknown as to how many PAs are needed in the province of Ontario. Without regulation and funding of PA positions in Ontario, there are real barriers for graduates to secure sustainable employment across the province. The success of the integration of the PA role in Ontario is a collective responsibility.

### ***Report of Students***

See Appendix 3.11 for the student report.

## 4.0 SCHOLARSHIP

### Scholarship within the BScPA Program

The University of Toronto is ranked first in publications and citations as noted by the Office of Vice-Provost, Academic Programs (See Appendix 4.1). Although the report on success in Tri-Agency grant applications (Appendix 4.2) indicates no grants for DFCM since 2009, there are some awards granted within the Faculty of Medicine, with notable success rates. This speaks to the calibre of academia within our institution.

The Department of Family and Community Medicine recognizes 4 areas of scholarship within education.

According to the [Canadian Association for Medical Education](#) "Education Scholarship is an umbrella term which can encompass both research and innovation in health professions education. Quality in education scholarship is attained through work that is: peer-reviewed, publicly disseminated and provides a platform that others can build on." (Van Melle E, Curran V, Goldszmidt M, Lieff S, St-Onge C. Toward a common understanding: advancing education scholarship for clinical faculty in Canadian medical schools. A position paper. Ottawa: Canadian Association for Medical Education. 2012 Aug.)

This definition is now widely accepted across multiple academic disciplines and enables the support and recognition of a wide spectrum of scholarly educational activities.

The [AAMC Educational Scholarship Guide for Faculty](#) defines education scholarship as "any material, product or resource originally developed to fulfill a specific educational purpose that has been successfully peer-reviewed and is subsequently made public through appropriate dissemination for use by others." (Association of American Medical Colleges. Educational Scholarship Guides, 2013. )<sup>35</sup>

Under the umbrella of Education Scholarship, we identify the following sections as part of the evidence of scholarship of our program's faculty:

#### 1) Scholarship of Teaching<sup>36</sup>

Our faculty had the opportunity to create innovative teaching tools, processes and assessments that have gone to peer-review and public dissemination. Samples are listed in Table 7, and selected presentations are provided for review in Appendices 4.3-4.5. From the time of program inception to present day, faculty have benefitted from the teaching and learning experiences, and have used the peer-review experience, mostly in national and international education conferences, towards ongoing scholarship.

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<sup>35</sup> Retrieved January 6, 2018 from <https://www.dfc.utoronto.ca/education-scholarship-dfc>

<sup>36</sup> "The scholarship of teaching and learning is the systematic study of teaching and learning processes. It differs from scholarly teaching in that it requires a format that will allow public sharing and the opportunity for application and evaluation by others." (Retrieved January 6, 2018 from <https://www.dfc.utoronto.ca/education-scholarship-dfc>)

Table 7: Select Examples of Faculty Scholarship

Title	Author(s)	Dissemination
e-PBL: Problem-Based Learning online for Physician Assistant Learners	Dr. Zaka Khan, Dr. Maureen Gottesman Jane Cudmore, Christine Styles, CCPA, Dr. Bindu Kumar	CCME 2011 (Toronto) Oral paper presentation  (See Appendix 4.3)
“You’re a what?”: PA Learners and the Longitudinal Clinical Experience	Zlata Janicijevic, MMSc, PA-C, Dr. Maureen Gottesman	CCME 2011 (Toronto) Oral paper presentation
Incorporating ePBL in Teaching Clinical Skills in Health Profession Education	Sharona Kanofsky, CCPA, PA-C, MScCH, Dr. Zaka Khan, Dr. Maureen Gottesman Jane Cudmore	CCME 2012 (Banff) Workshop
Is It Time to Validate the National Competency Profile for Physician Assistants?	Dr. Maureen Gottesman	Ottawa Conference 2014 (Ottawa) Oral paper presentation  (See Appendix 4.4)
Linking Curricular Elements of Communicator and Professional Roles to Develop Reflective Capacity	Sharona Kanofsky, CCPA, PA-C, MScCH	CCME 2014 (Ottawa) Workshop
Assessing Student Learning Outcomes in Interprofessional Education	Sylvia Langlois, Ashley Stirling, Zoraida Beekho, Sharona Kanofsky, Ruth Childs, Susan Wagner	All Together Better Health VII 2014 (Pittsburgh)
Achieving the Social Accountability Mandate: PA Graduate Outcomes 2011-14	Dr. Maureen Gottesman	PAEA Education Forum 2015 (Washington) Oral Paper Presentation  (See Appendix 4.5)

## 2) Scholarship of Application<sup>37</sup>

As part of the national working groups, Dr. Gottesman participated, both in 2009 and 2016, in the development and dissemination of the National Competency Profile for the Physician Assistant Profession in Canada. This collaborative effort led to the creation of CanMEDS-PA, the document that describes the entry-to-practice level competencies for Canadian Physician Assistants, and, by design, form the basis for the competencies that form the PA education programs nationally.

## 3) Scholarship of Discovery

The BScPA program has been collecting data in relatively small numbers since program inception. Researchers may view our collection as a gold mine of data with many possibilities. Internal attempts to address specific questions have been undertaken, though not yet published. Examples include:

- Regression analysis of potential rater-gender bias on applicant interview scores (2009-2010 project<sup>38</sup>)
  - ◆ This project identified potential rate bias based on gender of the rater in scoring of applicants during the interviews.
- Retrospective Analysis of Student Perspectives of Course Satisfaction and Delivery in a Blended Online Physician Assistant Program (2013-14 project<sup>39</sup>).
  - ◆ This project aimed to test the research hypothesis: *Online learning requires self-direction and we posit that the greater the burden to the students to interact with material online, the less satisfied with the course. As a new program, improvements over time should be expected once faculty and students are more comfortable with the technology.*
- Performance of UofT PA students on the US-Based End-Rotation Exams: Local and international comparison and setting the benchmark grade to “pass” (2014-15 project<sup>40</sup>).
  - ◆ The project addressed the questions of student performance (Class of 2014) on the End-Rotation Exams, and identified the pass of 60% as “fair” as compared to the US student performance at the time.
- Analyze existing data to assist Program in determining best sites for clinical rotations. (Project 2014-15<sup>41</sup>).
  - ◆ This project resulted in the compilation of a comprehensive data set, the development of an analysis plan, and its implementation. The report was then utilized internally for the PA program to plan future clinical site rotations.

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<sup>37</sup> “Scholarship of application: Examples include making the connection between research findings and practice, or applying knowledge to contextual examples.” (Retrieved January 6, 2018 from <https://www.dfcu.utoronto.ca/education-scholarship-dfcu>)

<sup>38</sup> Shawn Healey, Data Analyst/Project lead

<sup>39</sup> Dr. Maureen Gottesman, Principal Investigator, Nnenna Asidianya, Research Assistant, and Christopher Meaney, Biostatistician

<sup>40</sup> Dr. Maureen Gottesman, Principal Investigator, Yingnan (Nick) Liu, Research Assistant, Dr. Joyce Nyhof-Young (Research mentor)

<sup>41</sup> Dr. Maureen Gottesman, Principal Investigator, Elizabeth Whitmell, Co-Investigator, Yingnan (Nick) Liu, Research Assistant, Dr. Joyce Nyhof-Young (Research mentor)

- Analysis of scoring matrix for applicant admissions. (Project 2017<sup>42</sup>)
- ◆ This project provided insights for the Admissions and Selection Committee regarding the impact of current and alternate scoring matrices on candidate selection to the program.

#### 4) Scholarship of Integration<sup>43</sup>

Moving forward, as informal collaborations unfold in 2017-2018, CAPA and the PA education leaders in Canada are working towards comparisons between the CanMEDs-PA document and the basic elements of existing competencies used by other organizations. Specifically, Dr. Gottesman continues to be involved in the development of national PA entrustable professional activities (EPAs), as initiated by the University of Manitoba PA program, and the standards for accreditation<sup>44</sup> used by the Royal College of Physicians and Surgeons of Canada.

### Benchmarks for Scholarship in PA Education

Scholarship, including research and publications in the Physician Assistant Education world is a relatively novel concept. A 2013 publication<sup>45</sup> looked at the nature and trends in publications within the US national PA Education journals since 2001. The authors found that about one fourth of the publications were related to studying PA curricula, and the most common methodologies involved surveys of PA students. It was also reported that there had been an increase in the overall number of publications over the decade, reflecting the growth of the PA education field.

A 2010 survey was conducted on PAEA (Physician Assistant Education Association) (US) member program faculty. With a 35% (N=425) response rate, the data was reviewed to help define the benchmark for scholarship for that community. Hegmann and Axelman (2012) found:

The mean number of publications reported by respondents over their entire career was 4.2, and over the last 3 years was 1.7. The respective median numbers of publications were one and zero. Logistic regression analysis identified three significant predictors of publication success: number of years in PA education, previous publications, and highest degree attained.<sup>46</sup>

This may seem like a relatively low number of publications for those dedicated to an academic life,

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<sup>42</sup> Hana Lee, Associate Registrar/Project Lead, Elizabeth Whitmell, Program Manager/Co-investigator

<sup>43</sup>“ Scholarship of integration: Examples include projects that are interdisciplinary, or connect across time, or using knowledge from one field and applying it to another, or interpreting another disciplines’ research into your field and making meaning along the way.” (Retrieved January 6, 2018 from <https://www.dfcu.utoronto.ca/education-scholarship-dfcu/>)

<sup>44</sup> As of February 2018, the CMA has divested in providing accreditation services. Since early 2016, the BScPA program, together with the PA national professional association (CAPA), have been working on identifying an alternate organization to take over the accreditation process in Canada.

<sup>45</sup>Hocking J1, Crowley D, Cawley JF. 2013. Physician assistant education: an analysis of the Journal of Physician Assistant Education. *The Journal of Physician Assistant Education* 24(2):6-11

<sup>46</sup> Hegmann TE1, Axelson RD. 2012. Benchmarking the scholarly productivity of physician assistant educators: an update. *The Journal of Physician Assistant Education*. 2012;23(2):16-23

however, it reflects reality. When surveyed in the 2015 US Faculty and Directors Survey<sup>47</sup> only 13% of medical directors identified PA-related research as part of their duties. In that same report, only 21% of PA teaching faculty identified the research opportunities within their current employment as a factor that influenced their decision to work at their current program. Just under half of the PA faculty surveyed report having any publication within their academic career, over 77% of these publications were articles in peer-reviewed journals.

The US PA education field has been in development since the 1960's. It is likely the closest international comparator that we have at this point in time. At the time of the 2010 benchmarking survey referenced above, there were approximately 80,000 certified PAs in the US; by the end of 2016, there were over 115,000.<sup>48</sup> In Canada, PA Education formally began in 2009, with three university programs opening (in addition to the existing military program). It is interesting to compare the four programs to the US. In 2016, there were approximately 500 PAs in Canada.<sup>49</sup> We are not growing at the same rate, and it is unlikely that neither will our academic productivity in the short term.

As the profession is only in its infancy, with 80<sup>50</sup> graduates annually across the country, and just over 200 U of T PA graduates expected by 2019, the focus and energy of our academic faculty is on teaching and service, and professional advocacy. As the profession advances and the work at the provincial and national levels can be shared with other experts and stakeholders, the focus for the faculty in PA education can include more education scholarship, and specifically, dissemination of innovation and impact.

### **Scholarly Impact on BScPA Students**

Although not a research-focused degree, the BScPA program provides students with a curricular experience that supports opportunities for professional development and transferable skills. At the University of Toronto, students have access to a robust library system of 40 libraries, including a library dedicated to supporting the sciences and health sciences, as well as many medical textbooks in print, electronic, and video formats.

Students have opportunities for professional development of research skills specifically through their course work in PAP265 Evidence Based Medicine and PAP258 Health Promotion and Education.

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<sup>47</sup> Physician Assistant Education Association, Physician Assistant Program Faculty and Directors Survey Report, 2015, Washington, DC: PAEA, 2015. doi: 10.17538/fsr2015.001 Accessed January 8, 2018 <http://paeaonline.org/wp-content/uploads/2017/05/faculty-directors-report20160218.pdf>

<sup>48</sup> National Commission on Certification of Physician Assistants, Inc. (2017, March). 2016 Statistical Profile of Certified Physician Assistants: An Annual Report of the National Commission on Certification of Physician Assistants. Retrieved January 6, 2018, from <http://www.nccpa.net/research>

<sup>49</sup> Retrieved January 6, 2018, from <https://capa-acam.ca/about-pas/pa-fact-sheet/>

<sup>50</sup> Grimes, Kelly, and Gabriela Prada. Value of Physician Assistants: Understanding the Role of Physician Assistants Within Health Systems. Ottawa: The Conference Board of Canada, 2016.

Projects in the Health Promotion course include the critique of patient education material<sup>51</sup> and a series of Case Studies in Public Health. From the Case studies, students are expected to summarize the material modelled after a publication format for Canadian Medical Association Journal series “5 things to know about...”. By using this standard, students gain competence in the application of knowledge for the purposes of education and dissemination.

Experience in dissemination of knowledge in a professional setting has also been supported by the program. Students (as well as graduates) have presented their work in various peer-reviewed venues. In 2017, a current student presented a workshop<sup>52</sup> in collaboration with our Program Director. These presentations, as listed in detail in Appendix 3.8, are a result of the student experience in the BScPA program.

The opportunity to participate in clinical research may present itself in the clinical setting, during a rotation, as has occurred with one graduate, Laurel MacInnis. She participated in a case study that led to an academic publication<sup>53</sup> and created and narrated the video that demonstrates this novel surgical technique. She presented a research poster at two conferences. (See Appendix 3.8)

Moving forward, we intend to include questions about the academic achievements of our graduates as part of our alumni tracking.

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<sup>51</sup> Excerpt from the Course Task 1A: HPPE product critique: “A health promotion patient education (HPPE) product can be a poster, pamphlet, presentation, website or other vehicle designed to educate individuals on a topic, activity or resource to promote health. In this assessment, you will 1) critique an existing HPPE product, and 2) prepare and present the content of a HPPE product.”

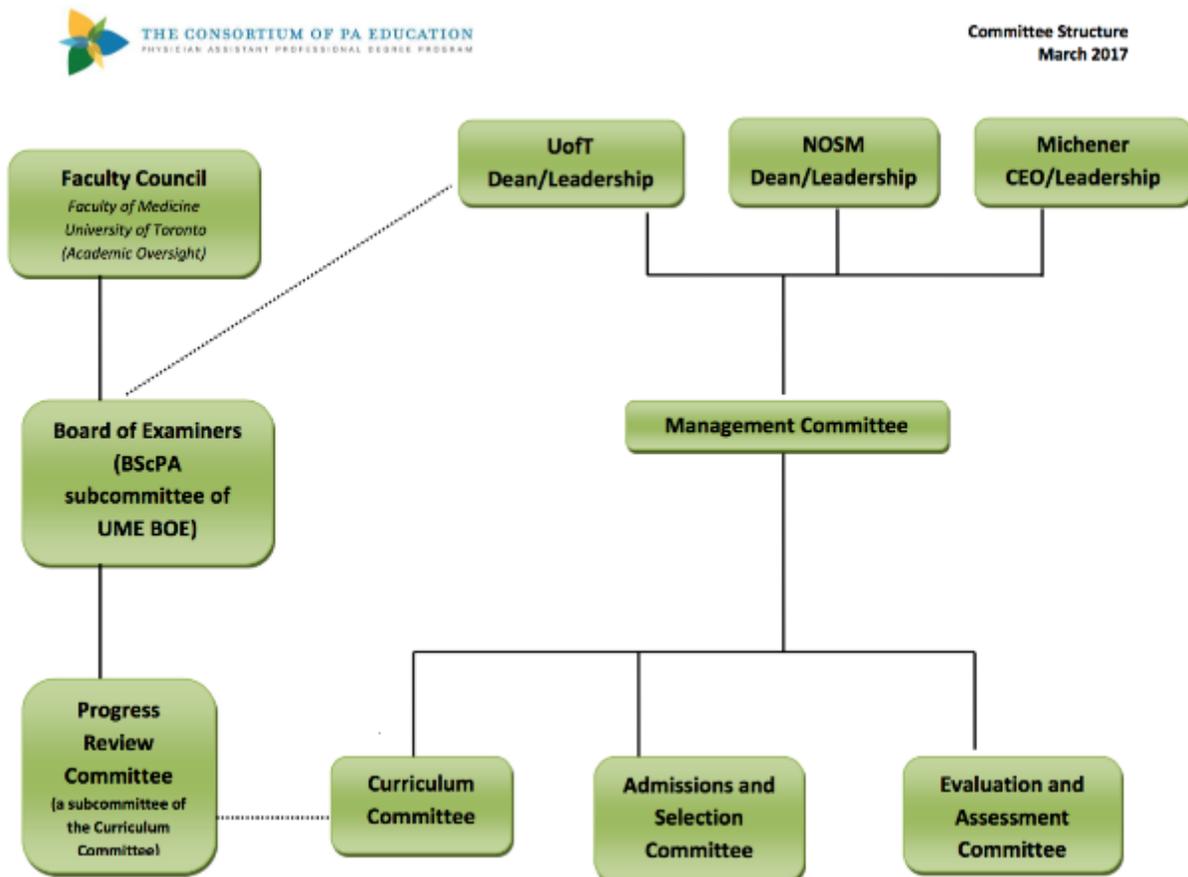
<sup>52</sup> Nino Parunashvili (Class of 2018) and Dr. Peter Tzakas. October 2017. Common Rashes To Recognize In the ER. Workshop at CAPA Conference 2017.

<sup>53</sup> MacInnis, LE. Al Hussain E, Coady C and Wong IH. Labral Gracilis Tendon Allograft Reconstruction and Cartilage Regeneration Scaffold for an Uncontained Acetabular Cartilage Defect of the Hip. Arthroscopy Techniques , Volume 6 , Issue 3 , e613 - e619

## 5.0 ORGANIZATION and FINANCIAL STRUCTURE

### Governance

The Vice-Dean, Partnerships, Faculty of Medicine, provides decanal oversight for the BScPA program. Operating as the Consortium of PA Education, the committees that are responsible for the various aspects of the education program include representation for the 3 Consortium member institutions.



The BScPA Program Accountability Chart Appendix 5.1 delineates current responsibilities and reporting structures accountable for our operations.

Table 8 presents to relevant historical context, listing the changes in leadership and governance within the Faculty of Medicine and the Department of Family and Community Medicine as they related to the BScPA program.

Table 8: History of Faculty of Medicine leadership and BScPA Program Oversight.

<b>Position at University of Toronto</b>	<b>Dates</b>	<b>Leadership</b>
Dean, Faculty of Medicine and Vice-Provost, Relations with Health Care Institutions	2015 - present	Dr. Trevor Young
	2006 - 2014	Dr. Catherine Whiteside
Vice-Dean, Partnerships, Faculty of Medicine	2016 - present	Dr. Lynn Wilson Decanal Oversight 2016 - present
Vice-Dean, MD program	July 2016 - present	Dr. Patricia Houston
Vice-Dean, MD program (July 2015 - June 2016)  Vice-Dean, Undergraduate Medical Professions Education (March 2013 - July 2015)  Vice-Dean Undergraduate Medical Education (2006 to February 2013)	July 2006 - July 2016	Dr. Jay Rosenfield Decanal Oversight March 2013 -2016
Deputy Dean, Faculty of Medicine	2008-2015	Dr. Sarita Verma Decanal Oversight 2009-March 2013

At the inception of the BScPA program in 2009-10, the decanal oversight and reporting was directly to the Deputy Dean, and then evolved to the Vice-Dean, Undergraduate Medical Professions Education in 2013. This increased the relationship between the BScPA program and the MD program, introducing more formal connections with the Registrar’s office, Health Professions Student Affairs, and to curricular resources, and led to the combining of the two Boards of Examiners (for MD and PA students). With the introduction of the Vice-Dean, Partnerships role in 2016, the decanal oversight again shifted back to the Dean’s office. As the strong connections with the undergraduate medicine office remains, the familiarity of Dr. Wilson in her role was welcome, as she was the Department Chair since the Program inception, and was already familiar with our institutional history.

## Departmental Oversight

Table 9: Historical Leadership of the Department of Family and Community Medicine, DFCM

Position at University of Toronto	Dates	Leadership
Chair, Department of Family and Community Medicine	May 2017 - present	Dr. Michael Kidd
	January to April 2017	Dr. David Tannenbaum (Interim Chair)
	2016	Dr. David White (Interim Chair)
	2009-2015	Dr. Lynn Wilson

As we welcomed the new DFCM Chair, Dr. Kidd, in 2017, the opportunity to revisit the most appropriate oversight was once again upon us. While previously reporting directly to the department chair, as of January 2018, the BScPA program falls under the umbrella leadership of the revised DFCM unit of Education and Scholarship, under Vice-Chair, Dr. Risa Freeman. This more formal home for the BScPA program is a step towards better integration with other parts of the department, namely Research and Advocacy, Global Health and Social Accountability, and Quality and Innovation. These foci are well aligned with that of PA education and the role of the physician assistant in our healthcare system. The DFCM Faculty Org Chart is presented in Appendix 5.2.

DFCM administrative leadership has been an important part of the Physician Assistant program for years. The department oversight over the financial aspect, human resources and faculty recruitment have been invaluable, and continue to be provided. To date, these in-kind contributions have assisted the BScPA program to maintain its fiscal viability. The Administrative Org Chart for the DFCM is presented in Appendix 5.3.

As of 2018, the BScPA program is considered part of the DFCM Executive team, and will be involved in future leadership discussions. The goals remain for improved integration, supporting each other and improving efficiency.

## Program Organization

The Program hubs are educational and administrative. Appendix 5.4 provides the Org Chart for the BScPA program. The educational areas are further divided into didactic and clinical components. The Program Director and the Academic Coordinator are responsible for the didactic component, and the Clinical Course Director, supported by the Medical Director, is responsible for the clinical component. The Program Manager is responsible for the administration of the program.

The Medical Director has oversight of the full program, including overall academic direction, clinical site relationships, faculty recruitment, and scholarship within the program. Allocation and management of resource decisions are made within the program, with the assistance of the DFCM Financial Officer, although the DFCM Chair has ultimate authority over the budget.

The Program is supported by 2.0 FTE administrative staff (1.0 FTE Program Assistant, 1.0 Program Manager). Recruitment, admissions, and registrarial processes are provided for the Program through the Faculty Registrar and Enrolment Services, Undergraduate Medical Education. These services have slowly been integrated in the program's operational budget over the years, as they have been identified as crucial collaborations that help the BScPA program operate. To date, we rely on in-kind support from the DFCM for financial management<sup>54</sup>. When specific projects, such as the overlapping cohorts of 2015, or the program accreditation of 2017 occur, the program arranges for contract positions for additional administrative support. Although not ideal, it is operationally viable to support ad hoc administrative support.

### Financial Structure and Operating Budget

The operating budget for the BScPA program is currently adequate for its needs. The revenue to support the program comes from students (tuition and application fees) and provincial government<sup>55</sup> funding. The university receives the government funding via a formula that assigns a value<sup>56</sup> per student and program. Both student and government sources of funding are relatively fixed, with the university determining any increase in tuition (within ministry allowances).

Table 10 is the operational budget for the BScPA program. Please note the important features of this budget information:

1. The 2016-17 values are actuals, **but the rest of the data is forecasted and subject to change**. It is noted that the annual carry forward begins to decline by 2019-20 and will need to be addressed.
2. The revenue row is based on forecasted numbers from the University.
3. The expenditures row is based on established budget lines, but does not account for special projects, or one-time costs associated with changes in human resources, or capital investments (such as the move to new office space). It also does not account for a change in the current budget to include support to our home department.
4. Not included in this chart are the details of the Clinical Funding transferred from the MOHLTC. These funds are flow-through and not considered within the operational budget. The funds (up to \$474,000 annually) fall under an evergreen arrangement to support student

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<sup>54</sup> The areas of academic appointments and administrative roles, though financially supported within the BScPA program budget directly, are administratively supported by the resources within DFCM.

<sup>55</sup> Only domestic students (Canadian citizens or Permanent Residents) are eligible for government funding that supports their registration.

<sup>56</sup> This value is known as the Base Income Unit (BIU).

placement costs (travel and accommodations) and preceptor funding. We report on these funds to the Ministry annually.

5. Not shown is a significant deficit accumulated in the early years due to low enrollment. Gratefully, the BScPA program was able to quickly bounce back financially due to multiple efforts. Financial assistance was provided from multiple sources, including DFCM, the Faculty of Medicine, and the Ministry of Health and Long Term Care. Efficiencies were implemented due to the recommendations of the PA Integration and Restructuring Task Force. Coincidentally, additional revenue was realized during two fiscal years due to the overlapping cohorts. By the end of the 2015-16 fiscal year, the Program was back to financial sustainability.

*Table 10: BScPA Program Operational Budget*

	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>
Operational Revenue (all sources)	\$1,082,999.00	\$1,112,159.00	\$1,131,959.00	\$1,141,780.00
Expenditures	\$1,104,415.00	\$1,093,014.00	\$1,063,366.00	\$1,081,414.00
Annual Carry Forward	\$(21,416.00)	\$19,145.00	\$68,593.00	\$60,366.00

## **Financial Vulnerability and Future Challenges**

### *Clinical Funding*

The support from MOHLTC covers some costs for students and pays preceptors, for up to 28 students per cohort in the clinical year. As our current and projected class sizes will exceed that, we anticipate the need to renegotiate with the Ministry to allow some adjustments to how the funds can be spent. This may result in less travel and accommodation support for our students, and thus, place some limitations for the swap placements outside of their home communities.

### *In kind support*

Although an official UofT degree, the BScPA program oversight and delivery occurs as a result of the Memorandum of Understanding with the other collaborative institutions. All Consortium institutions, at one time or another, have provided in-kind support. Most notable is the significant in-kind administrative services of the DFCM to the Program. We anticipate future expenditures to cover the costs of these services. We anticipate that further support within the DFCM will increase our access to academic services, such as research and scholarship.

### *Administrative Workforce*

There is an ongoing struggle for adequate administrative support for both the core program

leadership and teaching faculty. The clinical placement coordinator is a NOSM position, but works solely for the UofT program, supported from our program budget. Ensuring adequate workload and not overloading the responsibilities is an ongoing concern.

*Cumulative Carry Forward*

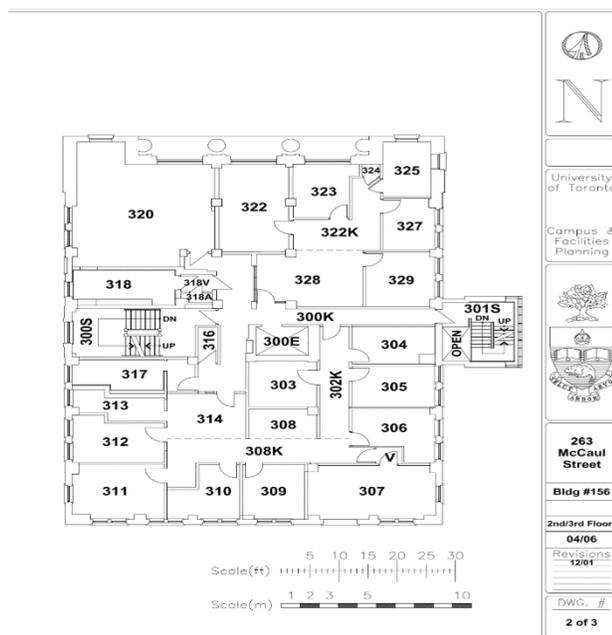
There are a number of upcoming projects and responsibilities that will require carry forward funds to support. Faculty development in the transition to the new learning platform and research activities are the main priorities. While enjoying the safety of a carry forward, this will slowly diminish over time as expenditures outweigh revenue. Other than increasing student enrollment, there are currently limited alternative sources for revenue.

## 6.0 RESOURCES and INFRASTRUCTURE

### Office Space

Space allocations are determined by Facilities Management and Space Planning in the Faculty of Medicine. The BScPA program office has been re-located on several occasions; the most recent plan (at the time of this report) is a transition within the same building on the 3rd floor of 263 McCaul Street. We will move from 4 offices (each shared by two people) and a hotelling and storage space (rooms 303-306 & 309) into the area that occupies the north quarter of the building (rooms 323, 325, 327-9). Three office rooms will remain shared spaces for 2 people, one will be hoteling, and the final room will be a single office. Access to room 320 as a classroom will remain, with new access to 322 as a bookable meeting space for the Faculty of Medicine.

Figure 10: Floor map, 3rd Floor, 263 McCaul St



### Teaching Resources

The Program owns some equipment and models needed for simulations; additional equipment is rented or borrowed on an as-needed basis. Access to the University of Toronto wireless network is available in all teaching spaces for both students and teachers.

The majority of the academic curriculum is delivered online in a distributed model, but physical space and access to teaching resources on campus are required during Residential Blocks.

### Classrooms and Teaching Space

Face-to-face teaching sessions are scheduled during the Residential weeks at the St. George campus in Toronto. As our courses do not have assigned classrooms for teaching, the program must book teaching space as needed. Over the years, a variety of different options have been used, and currently, the majority of face to face teaching is scheduled in locations that are suitable for our

needs based on physical proximity to the BScPA program office (in order to transfer simulation supplies), availability, and appropriateness of the space for the session, with availability being the biggest driver.

Classroom space at 500 University Avenue in the DFCM (third floor) and Rehab Sciences (first floor) areas, as well as at 263 McCaul Street (third and fourth floor) are frequently used. Some of these rooms have built in Teaching Stations and some are modified units (laptop and LCD projector on a mobile cart).

Small group sessions and simulations are booked in the Case Rooms in the Rehab Sciences (7<sup>th</sup> floor) area at 500 University Avenue. Occasionally sessions are conducted on the 5<sup>th</sup> floor of 263 McCaul Street, which is otherwise allocated as Medical Student study space.

For a fee, the program has access to alternative space for small groups and simulation teaching:

- Centre for the Advancement of Simulation and Education (CASE), The Michener Institute
- Helliwell Centre (part of Wightman-Berris Academy), Toronto General Hospital
- Surgical Skills Centre, Mount Sinai Hospital
- Centre for Ambulatory Care Education (CACE), Women's College Hospital
- Ophthalmology clinic, Toronto Western Hospital
- OtoSim, Hospital for Sick Children.

We typically reserve these spaces for complex simulation training and assessment. Some of these facilities include observation areas (one way mirrors) and rentable equipment. Access to these excellent facilities remains limited, and occasionally, the financial cost makes access prohibitive (such as to a trauma simulation).

The PAP 112 Anatomy course includes a lab component that utilizes the Anatomy labs within the Department of Surgery, Faculty of Medicine.

Tests and Exams are written in computer labs at 500 University, 256 McCaul or Discovery Commons (Medical Sciences Building, 1 King's College Circle), pending availability. During the online portion of the exam, students who live >100km from Toronto can choose to write their test/exam at a proctored location closer to home (coordinated by the BScPA Program Assistant). If all students in a cohort write their test/exam on the St. George campus, they may not all be accommodated in a single computer lab.

The use of any classroom or simulation space must be manually coordinated by the BScPA program staff on a regular basis. Although this provides the program with a considerable range of options, the workload and variability in access to suitable teaching space continues to be an ongoing challenge for program staff and students.

### **Distance Learning Resources**

Support for teaching technologies is available via Discovery Commons and the Centre for Teaching Support & Innovation (See Faculty Development Section).

The University's *learning management system*, Blackboard, is utilized for curriculum delivery both

synchronously and asynchronously. Students access all course materials online, submit assignments, and complete exams. Course material may include educational materials available through the UofT library, or external sources. It is anticipated that the transition to Canvas (the Learning Management System as part of Quercus) in 2018 will enhance the experience for online education for both students and teachers alike.

Students participate in *virtual classroom* sessions via Blackboard Collaborate, an online webinar tool. Although the Blackboard system will transition in 2018, the Collaborate webinar tool will continue to be supported within the University until such time that an alternate system replaces it.

In order to support students to keep track of course work and recognize the integration of course modules, the Program uses *Google Calendars*<sup>57</sup> embedded into the online courses. Students can simultaneously view all course events regardless of the course shell that they are in. Up to date adjustments and changes can be easily communicated to students. Faculty can ensure that the scheduling of activities in one course do not conflict with activities or deadlines in another course.

### **Clinical Placement Resources**

Students are provided with set funding to support their travel and housing needs during their swap clinical rotations, when not in their home community. When students are placed in Northern Ontario for their swap clinical placements, they are able to access to NOSM housing. The Ministry of Health and Long Term Care provides the financial resources to support the student travel and housing.

### **Physician Assistant Student Association**

This student- run group aims to support current students to meet their needs professionally, academically and socially. They are recognized student organization<sup>58</sup> within the University of Toronto.

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<sup>57</sup> Course calendars are also accessible external to Blackboard, and the links are posted on our website Academic Year Calendar <http://tinyurl.com/SepStartYr1>  
Clinical Year Calendar <http://tinyurl.com/Yr2SepStart>

<sup>58</sup> <https://ulife.utoronto.ca/organizations/view/id/60652>

## 7.0 ACADEMIC SERVICES

### Library Report

See Appendix 7.1.

### Student Support Services Information

See Appendix 7.2 for the Faculty of Medicine report on Student Support Services that are available to Physician Assistant students.

One of these Services is the Office of Health Professions Student Affairs (OHPSA). They are dedicated to helping students adjust to Faculty of Medicine programs and to achieve their full academic and personal potentials. Student Affairs promotes enrichment of student life and development of a healthy balance of work, extracurricular activities, and community involvement. Their goal is to ensure that student questions and concerns are addressed before they have any adverse effects on students. The OHPSA staff has over 100 years of accumulated experience assisting students with academic, interpersonal, health, emotional, housing, and family problems. They are willing and able to facilitate student access to extensive resources and networks within the University and surrounding community. BScPA students are encouraged to contact the OHPSA directly to access confidential guidance, advice, support, and/or counselling. The BScPA program faculty may refer students to OHPSA when warranted.

To date, the BScPA program has utilized a total of 161 personal counselling services and 42 learning Skills services. The summary of our program's use of OHPSA services, by fiscal year, is provided in Table 11. Note that % use\* is not a true percentage because 'visit' count does not distinguish between students.

Table 11: BScPA Student Use of OHPSA Services by Year.

Fiscal Year	Total visits	Total Students	% use*
2011-2012	7	87	8%
2012-2013	21	101	21%
2013-2014	62	143	43%
2014-2015	50	197	25%
2015-2016	49	196	25%
2016-2017	21	107	20%

(data source: Office of Health Professions Student Affairs, Faculty of Medicine)

### Accessibility Services and Students requiring Accommodations

Accessibility Services are offered at U of T to facilitate the inclusion of students with disabilities into all aspects of university life. Students must register yearly with Accessibility Services to receive accommodations. (Refer to the section on Accessibility and Diversity for program-specific details)

### **Academic Support for Students in Difficulty**

Students are encouraged to self-identify when they are experiencing academic difficulty. The Program, however, takes numerous steps to address academic difficulty in a timely manner. Resources to support students in difficulty include tutors, assignments of extra work or formal education plans. The relatively small class size enables this process, as we have learned that early identification is critical towards securing future academic success for the student, when possible.

## 8.0 INTERNAL and EXTERNAL RELATIONSHIPS

Members of the leadership team<sup>59</sup> within the BScPA program are involved in a variety of internal and external relationships. There is active participation in various committees and stakeholder groups beyond the program, as part of the ongoing engagement and partnerships process:

Institution Level- goals are to remain engaged and involved in local issues, processes and policies that directly impact the BScPA program and its learners.

- Ad hoc resource to clinicians, departments and institutions, interested in the PA employment and integration
- Active Member, Interfaculty Education Committee, Centre for Interprofessional Education, U of T
- Active Member, Hospital-University Education Committee, Faculty of Medicine, U of T
- Active Member, Expert Panel on Infection Control, Faculty of Medicine, U of T
- Active Member of the Education Committee, Faculty of Medicine, U of T
- Active Member, Board of Examiners, MD program and BScPA program subcommittee, Faculty of Medicine, U of T
- Active Member, Council of Health Sciences Extended Committee, U of T
- Active Member and previous Chair, Academic Toolbox Reference Group<sup>60</sup>, Centre for Teaching Support and Innovation, U of T

Provincial Level

- Coordination of, and Participation in Ontario PA Symposium 2013: A Think Tank for Networking, Collaboration and Planning (October 2013)
- ad hoc meetings with HealthForceOntario regarding graduate employment opportunities
- Active Member, Physician Assistant Integration Working Group, Health Workforce Planning and Regulatory Affairs Division, MOHLTC (March 2017 to present)

Cross-Institutional Level

- Active Member, Physician Assistant Curriculum Development Committee and Curriculum Consultant for Cumming School of Medicine, University of Calgary in the proposal of a new PA education program (2015-16)
- Active Member, University of Toronto-Northern Ontario School of Medicine (UT-NOSM) Liaison Committee

National Level

- Active Member, PA Certification Council of Canada (PACCC) Advisory Board
- Active Member, PA Accreditation Working Group (CAPA), 2016-present

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<sup>59</sup> Medical Director, Program Director, Academic Coordinator and Program Manager

<sup>60</sup> ATRG is a tri-campus advisory group on education technologies for the university

- Consultation on various national publications regarding the value of the PA profession (CAPA and the Conference Board of Canada)

#### International Level

- ad hoc informal consultants for academic clinical leaders on behalf of Japan's Ministry of Health, interested in pursuing PA Education programs and initiating the PA profession (2017)

## 9.0 RECOMMENDATIONS FROM PREVIOUS EXTERNAL REVIEW

The DFCM's UTQAP review in 2012 included only a small portion related to the BScPA program; as we were so new there were no specific program recommendations at the time. However, the BScPA program has twice received professional accreditation by the Canadian Medical Association Conjoint Accreditation Services (CMA), an accrediting body for sixteen health science professions in Canada. Although the initial 6-year accreditation award, received December 2012, did not include any recommendations for the Program, the Initial 2-year accreditation, received in December 2011, made the following 7 recommendations. The program's response and actions are provided after each recommendation for sake of clarity:

**CMA 2011 Recommendation 1)** Orientation and support to clinical preceptors should include information on the physician assistant profession, the program's goals for the performance of entry-level physician assistants, and the use of the program's competency assessment tools

**Program Response/Action Taken:**

When a new site is being considered, the Clinical Course Director (CCD) speaks with the preceptor to confirm that the caseload will provide an appropriate clinical exposure for our students. At that time, the CCD discusses the role of physician assistants (if unknown by the preceptor), the expectations of student performance, and the expectations of the preceptor. This information is also provided to all preceptors in the form of an online Clinical Handbook. As much as possible, the CCD also checks-in with new preceptors 1-2 weeks into their first student's rotation, however, there are limited resources to provide more robust faculty development. Repeat preceptor experience has helped. Processes are in place in the Clinical Office to follow up with preceptors on regular intervals if they are non-compliant with completing evaluations.

**CMA 2011 Recommendation 2)** The combination of introducing a new profession into the healthcare system, implementing a new educational program and implementing an innovative delivery mode for the program places heavy demands on program personnel. Senior administration and the program should monitor the workload of personnel carefully and ensure that there is a sufficient number of personnel at all sites to sustain effective instruction/facilitation, adequate supervision and timely evaluation of student learning throughout the program.

**Program Response/Action Taken:**

Since 2012, the role of the Medical Director has been split to include a part time Program Director; faculty teachers for the Clinical Skills courses now include an ePBL course lead and separate individuals who are the small group facilitators; additional program assistant-type administrative support has been available for various project initiatives (such as during the transition to September start, pre-accreditation, etc.

**CMA 2011 Recommendation 3)** Review the purpose and structure of the Longitudinal Clinical Experience, and optimize its value as a learning experience.

**Program Response/Action Taken:**

Since 2012, Student blogs, SOAP notes, and case logging have been added to the LCE course(s) to guide learning and assist with the transition to the clinical year. The student blogs include pre-placement posts to indicate their objectives for the placement. Post-placement posts can speak directly to each of the objectives. SOAP notes are added as the year progresses. In the final semester, students log their experiences in E\*Value, the online course management system (CMS) used primarily in the clinical year for students to log cases. Students continue to give feedback in the annual LCE course survey about the value of having this starting in semester one of the program. It allows them to see patients early on, in order to apply the knowledge and skills gained during the academic curriculum in real life. Students also find it beneficial to learn about the clinical environment prior to officially starting their clinical year.

**CMA 2011 Recommendation 4)** Improved communication. Comments from interviews indicated that there was a need for improved communication between the program faculty and preceptors, between the program and students, among course directors, and within the program management team. Students commented that while program personnel were responsive to their queries, and that the program communicates extensively with students as a whole, they would also appreciate more individual program-initiated communication.

**Program Response/Action Taken:**

The Program implemented Semester-specific Curriculum Committee meetings wherein course directors for the specific semester worked together in planning the upcoming semester, to ensure integration of content and balance of timing of assessments. These were scheduled in 2015 and 2016, but discontinued in 2017 as the courses were now better aligned with each other each semester and course directors found less value in these meetings. Student representation was added to all Program committees in 2012, including specific meetings between the student reps and the Medical Director. These student rep meetings were taken over by the Program Director in 2016. In 2015, the introduction of student course reps enhanced communication between students and Course Directors. Individual student meetings, between the student and the Course Director, Academic Coordinator, Program Director or Medical Director, occur on an as-needed basis - either when a student reaches out, or when the Program believes that the student may be struggling. The Clinical Course Director (CCD) runs a check-in meeting with the Year 2 class during the early part of each clinical rotation. As of January 2018, one-on-one meetings are scheduled between each Year 2 student and the CCD, Program Director or Medical Director to discuss their clinical trajectory and assist with/guide plans for elective rotations. The LCE course director is planning one-on-one check-ins with the Year 1 students, to commence in January 2018, with the goal of this occurring each semester.

**CMA 2011 Recommendation 5)** Improve students' readiness for clinical rotations. During interviews, preceptors consistently noted that there was significant variation in the student's readiness for the second-year clinical rotations, including variation in basic theoretical knowledge and its application to clinical reasoning, and integration of knowledge and skills in to the clinical environment.

**Program Response/Action Taken:**

Through Curriculum Committee meetings, Semester-specific meetings, a Curriculum Retreat, and individual meetings with course directors during the course report process, the Program has worked to ensure greater integration and more purposeful scaffolding of content. See Appendix 9.1 for the Curriculum Retreat Summary. The Residential Blocks focus on hands-on clinical skills and techniques, with the aim of assisting students in "putting it all together". Emphasis has been added to clinical relevance of content, SOAP notes and clinical reporting, and there has been an increase in assessments that require students to have synthesized the course material.

**CMA 2011 Recommendation 6)** Modify the program to balance the student workload. In interview, both students and course directors noted that the academic courses constituted a heavy workload. Students commented that they struggled to balance the demands of individual courses and their instructor's expectations, and to master individual and complex course formats and activities on a distance-learning platform. Students noted an incongruence between the time required to complete some individual assignments and the weighting of those assignments towards the final mark.

**Program Response/Action Taken:**

In general, it is recognized that the course workload in a PA Program is high, with a common phrase of "PA school is 75% of Medical school in 50% of the time". That being said, the BScPA program has made efforts (through processes outlined in 5 above) to balance the workload while ensuring that all required content and skills are encompassed within the academic portion of the Program. Significant shift in workload occurred following the transition to the September start curriculum, where the Year 2 students now experience a more well-balanced blend of academic and clinical work and can focus the majority of their time on clinical learning.

**CMA 2011 Recommendation 7)** Continue to systematically document analysis of evaluation. Review and analysis of evaluation data should be verifiable in the form of summary reports and/or committee meeting minutes.

**Program Response/Action Taken:**

Ongoing efforts to track data and report on findings, lessons learned and continuous quality improvement are fundamental operations within the BScPA program.

The December 2017 award of 6-year accreditation noted the following:

- 1) Second year students affirmed that the Longitudinal Clinical Experience (LCE) was helpful in integrating clinical concepts during the first year of the program. (This shows the improvements made re: CMA 2011 Recommendation 3)
- 2) During interviews, students indicated that program personnel are available, accessible and supportive. (This speaks to some of the communication recommendations in CMA 2011 Recommendation 4)
- 3) Students indicated that they felt well-prepared for their clerkship rotations. (Evidence that the Program implemented changes as suggested in CMA 2011 Recommendation 5)
- 4) Notwithstanding the fact that employer data is not yet collected (and has not been collected since 2012), timely program improvements are made based on the analysis of all other collected data (see CMA 2011 Recommendation 7).

No recommendations for Program improvement were noted in the December 2017 CMA accreditation award to the BScPA program.

## 10.0 FUTURE DIRECTIONS

### Strategic Academic Plan

Given the curriculum review to implement CanMEDS 2015, the relatively new departmental leadership (April 2017) and imminent restructuring, the priorities of CMA Accreditation 2017 and our first program-specific UTQAP submission, there has not been an attempt to develop a strategic academic plan for the BScPA program. This initiative may be undertaken in the future as part of the DFCM Office of Education Scholarship so that we do not perpetuate our independent activities that merely parallel those of our department and faculty. Our goal is to be truly integrated within them.

### Areas for Improvement

- 1) Lack of a clinical hub (Clinical experiences in Year 1 and Year 2).
  - a) Logistical formalities with Practicum sites may result in barriers to students to secure suitable placements for the Year 1 LCE exposure. The program expects to be required to ensure that formal site agreements are in place for any LCE clinical experience, just as they are in place for Year 2 month-long rotations. This may result in not only an administrative burden to implement, but also a logistical barrier for students to secure suitable sites in their home communities. This may result in the default whereby the program would be responsible for arranging the LCE practicums on behalf of the students, in their home communities, which could prove logistically burdensome and something that the program has not yet budgeted nor planned for. Documentation of formal site agreements are expected to become a program requirement that, moving forward, we expect that these changes may be required to sustain this important course.
  - b) Connecting with clinical preceptors remains a challenge, particularly as the CCD is a part-time position, and scheduling phone calls with busy clinicians can be quite difficult. Students and preceptors are sent the same detailed information about a rotation at the same time (in the same email), and yet it remains common for preceptors to tell students that they did not receive any information. The student must often be their own advocate to discuss rotation objectives and to encourage timely evaluation. We do, however, continue to receive positive feedback from students regarding clinical sites and preceptors, and take action that may include constructive feedback to preceptors when the student experience is compromised.
- 2) Limited Scholarship as Formal Research: There remains an ongoing challenge of leadership and expertise in the area of Evaluation and Assessment. Opportunities for research and formal scholarship of discovery may be welcome in the future.
- 3) Lack of formal arrangements for some program logistics - access to classrooms, simulation equipment, computer labs, IT support

### Areas that hold promise for enhancement

- 1) Transition of all courses to Canvas/Quercus as the new Learning Management System presents exciting opportunities to enhance the course delivery and user experience. Our

familiarity with using a different online platform will aid us in the transition, and the key will include securing appropriate support for the transition and training of faculty.

- 2) Collaborating with the PA professional association, CAPA, and the other education programs in Canada to secure a new professional accreditation body to replace the CMA Conjoint Accreditation services holds promise. We anticipate that the new accrediting body will embrace competency-based education, and value the blend of academic and clinical education that our program provides. The involvement as an education program in these decisions as to the suitability of national standards provides us the opportunity to continually reflect and hopefully validate what we do in the clinical practice.
- 3) The recent increased interest in the role of the PA, from the fully affiliated UofT teaching hospitals to the independently run specialty clinics beyond the Toronto area is exciting and reassuring. The product we have been making, our graduates, and the role of the PA is gaining popularity and interest. Our continued interactions and engagement with institutions with successful PA integration will be key to continuing to support the profession moving forwards.

#### **Future Plans for research, scholarships, or programs**

- 1) Future collaboration with the Ministry of Health and HealthForceOntario on employment data and PA integration models, including funding and regulation for the profession.
- 2) Secure stable and suitable clinical training sites, using resources via HealthForceOntario and the academic medical centres in Ontario; identify communities with potential need for PA employment and link them to PA education programs to assist in training
- 3) Continue to explore the grass-roots interest in PAs by subspecialties (Cancer Care, Care of the Elderly/Geriatrics, mental health in PA focussed training, etc.)
- 4) Revisit potential opportunity to assist in the education of PAs for the Department of National Defence, as the explore the opportunities to have their PA students graduate with a Canadian PA degree



*Stethoscope Ceremony, Class of 2019: reciting the PA Oath, St. George Campus, Toronto, First day of Program: September 2017*



*Convocation, Class of 2016: November 2017*



*Class of 2017 Enjoying the outdoor benefits of Swap rotations in Northern Ontario*