PREVIOUS EXTERNAL REVIEW [Indicate if, and how, the Clinical Department addressed the findings of the previous review.]

The previous external review of the Department of Surgery was carried out in 2015 by Prof. John Kortbeek, Professor and Head, Department of Surgery, University of Calgary and Alberta Health Services and Prof. Carlos Pellegrini, The Henry N Harkins Professor and Chair, Department of Surgery, University of Washington. The 2015 review was conducted at the conclusion of Dr. Rutka’s first 5-year term as the Chair of the Department of Surgery. The review was very supportive of Dr. Rutka’s reappointment and reflected the status of the Department as a leader in both Canada and internationally in all realms of academic surgery: patient care, research, education and administration.

The 2015 review made several recommendations, which were carefully evaluated by the Department with measurable outcomes to address the recommendations. The following summarizes the previous recommendations and the Departmental responses:

Undergraduate Medical Education

1. **The Department should consider extending the intense basic skills course, known as the Surgery Exploration and Discovery (SEAD) course, offered as a pre-clerkship to a larger number of students. Currently there are twice as many applying as there are positions to accommodate them. This could be accomplished with minimal effort, a relatively small amount of money/resources and can contribute to making surgery a more attractive option.**

   A commitment to extend the SEAD Program was undertaken by the Department. Initially the program was available to 20 first year medical students. Currently, through increased resource allocation to the program, 30 students can participate.

2. **The Department should consider opportunities for the UME clerkship experience to focus on acute care surgery, and to take place in community hospitals or in the main core of hospitals but with less emphasis on heavily specialized tertiary surgery. The students appreciate the opportunity to be involved, and obtain hands-on experience and this is probably easier to accomplish in environments that have less complex patients.**

   The Department took this recommendation to the UME committee with a resultant solution. The eight week 3rd year clerkship is focused primarily on Acute Care Surgery services, with options for subspecialty rotations maintained. Community hospitals’ capacity for medical students and commitment to UME has increased. Surgical leads for UME are present at each hospital site.

3. **The Department should continue to support residents who wish to develop further skills in education. They are a great asset in the delivery of education to the students.**

   The Department has instituted a Resident as Teacher curriculum that is delivered to all surgical residents through the Surgical Foundations Program. Resident teachers are recognized within their Divisions and are eligible to be nominated for a variety of annual awards through the Department of Surgery.
Post Graduate Education

1. Challenges exist with employment for graduating residents, a universal Canadian issue.
This is a multifaceted national issue. The Chair, Dr. Rutka has taken a lead on this concern, engaging the Canadian Association of Surgical Chairs, as well as leading local initiatives to best prepare residents and fellows as competitive candidates for positions. Career planning is part of all residents’ annual reviews with Program Directors, who are also attuned to the national job market. The Department also hosts a Career Planning Panel which is appreciated by the residents. Residents report their opportunities for electives outside of the Toronto area are restricted due to manpower concerns; this does restrict their ability to assess other centres as possible job opportunities for the future. Continued and extended support for Physician Extenders would allow further flexibility for residents to travel for electives to other centres.

2. Preservation of the current Physician Extenders policy to enhance the educational time available for residents will be vital for continued accreditation in the future.
The Department Chair Dr. Rutka has worked in collaboration with the Hospital CEOs to ensure the presence of Physician Extenders. The exact details of the number of extenders per site has not been reported. Commentary was received that further support in this regard will be required. (See above.)

Continuing Education and Quality Improvement

1. The leadership of the CPD/CME program in the Department would benefit from an active CPD/CME committee. There was significant interest in organizing a retreat to address COI, CPD issues and develop a strategy to address these increasingly relevant and important topics.
The Department CPD lead, sits on the University CPD Committee which is chaired by an Associate Dean. The Department CPD lead also sits on the Department’s Senior Advisory Committee and reports to committee members on new offerings and opportunities in CPD. Within the Department of Surgery, each Division Chair is responsible for the coordination of CPD events created by and run by the academic division. The current Department CPD lead, assists each Division with accreditation of events.

A department-based committee does not exist. This remains an opportunity.

Research

1. The development of a clear process that identifies the parties that need to come to the table at the initiation of a recruitment and the delineation of resources that may be allocated by each of the parties. This should ideally include the Department, the Division, the Hospital and the Research Institutes. The Research Institutes and Department in particular should increase the organization of the growing collaborative approach to recruitment.
The recruitment process has included a greater degree of collaboration between hospital and university partners, however, there is a sense that this can be expanded to consider recruitments that will fill educational roles, and the combined support for those surgeons, in addition to the research tract surgeons.

2. Enhancing the collaborative nature of research and developing – for each program/area – as many collaborative programs across hospitals as possible. We believe this may bolster the ability to obtain further research funding in addition to raising funds for specific programs across hospitals (We explored this idea with the CEOs who seemed happy to pursue it in limited number of programs while preserving their own individuality and foundations for their hospitals).
Some progress has been made in improving cross-institution initiatives, such as the city-wide Brain Tumor Bank in which all hospitals participate.

“A major gift to the Department of Surgery came from Amira and Michael Dan ($2 Million in 2013) to support the creation of a university-wide brain tumour biobank in which all hospitals add patient data and specimens (tumour, blood, DNA, RNA, protein, stem cells) to a centralized database (braintumourbanknetwork.ca)”

Other examples of integration of research across disciplines, sites, and types of researchers are demonstrated by the formation of the Toronto Aortic Collaborative, the Cardiac Database, the Trauma Program, the Spine Program, the Hand Program, the Vascular Surgery Co-operative, and the developing Collaborative Breast Surgery Program across several hospital sites. Further progress in cross-hospital research is possible.

3. Enhancing vigilance among mentors and Division Chairs as the career of new academic surgeons progresses to identify transition points and potential needs to changes in their time allocation and funding.
Under the direction of Vice Chair Faculty Development, Dr. Ori Rotstein, a formal mentorship program for surgical faculty researchers has been created to support new and junior faculty members. It is noted that success in promotion is quite uniform in the Department which reflects positively on the effectiveness of mentors and Division Chairs.
4. Continuing the efforts of the current Chair to raise philanthropic funds to create endowments that provide ongoing and predictable support to research programs.

Under the tenure of Dr. Rutka, the philanthropic funds available to the Department of Surgery have expanded greatly. Average annual donations to the Department have doubled in the last five years from 4 million per year to 8 million. Fourteen new endowed Chairs have been created in the last 5 years.

5. The Department should also examine entry criteria into the SSTP and length of funding commitment to ensure that expenditures match revenues. Retaining 1+year Ministry of Health funding and applying grants to successive years may also be an option. Enhanced revenue generation to support the SSTP through combined hospital foundation program fundraising may be an option if the SSTP is part of the individual programs strategic goal.

A robust process has been undertaken to examine the funding of the SSTP. The Wright report was commissioned and completed. In addition to limiting the total number of SSTP trainees to 45-50/year, there are now new endowment funds totaling $53 million dollars to support the SSTP trainees. Despite these considerable measures, the concern continues that this will not fully cover the expense of the number of residents in SSTP. In addition, there was concern raised that increasingly, there is a divide developing between faculty and Divisions that can “afford” to support SSTP residents and those who cannot. This will require further attention of the new Chair.

Relationships

1. Dedicating some time to addressing the job market and the opportunities available in formal settings with fellows, residents and students. Increased transparency may lead to decrease anxiety.

This was addressed in the section on Post Graduate Education.

2. Consider re-appointing the Department’s academic fund to increase the Department of Surgery resources. Alternatively increase the transparency on the mechanisms in which these and other funds are allocated for departmental use.

Under Dr. Rutka’s leadership the Department has undertaken a revision of historic academic formulas. A new process of point based financial support has allowed a redistribution of funds to support new faculty in their first 5 years. There is a sense that these funds are much more transparently awarded.

3. The Department along with the faculty have evolved towards an inclusive approach for academic appointments with increasing numbers of clinical adjunct faculty to meet the distributed learning requirements. The importance of the University of Toronto Brand and the requirements for receiving an academic appointment should be considered.

There have been more faculty added to the adjunct ranks. The Department has been active through the Departments Appointment committee to evaluate the appointees and improve the process of distributed appointments. The diminishment of the Department Brand was not brought up by interviews in this review, however, it is noted that the UME accreditation document recounts examples of disparaging comments made to MAM medical students with respect to the quality of teaching they may have received in the distributed sites. Although these comments are not attributed to the Department of Surgery members, it is a reminder to all faculty that comments made to medical students can have profound effects if those comments are perceived as being derogatory.

Financial

1. The Department of Surgery requires a sustainable budget. Revising the allocation of stipendiary support currently going to all full-time faculty to provide, instead, focused and strategic support based on merit and support for key positions, new recruits, and retainments should be carefully examined, and strongly considered.

This goal has been obtained. The reallocation of base funding to allow support for new faculty for their first 5 years has been accomplished. Moving forward a lead has been named to conduct a review of the hospital-based Practice Plans in Toronto. This will likely create several opportunities for improved standardization and examination of best practices amongst the plans.

2. The Department Chair and Dean should agree on a sustainable budget for the next term. Re-examination of IMG/VISA trainee fund distribution may assist this. The Department and faculty may have opportunities to increase revenue by encouraging additional Masters/PhD supervision by Surgery faculty. Participation in team grants offers an additional revenue opportunity.

The current budget, as reported by the Chair, is acceptable. It is noted that a considerable amount of funding enters the Department through philanthropy. There is opportunity to promote fund raising activities that will direct funds to some of the smaller Divisions, such as Plastic Surgery.

The revenue flow from the International Medical Graduate (IMG) residents is not transparent to the faculty and Divisions. This presents opportunity to examine the optimal disbursement of this source of funds.
3. There is a strong desire by faculty members and leadership, hospital surgical chiefs and CEOs to increase the collaborative development of multi-site programs. These present opportunities for data sharing, common measurement, programmatic quality management and improvement. Recent successes include trauma, cardiac, aortic surgery and neurosurgery. Immediate opportunities may include breast, vascular surgery and the adoption of NSQIP across all fully affiliated, and community-affiliated hospitals.

There seems to be increased awareness of the barriers that can prevent faculty from easily collaborating across hospital sites. For example, opportunities for streamlining shared credentialing has been highlighted during the pandemic. There is a sense that the CEOs share a commitment to “Team Toronto” in addition to allegiances to individual hospital corporations, and understanding of how this can filter down to the day to day experiences of faculty.

CURRENT REVIEW

The present review was conducted by Prof Nita Ahuja, Professor and William H. Carmalt Chair, Department of Surgery, Yale University and Prof. Susan Reid, Professor and John A. Bauer Chair, Department of Surgery, McMaster University from February 25-26, 2021.

The current review marks the culmination of Prof. James Rutka tenure as the Chair of Surgery and a search committee will be launched for the recruitment of a new Chair.

The Department of Surgery is the largest across Canada with 300 full-time faculty members, 277 residents, 249 clinical fellows and 40 scientists. The Department enjoys a global reputation and is ranked fourth in the world for global universities in the recent 2020 US News and World Report. Since the past review, the Department overall has continued to thrive with a significant expansion of its academic footprint across multiple hospitals (545 faculty, 300 full time), growth of its research program ($76M from $40M annually research portfolio) and a significant educational portfolio (11 residency programs, 7 direct entry from RCPS). Faculty development appears robust with 8500 peer-reviewed publications since the prior period; promotion of 73 faculty members and 5 new Canada Research Chair holders. Some concerns around the job market for trainees about graduation reflects national trends but a concerted long-term effort should be considered. The Department has increased funds flowing to subsidize its mission, but a sustainable plan will be needed as Temerty Medicine embarks on recruit of a new Chair. In addition, given the increasing diversity of surgery, the new Chair should work in collaboration with the Temerty Medicine in these efforts. Overall, the Department of Surgery remains an extraordinary academic institution.

1. Education

A. UNDERGRADUATE MEDICAL EDUCATION

Please comment on the size, scope, quality, and priority assigned to undergraduate medical education.

The University of Toronto Medical School admits 259 students per year, second to the University of British Columbia at 288 students per year and followed closely by McMaster University at 203 students per year. This compares to medical schools in the USA such as Harvard: 165 per year, Stanford: 90 per year, University of Michigan: 170 per year, and in the UK, Oxford: at 150 per year.

Clearly, with only 17 medical schools, Canada relies upon some schools being able to accommodate a larger number of admissions, while in the USA with approximately 193 medical schools, admissions are accommodated by the higher number of schools. In Canada, each of these schools has had a similar approach to accommodating large numbers of medical students, by the development of distributed campuses and engagement of community-based educators.

Students in the clerkship program at the University of Toronto, follow the assignment of students into the four Academies. Interviews with the students reflected the perspective that not all Academies offered a uniform experience for students during Surgical Clerkship. The downtown sites viewed as having a higher number of total learners, thus reducing the opportunities for students to access operative experiences beyond observation. There is reported to be more hands-on experiences for students in the community sites. It is noted that increasing rotations in community sites was a recommendation of the previous report and acted upon by the Department. The clerkship consists of two 4-week blocks, consisting of 4 weeks of General Surgery, and 4 weeks of Subspecialty offerings. A concern was raised by students that the community sites may have limited subspecialty rotations to offer. Students may then lack the opportunity to participate in a rotation that they strongly wished to explore as a career interest. Increasing exposure to surgical specialties early on in medical school for first-and second-year students is also an area to focus on moving forward.
Students are well aware and appreciate the offerings by the Department of Surgery such as the career nights, and participation in the Surgery Interest Groups. The hospital-based Education Coordinators are viewed as approachable allies, providers of good introductory information for each rotation, and a strength for the program.

The Department of Surgery faculty recognize the importance of engaging undergraduate medical students and have taken an active interest in developing opportunities for students to be exposed to and engage in the surgical disciplines. The SEAD Program has been well received and expanded to accept more students. A unique Surgical Curiosity Program has been created to provide students with one-on-one time via zoom with a surgeon. The Toronto Notes, utilized by medical students, has been updated to reflect more surgical input. Faculty members are engaged with the Canadian Undergraduate Surgical Education Committee.

Surgeon participation as leaders for the Case Based Learning Tutorials in Undergraduate Foundations is minimal. Students note that many of the CBL hosts are from Family Medicine.

Overall, the faculty engagement in Undergraduate Education is excellent. Recognition of Faculty for undergraduate teaching occurs through a variety of means, as simple as thank you emails, and calls, to formal departmental and divisional awards. Academies also have annual awards for clinical teachers.

Excellence in education is a pathway to promotion at the University of Toronto, however, there is opportunity to increase support to faculty with a career focus in education similar to the support offered to Surgeon Scientists. Faculty do reflect a strong sense of support from the leadership of the Department for Undergraduate Surgical Education. The Director of Undergraduate Education, Dr. Hall, is viewed as available and helpful and highly principled. There is also opportunity to increase the engagement and involvement of undergraduate students in research, which could lead also to increased mentorship opportunities for students. Those faculty who are involved in Undergraduate Surgical Education such as Surgical Leaders in Undergraduate Education (SLUEs), would benefit from administrative support.

B. POSTGRADUATE MEDICAL EDUCATION

Please comment on the size, scope, quality, and priorities of postgraduate education programs.

- Do current programs offer adequate training in different settings?

The Department of Surgery offers 11 Royal College Certified Postgraduate Training Programs in Surgery. The total number of residents in training is 277, the largest pool of residents in Canada. There are 249 Fellows in the Department, the largest pool of fellowship trainees in Canada, in over 40 programs. The University of Toronto Surgical Skills Centre at Mount Sinai offers training in basic and complex surgical skills. Royal College accreditation status has been obtained for all Postgraduate Programs in the last assessment conducted in late 2020. Importantly, there was no reported intimidation or harassment. The graduating residents have a high success rate at the Royal College examinations and are reported to be highly competitive for both fellowship applications and available jobs.

Residents report being the recipients of strong mentorship from faculty, and express appreciation of their exposure to surgical teachers of high quality, who have top-notch expertise. Residents highlight the opportunities for the fulfillment of their academic potential and participation in research as very high. Residents appreciate the variety of clinical work they are involved with, providing a good mix between community care and complex care. Surgical skills training is considered a strength and a boot camp for incoming residents is excellent.

There is a sense from residents that Program Directors and faculty actively use their networks and connections to uncover opportunities for both jobs and fellowships, as there is very little good data on the national job market, and no high-quality data to reference, on forecasting of needs. Many residents and fellows express a desire to stay in Toronto area, and have little knowledge of opportunities elsewhere.

It is identified that resident elective time outside of greater Toronto is limited. Restrictions on residents’ electives can be due to a variety of reasons, including meeting Royal College mandated rotations. It is worth considering, within some programs, if elective rotations are limited due to manpower concerns, that increasing Physician Extenders may allow residents enhanced opportunities to explore centers outside Toronto as possible career opportunities.

The resident workload issues are highly supported by hospital funded Physician Assistants and Nurse Practitioners. The requirement for this support is ongoing, and likely to increase. An assessment of need, by program, by site, would assist the next Chair to develop a strong business case, with a detailed approach, advocating for all programs. Engagement with senior leadership at the hospitals and within the Temerty Faculty of Medicine will be necessary to develop a plan for increased Physician Extender support.
Residents would benefit from increased emphasis on practical considerations in the Transition to Practice curriculum, expanding upon how to set up an office, instructions on billing and billing systems, office administration, and how to network.

Academic development opportunities for residents is outstanding. The SSTP has been an exemplary program. Trainees on this program obtain advanced degrees, either Master’s or PhD, and complete funding is guaranteed for this program. There are some call responsibilities for trainees enrolled in the SSTP and standardization of the call responsibilities maybe needed.

Hospital onboarding for residents is uniformly difficult, repetitive and time consuming, even to the point of forcing residents to use vacation time to complete individual hospital credentialing for each rotation or in another case, for fellows to stop rotating in one of the hospitals. With the current knowledge of the level of burnout in the resident population, these issues are a priority to resolve. As, this is unlikely to be only an issue for surgical programs, it presents an immense opportunity for next Chair, and the Vice Chair of Education, to partner with the Associate Dean of Postgraduate Medical Education, and other clinical department leads, to work with all partner hospitals. At a minimum the following considerations would considerably reduce the “hassle” factor for residents:
1. Provide residents with University issued ID badges that are accepted at each teaching hospital, for the entire duration of their postgraduate training.
2. Provide universal online modules acceptable for all rotations for all sites, renewed annually.
3. Provide residents with a single pager that can transfer amongst hospital sites.

Resident Evaluations are not uniform, some are online, and some still paper based. An updated and coordinated system needs urgent implementation. This is unlikely an issue for only the surgical programs. The next Chair needs to take this issue to the Dean of Postgraduate Medical Education for discussion and development of a plan for resolution.

EDI Committees are instituting new practices to improve resident selection processes, including implicit bias training for committee members, blinded file reviews and gender and race balanced committee memberships. This is again an area where the next Chair can partner with the Associate Dean of Postgraduate Medical Education to standardize best practices.

Fellows: The Department of Surgery hosts the highest number of fellows in the country. Fellows are spread across many hospital sites, and throughout every surgical discipline. Fellowships are well organized with keen oversight by the Fellowship Committee. The Temerty Faculty of Medicine and Department have immense pride in the fellowship programs. There is a strong sense of responsibility to provide advanced training for both Canadian and international surgeons. The Fellowship Committee provides vigorous accounting of fellow-resident interactions and support the premise that the Postgraduate Training programs are key to the Department mission. Residents do come forward if concerns arise. Fellows are meant to enhance and support the postgraduate programs providing clinical service, teaching and research. There is a strong international presence of fellows in Toronto, which contributes to the excellent worldwide network enjoyed by the Department and its graduated fellows.

Fellows value the longer, 6-month rotations. There is an appreciation of their role as being crucial to the continuity of patient care, often being the constant care provider, as faculty and residents pass through the service in shorter rotations. Fellows are also proud of their ability to develop relationships with other health care providers, hospital staff and faculty.

The model for the allocation of funding to the University for both IMG residents and Pool C residents and fellows is not transparent. Programs that bear the responsibility for training residents and fellows including IMG’s and Pool C residents and fellows need to be supported for the efforts. This concern could be addressed with the creation of a working group to create a funding model that is fair and transparent, beginning with a review of Pool C funding models within U of T, and across comparator surgical programs in Canada.

C. CONTINUING EDUCATION + QUALITY IMPROVEMENT

- Please comment on the size, scope, quality, and priorities of continuing education programs.

Overall, the Department of Surgery is responsible for offering over 70 Continuing Education Courses annually. This is the largest contribution to CPD in the country. There is a wide range of topics covered, with each Division participating in the provision of CPD events. These courses see a large number of attendees from across the Toronto region as well as the province, and in some courses across the country and internationally. Faculty are also well represented as content experts in provincial and national CPD events through both provincial and national surgical specialty organizations. The University of Toronto brand is well recognized and relied upon to provide quality education. It is clear the Department prioritizes its responsibility to lifelong learning for all, but importantly, understands that non-academic faculty appreciate the CPD offered.
The Department has 450 faculty and 75 full time scientists. The Departments commitment to Quality Improvement is strong, beginning with a focus on teaching the principles of QI within the Surgical Foundations Curriculum, and providing residents with the opportunity to complete a QI project during Surgical Foundations. There are examples of excellence in Quality Improvement such as the Best Practices in Surgery program headed by Dr. Robin McLeod.

Opportunity exists to grow the commitment to QI. The Best Practices in Surgery Program could be expanded to include a wider portfolio across Divisions. In addition, the Department can work towards creating a robust academic pathway for faculty interested in QI and patient safety. As a research focus, there is opportunity to recruit faculty with an interest in QI, particularly combined with emerging technology in Artificial Intelligence and large databases.

D. OTHER EDUCATIONAL ACTIVITIES

- Describe briefly. (e.g., leadership, faculty development)

Faculty development in the Department of Surgery falls under the responsibility of the Associate Chair of the Department. In conjunction with the Temerty Faculty of Medicine’s Faculty Development programming there are ample offerings for surgeons to participate in continuing education to support their roles as educators, researchers, and administrators. It is not clear how many faculty take advantage of the offerings available to them.

There was uniform support for investment in a program to track teaching service and formal metrics of teaching performance.

As well, it was recognized that an increase in resources for surgical educators would be fruitful. Opportunity can be considered in the development of specific CME for Surgeon Educators, recognizing the unique teaching environment of the operating room. The Associate Chair may wish to explore programs in existence at other universities for opportunities for partnership.

2. Faculty / Research

- Please comment on the scope, quality, and relevance of research activities.
- Are the research activities appropriate for the residents and fellows in the Clinical Department?
- Have opportunities for recruitment of young investigators been identified?
- Are the levels of research activities (e.g., funding and peer-reviewed publications) appropriate relative to national and international comparators?
- Please comment on the faculty complement plan.
- Address the appropriateness and effectiveness of the Clinical Department’s use of existing human resources.

[In making this assessment, reviewers must recognize the institution’s autonomy in determining priorities for funding, space, and faculty allocation.]

The Academic Department, in conjunction with the Research Institutes is incredibly productive as measured by grants, publications and presentations. Research funding has continued to significantly increase with doubling of funding in the past 5-year period from $40M to $76M. With over 1000 publications/year in high impact journals as Lancet, Nature, Science and New England Journal of Medicine, the Department’s academic output is remarkable with citations 2nd only to Johns Hopkins.

The number of clinical and nonclinical faculty driving the research mission provides ample opportunity for residents and fellows to participate and excel in research. The Department has 450 faculty and 75 full time scientists.

The new financial model in the Department has allowed for new recruits to obtain support for their first five years; this combined with the mentorship program should assist those new recruits to be positioned for success. As the competitive nature of CIHR funding continues to escalate, this places pressure on Research Institutes and Foundations to support ongoing research activities.
Concern has been expressed regarding the long-range ability to support basic science research. If this is a concern shared by the majority of Research Institutes, it would be useful for leaders of all the Research Institutes to attend a retreat to discuss the common issues in sustaining bench research in the Department of Surgery. Bringing together research leaders, faculty both non-clinical and clinical, research assistants and personnel, will help in bringing team science awards. In addition, the recent gift from Temerty Foundation is an opportunity to invest in long term strategic planning.

Looking to the future, the areas of Translational Research, Artificial Intelligence in medicine, Quality Improvement in Surgery, and Entrepreneurship are all areas to be considered for development. With the number of hospitals in the Toronto area, expansion of Clinical Trials would be another high yield area of research. This will require cooperation amongst the major hospital enterprises to remove any barriers to projects that span multiple hospital settings. In addition, as the impact of COVID is considered investigations into how this impacts research careers, especially among female faculty, is just beginning to emerge and attention should be paid toward this.

This Department was once a leader in Surgical Education Research; there is a risk for this status to be overtaken. Overall, there is a strong sense of responsibility exists within the surgical faculty who view resident education as the core business of the Academic Department. The educational research mission support needs to be strengthened analogous to the support for surgeon scientists. Further support is needed for education research. The relationship with The Wilson Centre requires examination. The potential for The Wilson Centre to be a resource for surgical faculty interested in Surgical Education Research is viewed as limited. The new Chair is advised to meet with the lead of The Wilson Centre to explore the relationship and how to maximize it.

To assist researchers, the creation of a centralized Research Ethics Board is highly recommended.

The Department has placed a good level of support in the recruitment of young research faculty, as well as leading the country in the consideration of late career transitions. The mid-career faculty now requires focus. This group is at high risk for burnout and the detrimental effects of stress in busy academic careers. To retain talent, and support continued growth, this group may benefit from detailed examination of career trajectories, understanding how and when research success becomes stalled, and how to pivot in one’s career.

The University Division Chairs are also a highly respected and engaged group. As the department has grown, it is unclear if the administrative support and onboarding of new University Division Chairs is happening. In addition, a schedule of regular meetings of the Chair with the University Division Chairs to review all mission-critical initiatives should be explored.

Faculty are seen to be at risk of burnout due to the ever-increasing demands of academic practice, providing expert clinical care, research and education. This has also filtered down to increased demands upon the administrative staff of the Department. Ensuring that Division Chairs have adequate Department funded administrative support would be helpful. There is clear need to assist faculty in the preparation for promotion. A user friendly accessible and reliable central repository for academic activities, would assist in the generation of a standardized faculty CV. A CV template and detailed instructions on Promotion is available on the Temerty Faculty of Medicine website, however, this seems to be inadequate to meet the needs of faculty. Further exploration of this issue is recommended to understand the specific concerns.

### 3. Relationships

- **Please comment on the strength of the morale of the faculty, learners, and staff.**
- **Please comment on the scope and nature of the Clinical Department’s relationships with cognate Departments/EDUs at the University of Toronto, affiliated hospitals, and external government, academic, and professional organizations.**
- **Address the extent to which the Clinical Department has developed or sustained fruitful partnerships with other universities and organizations in order to foster research, creative professional activities, and to deliver teaching programs.**
- **Please comment on the social impact of the Clinical Department in terms of outreach—locally, nationally, and internationally.**

It is abundantly clear that faculty, learners and staff are extremely proud to be members of both the Department of Surgery as well as the Temerty Faculty of Medicine, University of Toronto. There was a strong and consistent recognition of the unique size of the medical school as compared to other Universities in Canada and to other cities in North America and the solutions that the University and Department have created to overcome the challenges of size and number of hospitals are impressive.

The Department of Surgery is held in high regard by other departments within the Temerty Faculty of Medicine and the affiliated hospitals. Cognate Department Chairs expressed gratitude to Dr. Rutka for his collaborative efforts, and his openness in sharing ideas and advice. Certain aspects of the Department, such as the SSTP, are being emulated by other departments, a true compliment. The Department is often seen as exemplar of best practices including in surgical skills and best practices in quality. Many of the other operational parts of the Department are also a source of inspiration to other Chairs including quality efforts.
This review touched briefly on the management of issues of professionalism and learner mistreatment, allowing the reviewers to seek clarification from the Temerty Faculty of Medicine, as to the central resources and efforts to deal with these concerns. Temerty Medicine has extensive resources to manage issues of professionalism and learner mistreatment actively. Dr. Pier Bryden Senior Advisor, Clinical Affairs and Professional Values works closely with Dr. Lynn Wilson, Vice Dean, Clinical and Faculty Affairs. Support staff for learner mistreatment is extensive including Dr. Reema Pattani, Director Learner Experience and she works in conjunction with Dr. Glen Bandiera, Associate Dean, Postgraduate Medical Education and Dr. Patricia Houston, Vice Dean, Medical Education. Temerty Medicine also actively collects data on incidence of discrimination, harassment and bullying, in the “Voice of the Faculty” survey. The Department of Surgery ranks comparably in the median compared to all the departments. Overall Temerty Medicine is committed to fostering a culture of respect, inclusion and equity and the appointments of the leaders mentioned above, reflects that commitment. Future surveys which are repeated on regular intervals need to be monitored actively.

Many of the Department’s faculty members also serve in leadership positions with local and provincial government programs such as Ontario Health and Cancer Care Ontario. Through the Canadian Association of Surgical Chairs, Dr. Rutka has sustained excellent working relationships with all Canadian Departments of Surgery, providing inspiration, advice and opportunities for collaboration. This tone of building bridges is carried through by Department members who consistently seek partnerships with colleagues at other universities for research, teaching and advocacy.

The Clinical Department’s responsibility to vulnerable populations locally, nationally and internationally is taken very seriously by all department members. There are many examples of the commitment to local marginalized populations, as well as to greater social issues such as gun violence. Department members have a strong presence in Global Surgery.

4. Organizational + Financial Structure

- Please comment on the appropriateness and effectiveness of the Clinical Department’s organizational and financial structure, and its use of existing human, physical, and financial resources in delivering its programs.
  [In making this assessment, reviewers must recognize the institution’s autonomy in determining priorities for funding, space, and faculty allocation.]
- In the broadest sense, how well has the Clinical Department managed resource allocation, including space and infrastructure support?
- Please comment on opportunities for new revenue generation.

Reviewers are at slight disadvantage to comment on the financial structure as it is derived from a variety of sources, and a large amount of support for individual faculty members stems from hospital-based practice plans that vary from hospital to hospital and within Divisions. Although, the current Chair considers the transfer of funds per annum from the Temerty Faculty of Medicine, adequate, by comparison to other departments, would be considered inadequate if it were not for the monumental funds from philanthropy directed to the Department. It was also beyond the timelines of our review to touch upon the issue of some resource allocation such as space.

The current Chair has been successful in subsidizing academic mission and having a significant global impact in research. The SSTP is a national jewel. However, the source of funds appears to be fundamentally at risk. Much of the academic mission is subsidized by donations to the Department; these have doubled in the past 5 years and come from alumni, gifts, industry and philanthropy.

It is unclear how the hospitals and clinical revenues subsidize the academic mission and will be important for the next Chair to have a fulsome picture. The recent appointment of a faculty member to review the hospital practice plans will be informative. Many of the Endowed Chairs are held at the hospitals, and it is not clear how much influence the Chair has over the use of those funds, or the degree to which the Chair is able to review the annual Chair balances, and expenditures. Areas of new revenue appear in a stronger collaboration with the hospital and the individual Research Institutes to improve economies of scale. In addition, partnering with the hospital on areas of shared interest and revenue sharing include focusing on quality, value and cost research. An example of this is the Best Practices in Surgery program that has broad representation and stakeholder engagement and funding from various hospitals.

The SSTP investments have increased from 30 trainees/year to 46 trainees/year. While this may be appropriate, the reviewers would encourage a review of the long-term success of the SSTP graduates to review and refine the resources. Funds seem targeted to support the research mission of the Department, which is appropriate, however, the education mission, an equal pillar, could make use of increased revenue stream to support the administrative needs of the training programs.
Certain Divisions lag in the development of Chairs and philanthropic donations. These smaller Divisions would be enabled to increase their contributions to the academic mission of the University if targeted efforts were made for fundraising and the creation of Endowed Chairs. Although the Senior Development Officer is available to all Divisions, some clearly require more focused support, such as Plastic Surgery. Directions from the Dean to the Temerty Faculty of Medicine’s Office of Advancement as to where to target efforts, are a crucial component of the success of Divisional fundraising efforts. Hence, the next Chair is advised to create a 5-year plan outlining the advancement priorities of the Department for presentation to the Dean. As faculty and alumni identify most with their Divisions, outreach to alumni that highlights support to the individual Divisions vs to the Department may be of higher yield.

The Department Finance Committee structure requires review to ensure that all Divisions have representation. Brainstorming for new sources of revenue should be charged to the Department Finance Committee. With full representation of all Divisions on the Committee, will come increased brain power to explore new ideas. New graduate programs can be fruitful; the Dalla Lana School of Public Health offers a Master’s program in System Leadership and Innovation. With the number of surgical leaders in the Department, it is highly probable that a new Master’s offering in Surgical Leadership could be created in partnership with the Dalla Lana School and hosted within the Department of Surgery.

The model for the allocation of funds received from the IMG for Pool C residents and fellows could be revisited with a view to improving transparency in the current model, as well as seeking to increase funds to the Department and Divisions that are performing the training. Prior to engaging in these discussions, a robust environmental scan of the models followed at the other Canadian medical schools would be informative and provide a baseline to assist with a new model proposal.

Financial support for administration is overall, an area that needs increased support given the size of the Department and the responsibilities of the Chairs office. One particular area for support is the educational mission thru support administrative staff where support is minimal. In addition, the Chair’s office is understaffed, and many staff perform multiple roles. The staff is unionized and there is no evident formal staff development program. When possible, any changes to key administrative staff in the Chair’s office should carefully consider mechanisms to avoid the loss of institutional memory and account for adequate handover.

The administrative support for faculty is primarily for their clinical needs and there is no formal centralized support for academics or professional development. Similarly, the University Division Chairs are responsible for academic development and promotion, but it is unclear how many resources are provided to them for these efforts especially as their complement of faculty has continued to increase.

5. Long-Range Planning Challenges

- Please comment on the vision for the future of the Clinical Department.
- Has the Clinical Department clearly articulated a strategic academic plan that is consistent with the University’s and Faculty’s academic plans?
- Please comment on whether there is consistency with the Faculty’s commitment to inclusion, equity, and diversity.
- Please comment on the planning for advancement and leadership in approaching alternative sources of revenue, and appropriateness of development/fundraising initiatives.
- Please address any space and infrastructure considerations.
- Please comment on the management, vision, and leadership challenges in the next 5 years.

Overall, the Department enjoys an incomparable reputation as a leader in surgery both nationally and internationally. The Department has flourished under Dr. Rutka’s leadership with success in all of the academic pillars of clinical growth, research and education. During the last decade, the Department has grown its clinical mission with 545 faculty, $76M in annual research funding and training of 277 residents and 249 fellows. The Department is ranked 4th globally reaffirming its global position. The current Chair has leveraged to expand its clinical operations in conjunction with the hospital leaders and Dr. Rutka is held in universal regard. Simultaneously, he has continued to evolve the SSTP and support faculty by utilizing funds from philanthropy and other sources.

Under Dr. Rutka’s leadership, the Department has successfully leveraged a highly complex matrix organization to support the academic development of its people. The Department has a strategic plan for 2018-2023 entitled “Aspire-Advance-Achieve” with 6 areas of focus including education, research, best practices, faculty development, global outreach and innovation. The strategic plan is aligned with the Temerty Faculty of Medicine’s strategic plan. The Department continues to thrive as a beacon of academic excellence.
The Department is also invested in continuing to increase the diversity of its constituency. In recent years, women have comprised approximately 33% of new recruits. The appointment of Dr. Gelareh Zadeh as the first female Chair of the Division of Neurosurgery in fall 2020 also shows concerted efforts in advancing women into leadership positions. Furthermore, new Co-Directors for Equity, Diversity, and Inclusion have been appointed and there are ongoing efforts at the local hospital levels including Sunnybrook’s Department of Surgery. All search committee members take unconscious bias before serving and the Department now has workshops focused on gender issues within the Department. Although the Department had 73 academic promotions in the past 5 years, only 12 were female (15%). It is unclear what percentage of faculty is women so further input into gender and diversity should be tracked along with gender distribution of chairholders as well as other leadership positions such as surgeons-in-chief and service leads for the hospitals.

The Department has also continued to make significant investment in supporting academic mission by using alternate sources of funding including philanthropy as well as continuing professional development courses. The sustainability of the sources of these funds was unclear to the reviewers. With the transition to the next phase for this Department, the next Chair of Surgery will be assuming leadership of a Department that is well poised to evolve and continue to grow. There is a significant opportunity to align people (faculty, trainees, research) across the different hospitals. CEOs of the hospital are invested in a “Team Toronto” brand and a focus on harnessing this for wellness efforts as well as people development. The present Chair has used influence and creative use of fundraising to advance the academic mission. However, it would be invaluable to ensure that source of those funds is clear to the next Chair. Alternative sources of funding can also be pursued with the Research Institutes within the hospitals to have economies of scale and pursue newer areas of academic focus such as quality and cost of care delivery.

Additionally, key areas focus for the next leader must be someone who can continue to drive a singular vision of academic development and continue to nurture a culture of scientific inquiry and excellence. The next Chair should also invest in connecting the clinical faculty spread across the various hospitals across the city to the central academic hub. This can be accomplished by coordinating and highlighting the role of the Department and the concurrent academic division as the academic base for each faculty member who is then distributed in their clinical activities to the various hospitals. The University Division Chairs currently lead primarily by influence and increasing support and resources for them will be important along with onboarding of new faculty.

The connections for academic hub in the Department appear clear for the physician scientists. However, the reviewers did not meet junior faculty and it is unclear how new hires view this and whether they feel connected, especially if they are primarily clinical. Addressing faculty onboarding, development and engagement should be a key focus of the next Chair. In addition, advancing wellness efforts and investing in Equity, Diversity and Inclusion efforts must be a focus especially given the changing nature of the surgical workforce with an increase in women trainees.

The majority of the clinical support such as for Physician Extenders and research support is given by the hospitals who have varying levels of resources. Accordingly, attention to equity across all faculty may need to be reviewed. This was outside the scope of the current review. The residency training programs all are robust and the SSTP overall has been a remarkable investment. Future efforts to train graduates in Education or in Quality efforts will be important.

6. **National + International Comparators**

   - Please assess the stature of the Clinical Department compared to others of similar size in national and international universities, including areas of strength and opportunities.

The University of Toronto is uniquely situated within a very large population, 2.7 million, as a single medical school. Cities of comparable size in the USA, such as Chicago, have 3 Medical Schools. The US News and World Report places the University of Toronto fourth in the top 5 Best Global Universities in Surgery. There is no doubt that the Department of Surgery is the preeminent Department of Surgery in Canada.

Due to the unique nature of the organization of the University and the Hospital Research Institutes, there is inherent market competition for brand recognition within the Toronto region. Neither the hospital websites, nor the University’s website highlight their partnership with each other. Increased displays of unity between hospital institutions, and the Academic Department can only be helpful to both.

Within academia, the University Department has a very recognizable profile across the nation, as faculty and past trainees who are attending conferences or securing jobs, are viewed as University of Toronto faculty or alumni. The international recognition is clearly increasing with each passing year. The high number of international fellows that then return to their home countries has greatly increased the ongoing relationships across continents.
The Department of Surgery at the University of Toronto is the top Department in the country and has remained in this position for some time. In addition, the Department is recognized as a global leader, ranking fourth in the most recent US News and World Report. The Department faculty is diverse and excels in clinical leadership. SSTP is a marked differentiator of the Department and this Program can and should be a role model for other academic surgical programs. The Department continues to diversify its faculty across both academic intensive and community-based programs.

Research funding has continued to significantly increase with doubling of funding in the past 5-year period from $40M to $76M. As a whole, the faculty are strongly academic with over 1000 publications/year in high impact journals as Lancet, Nature, Science and New England Journal of Medicine. The Department’s academic output is remarkable with citations 2nd only to Johns Hopkins.

Comparable Departments would include Harvard Medical School and Johns Hopkins. Compared to these, the Department academic research portfolio is significantly richer. However, those other departments have focused on newer areas of investigation such as health services and disparities research. In addition, significant focus is now allocated to diversity and faculty development. A unique strength of the present Department is the Surgeon Scientist Training Program and should be continued. In addition, newer areas of research such as quality and cost effectiveness research can be developed further and harness the clinical strengths of the network of hospitals that include tertiary care hospitals along with community hospitals.

7. Conclusions

- Provide an overall assessment of strengths and concerns, and recommendations for future directions.

Overall, the Department of Surgery at the University of Toronto, with significant, nation leading strengths in all domains, remains the lead Department of Surgery within Canada. The clinical strengths are varied and extensive, with expertise in the fields of Transplantation, Trauma Care and Surgical Oncology. This pillar is supported by highly engaged and expert clinical faculty.

Similarly, the Department leads the country in the volume of trainees, both Undergraduate and Postgraduate. A few opportunities exist within the education domain to continue to grow this strength. The quality and volume of CME provided by the Department is a key component to meeting the needs of surgical faculty both nationally and internationally and is commendable.

The Department, strengthened by its strong collaboration with the Hospital Research Institutes, is a leading research powerhouse providing impactful publications yearly. New areas of research will require thoughtful consideration towards integration without losing focus on basic science research.

The Department is the recipient of a high level of philanthropic support, and endowed chairs. Continuation and expansion of such funding, allows non-clinical faculty to be retained and assist in driving the research mission. Continued success in fund-raising is crucial.

RECOMMENDATIONS

CLINICAL

1. Allegiance:

   There is a high level of good will between the hospitals and University. Faculty members strongly identify with their base hospitals and hospital divisions. Within the allegiance hierarchy, the academic department sits at the bottom, below the academic division, which is below the hospital and at the top of hierarchy is the hospital service. This perception can be mitigated, with an aim to have the faculty view the hospital and the University Department as the foundation upon which the hospital division and service are mounted. This will require the next chair to engage with each of the Hospital Chiefs of Surgery to develop a common branding, with opportunities for bi-directional recognition of each partner.

2. Manpower Planning and Recruitment:

   Further expansion upon the goodwill between the Department and the hospitals, can be used to facilitate communication across hospitals, and with the Department particularly regarding:

   a. Recruitment of all faculty, regardless of promotion stream.
   b. Defining a platform for discussion of manpower planning amongst all Surgeons-in-Chief, within the city, recognizing that University Division Chairs, need to connect with 9 Surgeons-in-Chief across the city.
   c. Create an electronic recruitment platform to facilitate communication amongst the key participants.
3. Cross Hospital Barriers:
   Recommend the appointment of a working group to study and then devise a plan to break down the barriers that discourage clinical collaboration across hospitals.

4. Faculty support: Several areas of faculty support will require attention of the new Chair
   a. Support for Promotion and Tenure Process: the process for faculty to create an Academic CV needs clarification.
   b. Professionalism: All involved, the Department Chair, the Surgeons-in-Chief, University Division Chairs and Hospital Heads could benefit from a centralized process to address professionalism concerns via an independent review body that has the ability to gather information from academic as well as clinical environments. As the Temerty Faculty of Medicine is heavily invested in this area, the new Chair is advised to review this initiative with the Associate Dean to discuss.
   c. EDI: The new Co-Directors in conjunction with the EDI Committee should provide an action plan for review by the Chair and the Surgical Executive within 2021.
   d. Burnout: The Faculty lead should provide an action plan for review by the Chair and the Surgical Executive within 2021.

EDUCATION
1. Undergraduate:
   a. Increase the number of students in the SEAD Program to at least 40 students. This will be a relatively small cost for the potential benefit of early exposure to surgical disciplines.
   b. Undertake a focused review of the core surgical clerkship rotation. This could include a review the availability of specialty rotations for the undergraduate students at each site. Further scheduling opportunities could be considered to allow students with focused interests to move across Academies to seek the experience and opportunities they require.
   c. Set a goal to increase the number of surgeons involved in the foundational years of undergraduate medicine, specifically as leaders for the Case Based Learning Tutorials.
   d. Provide administrative support for the Surgical Leaders in Undergraduate Education.
   e. Provide support to key surgeons recruited in an educational stream for the first five years of their career with expectations to include Educational Leadership, and Educational Research.
   f. Create a plan to incentivize current faculty to continue to upgrade their education-focused CME, including support for advanced degrees, as well as courses through Faculty Development.

2. Postgraduate:
   a. Surgical Job Market: Residents are limited in taking electives outside of the GTA mainly due to manpower concerns. Extension of the Physician Extenders at the hospitals can reduce the reliance on resident workforce allowing residents who chose, the flexibility to explore hospitals outside of Toronto that may offer future career opportunities. In addition, such exposure will allow residents and fellows to recognize there are desirable options that exist outside of the GTA.
   b. Resolve the issues with residents and fellow onboarding at the hospitals. The next Chair and Vice Chair of Education should partner with the Associate Dean of Postgraduate Medical Education and other clinical Department leads, to work with all partner hospitals. At a minimum the following considerations would considerably reduce the “hassle” factor for residents:
      i. Provide residents with University issued ID badges that are accepted at each teaching hospital, for the entire duration of their postgraduate training.
      ii. Provide universal online modules acceptable for all rotations for all sites, renewed annually.
      iii. Provide residents with a single pager that can transfer amongst hospital sites.
   c. Update Resident Evaluation System: An updated and coordinated system needs urgent implementation. This is unlikely an issue for only the surgical programs. The next Chair needs to take this issue to the Associate Dean, Postgraduate Medical Education for discussion and development of a plan for resolution.
   d. Incorporate best practices in EDI to the selection processes for residents and fellows across all surgical programs.

CONTINUING EDUCATION AND QUALITY IMPROVEMENT
1. Develop opportunities for bridging Divisions, and other health care providers in CME offerings.
2. Update the CME website to ease navigation
3. Expand the Department focus on QI, with a multipronged approach including partnering with Research Institutes, and expanding the Best Practices in Surgery Program across more Divisions.
4. Create an academic pathway for faculty with an interest in QI. Optimize partnerships to pair QI with Artificial Intelligence technology and large databases.
FINANCES
1. Enter into discussion with the Dean, Temerty Faculty of Medicine and the Associate Dean, Postgraduate Medical Education to review and explore the revenue flow from international medical graduate training tuition. Conduct an environmental scan across Canadian medical schools to see how each medical school approaches the distribution of such funds.
2. Next Chair to consider the creation of a 5-year plan to present to the Dean for priority fundraising.
   a. Improve philanthropic assistance to smaller Divisions such as Plastic Surgery, Cardiac Surgery
3. Embark upon a review of the outcomes of the SSTP to determine its overall effectiveness, including academic productivity, grants obtained, publications, pursuit of further research training, and job placement. Seek to understand predictors of success and withdrawal.
4. Department Finance committee membership should be reviewed, and if necessary, revise the Terms of Reference to ensure representation from all Divisions.
5. Improve financial support to the Chairs administrative team as well as to University Division Chair, and to faculty for academic activity.
6. Charge the Departmental Finance Committee with creating a report on new revenue opportunities including, but not limited to alumni engagement and new advanced degree programing.

RESEARCH
1. Sustaining Basic Science Research: Bring together all those involved in basic science research including the leads of research for the University Department and Divisions with the Research Leads at each hospital site, the research faculty, both clinical and non-clinical, research coordinators, and assistants. A full day retreat is suggested to explore common concerns and set a path forward highlighting collaboration amongst the various research labs.
2. Research committee to set priorities and targets for the development of research areas such as AI, QI, and Clinical Trials.
3. Research committee to set a plan in motion to engage the hospital Research Ethics Boards to create a single city-wide REB.
4. In conjunction with Department Division Chairs, set a process in place to identify and then mentor mid-career scientists who may be challenged in direction, funding, or both.
5. Increase the focus on Surgical Education Research in the Department. The new Chair is advised to meet with The Wilson Centre lead to discuss further opportunities for alignment.

OTHER
1. Recruitment of Departmental Administrators: To prevent the loss of institutional memory, it is critical that a suitable candidate is identified early on in the case where there will be changed to any key administrative staff. Financial support needs to be found to allow a suitable time for training and handover of the position such that the new administrator has at least 6 months of onboarding with the existing lead.

It was both an honour and a pleasure to review this Department of Surgery. The incredible productivity of the surgeons under the superb leadership of Dr. Rutka has been inspiring to review.

Recruitment of next Chair: It is quite evident that Dr. Rutka will leave huge shoes to fill for the next Chair. Dr. Rutka embodies the near “impossible to find” blend of personal and academic strengths, including, prowess and skill in his clinical specialty, obtaining international recognition as an accomplished researcher, being an engaged and talented teacher, and, finally being a well-respected and valued administrator. With the expansion of all academic positions, and the incorporation of an ever-increasing set of responsibilities and duties, it is expected that the administrative duties of a Chair will be at least a .5FTE position. The search committee is advised to carefully consider the other domains in which the next Department Chair is to be active in. It is strongly suggested the next Chair continues in active surgical practice, and if involved in research, that their research program is well established, and not in need of substantial development or resuscitation. Paramount to success will be excellent communication skills, and experience in fund raising.

EXTERNAL REVIEWERS

Dr. Nita Ahuja – Dept. of Surgery, Yale University

Dr. Susan Reid – Dept. of Surgery, McMaster University

SIGNATURES

[Signature]

[Signature]