



EDU:C Under Review	Banting & Best Diabetes Centre
Commissioning Officer	Professor Trevor Young, Dean
Review Date	October 23, 2020

Reviewers are asked to provide a report that satisfies the following:

- *Identifies and commends the BBDC's notably strong and innovative attributes*
- *Describes the BBDC's respective strengths, areas for improvement, and opportunities for enhancement*
- *Recommends specific steps to be taken to improve the BBDC, distinguishing between those the unit can itself take and those that require external action*
- *Recognizes the institution's autonomy to determine priorities for funding, space, and faculty allocation*
- *Respects the confidentiality required for all aspects of the review process*
- *Addresses all elements of the terms of reference*

BRIEF SUMMARY

The Banting and Best Diabetes Center (BBDC) was established in 1978 as an extradepartmental unit of the University of Toronto. The Center's goals are to advance diabetes research, education and patient care. In October 23, 2020, BBDC's activities and accomplishments between 2016 and 2020 were reviewed based on a self-study provided to the review panel and a day-long series of meetings with BBDC leaders, members, and stakeholders. Strengths, weaknesses, threats and opportunities were considered in a range of center aspects detailed below. The Review panel's overall impression is that the BBDC is one of the top diabetes institutes world-wide and has benefited from inspired leadership over the past decade.

1. Relationships

BBDC's research in diabetes and metabolism involves faculty at University of Toronto in basic and clinical departments in the Faculty of Medicine; faculty of the Schools of Nursing, Public Health, Pharmacy, Applied Science & Engineering, Dentistry, Arts & Sciences, Kinesiology & Physical education; and Research Institutes at University of Toronto affiliated hospitals. The most broadly represented unit in BBDC is the Faculty of Medicine with members from 16 different departments.

Strengths

- Membership is open and inclusive.
- Morale is excellent.
- The Director's relationship with the membership and with University of Toronto leadership (Deans, department heads) and fundraisers is strong.

Weaknesses

- Some department heads see an issue with the optics of BBDC being more UHN-based (rather than University of Toronto), although this did not seem to be an issue with the membership, who for the most part felt part of BBDC wherever they were located.
- AR/Quest seems somewhat siloed, and for some members, there was not the same sense of being part of BBDC. There was a stronger BBDC connection for those doing lab-based science.
- Members and stakeholders lack insight into the finances or budgetary decisions.

Opportunities

- The BBDC research base is talented and diverse, providing an excellent opportunity to embrace diversity in committee leadership at BBDC.

- The BBDC research base includes several world experts from whom increased engagement may benefit the center.
- While preparation of an annual report represents substantial work, presenting such a report to stakeholder University of Toronto and hospital units could be beneficial in several ways. Data on benefits to faculty provide a rationale for greater support from University of Toronto and hospital research institutes. This could also help correct a perception voiced by some that the BBDC has moved away from University of Toronto and towards the hospital research institutes. In addition, this would enhance transparency with respect to BBDC's finances for the different stakeholders.

Threats

- Value of the relationships that Director has built are threatened by his potential departure.
- AR/Quest relationship may become more strained without go/no-go decision in terms of long-term support.

2. Research

Discovery research programs cover diabetes-relevant science in islet/stem cell biology, diabetes and heart disease, complications, diabetes and pregnancy, and nutrients/digestive tract/diabetes. In addition, the Applied Research Programs developed under the current director strive to translate new discovery science to practice.

Strengths

- Discovery research in BBDC has impressive breadth across the major areas of contemporary diabetes research. Research is very strong as reflected by robust funding from the Tri-Council Agencies, industry, and foundations. Scholarly output as measured by bibliometric data places BBDC among the most highly respected diabetes centers world-wide.
- BBDC resources support training and career development awards and pilot and feasibility funding for innovative projects to catalyze new collaborations and acquisition of new support. For example, seed money that supported efforts in diabetic nephropathy led to development of a biotechnology company.
- A core laboratory provides high quality assays at a discounted rate to BBDC members.
- The Vulnerable Populations/Population Health Program led to the Diabetes Action Canada SPOR program, a national research consortium funded by CIHR and headed by Dr. Lewis.
- The Knowledge Translation and Optimizing Care Models Program has produced management and learning programs that support providers of diabetes care, with a focus on pharmacists.
- The Quest program fosters education and quality improvement initiatives for diabetes care teams.

Opportunities

- Although the BBDC comes together for an annual research day, a joint international symposium (University of Toronto, Joslin, Univ. of Copenhagen), and ~4 external speakers per year, interactions among members appear to be guided mostly by their specific research interests. Common areas in discovery research (such as islet/stem cell biology, diabetes and heart disease, complications, diabetes and pregnancy, and nutrients/digestive tract/diabetes) might be better leveraged by more frequent seminars, trainee work-in-progress groups, and/or faculty chalk talks.
- There may be untapped opportunities for obtaining input from BBDC members (e.g., through a survey) regarding current programs and new ideas.
- Guidelines and operations of Pilot and Feasibility and fellowship programs are well described and data on distribution of awards presented. Maintaining a record of tangible outcomes (papers, grants, career advancement steps) on a real-time basis, including data collected for several years following awards might help to motivate support from University of Toronto, its departments, and its affiliated Hospital research institutes, as well as outside donors.

- The last BBDC strategic planning process was in 2011. At this time, a strategic planning exercise would be useful to re-energize (and potentially redirect) the Applied Research Program and to enhance engagement across the Discovery and Applied Research Programs.
- The Training and Research Excellence Committee spans remarkable expertise and is well positioned to contribute to planning potential research initiatives, in addition to its role in implementation of the Pilot and Feasibility Grant and fellowship programs.

Threats

- The virtual nature of the BBDC and the diverse departmental homes creates a challenge for achieving a cohesive center identity.
- Interaction between the Discovery and Applied Research Programs seems limited. Investigators and trainees in Applied Research cannot compete for pilot and feasibility funds or training awards.
- The Applied Research Programs appear to be at a crossroads with transition of the Vulnerable Populations/Population Health Program to the Diabetes Action Canada Program (and seemingly away from BBDC), sunseting of the Knowledge Translation and Optimizing Care Models Program because of lack of funding, and lack of leadership for the International Diabetes Collaboration Program. The Quest Program primarily focuses on practice quality improvement, as opposed to research on dissemination and implementation, and does not have a strong record of competition for grant funds.

3. Education

The education mandate of BBDC seems two-fold: development of early career diabetes researchers (graduate students, post-doctoral fellows, and early career investigators) and educating practitioners (e.g., pharmacists, dietitians, diabetes educators). Training of young scientists is done primarily through funding awards, symposia, visiting speakers, and opportunities to participate in review activities. Education through the Applied Research group seems more responsive than pro-active, but typically involves groups coming to QUEST for support (funding and/or expertise). QUEST has a relatively small budget but potential for impact.

Strengths

- Trainees feel engaged and overall are happy with the excellent training environment and the opportunities for funding.
- Events such as the BBDC Annual Scientific Day and excellent visiting speakers are key parts of a strong training environment.

Weaknesses

- Current metrics tracked by QUEST appear to be website hits and publications, and may not be capturing its education reach.

Opportunities

- The trainees seemed keen and open to other training opportunities, such as career days for information on other career paths in diabetes research in addition to academia, such as industry, science communications, education; and co-op/internship opportunities for those interested in industry.
- Trainees were also interested in workshops/symposia in other areas of learning (e.g., bioinformatics).
- The BBDC name has international recognition but trainees felt it could be even better leveraged for attracting excellent trainees (e.g., acknowledgment of BBDC in talks and papers).
- If QUEST remains part of long-term BBDC planning, this group could consider taking on a more academic role including publications and grants, which in turn, could improve prospects for fundraising.

Threats

- The COVID-19 pandemic has been particularly harmful to training programs, as trainees do not get face-to-face interaction with visiting scientists, miss the BBDC scientific day, and travel to conferences to present and meet other scientists in the field has not been possible.
- The primary focus of BBDC is its research mission, and much of AR/QUEST initiatives have transferred to the SPOR (Diabetes Action Canada). Loss of aspects of AR/QUEST may weaken the BBDC ability to deliver on its education mandate, if this is a central part of BBDC's strategic plan moving forward.

4. Organizational + Financial Structure

The Director works with the Executive Committee to lead BBDC. Training and Research Excellence and Trainee Advancement and Development committees develop educational programming and lead the programs for funding (training awards and Pilot and Feasibility funding). The Director also works closely with Quality Education and Safety Committee on efforts in health education and quality improvement. There are two full-time staff.

Resources are limiting. Approximately 40% of support for BBDC activities derives from yield on the BBDC endowment at University of Toronto, which is small given the size of the center. The remainder of the operating budget comes from fund-raising efforts in which the BBDC leadership partners with the relevant Advancement offices. These latter funds are primarily expendable gifts.

Strengths

- Executive, Training and Research Excellence, and Trainee Advancement and Development Committees are highly engaged with broad representation of the stakeholder departments/institutes and membership, including early career investigators.
- Relationship between the committees and the current director is highly functional and effective.
- The current director has been a tireless champion of the BBDC and particularly effective at fundraising.
- A major arm of the Applied Research Program competed successfully for SPOR funding from CIHR, bringing substantial new funding to University of Toronto and enabling BBDC funds to flow to other Discovery and Applied Research programs. This should be viewed as a major success.

Weaknesses

- Committee leadership is not as representative of the BBDC membership as it could be (i.e., gender representation on the executive committee, absence of several senior investigators).
- Membership felt there could be better transparency around the BBDC budget.

Threats

- The term of the BBDC Director is limited to a maximum of 2 terms or 10 years, according to University of Toronto Policy provided in the Self Study. Succession planning was not discussed in depth during the review, leaving questions regarding the anticipated transition.
- BBDC has a large pool of talent among its members and their research programs, who compete for relatively small resources.
- Funds raised to cover the majority of the BBDC budget are limited term funds and are completely dependent on the ability of the Director to fundraise, and the Center's ability to work productively with the University of Toronto or hospital research institute Advancement offices. In the absence of a large gift, programs may need to be trimmed to what can be supported by the yield on the endowment if fundraising by the next director is less successful.
- Most of the fundraising success during the current director's term has come from working with the University Health Network (UHN) Advancement Office. There is uncertainty as to whether this level of success will be sustained if the next director is not as effective at fundraising or if they are

less able to partner with UHN. Although some department heads observed that BBDC appears to have become more aligned with UHN and drawn away from University of Toronto, recent fundraising efforts for BBDC by UHN appear to have enjoyed greater success. Development Staff of both UHN and University of Toronto noted the ways in which they collaborate on their efforts for benefit of BBDC.

Opportunities

- The current director is a tireless advocate who has led the BBDC with passion. Consideration should be given as to how to best leverage his success to empower the next director (e.g., a phased transition to a new director, and transition for the current director to an advisory role).
- To enhance synergies between University of Toronto and BBDC, commitment by the University to BBDC should be strengthened through successful fundraising by the University for BBDC and by some limited financial or in-kind support of BBDC from the University departments whose faculty benefit from BBDC.
- The centenary of the discovery of insulin presents a wonderful opportunity for development activities at University of Toronto. Given the extraordinary strength of BBDC in carrying out the legacy of Banting and Best, this event should be used as a platform to grow the endowment of BBDC. Consideration should be given to delaying the BBDC leadership transition until well after the event, to best leverage this opportunity.

5. Long-Range Planning Challenges

Strengths

- BBDC is fortunate to have an endowment and outstanding international brand recognition.
- Membership is strong with many promising early and mid-career investigators.

Weaknesses

- Succession planning in leadership seems unclear at this time. It is uncertain whether there are internal candidates appropriate for the Director role.

Opportunities

- University of Toronto has an opportunity to enhance its commitment to BBDC fundraising and ensure the future of the center, particularly with the 100th anniversary of the discovery of insulin. In recent years, most BBDC fundraising has been via the UHN/hospital foundation.
- A refresh of the strategic plan (or new strategic plan) would be helpful for long-term planning to enable strategic allocation of resources and effort (e.g., future of QUEST).
- The current director is willing to stay on and would encourage a phased transition to a new director, as it seems a critical time for fundraising (COVID, 100th anniversary)

Threats

- The next director may not have the fundraising prowess of the current director.
- Expendable funds (i.e., non-endowment) support most of the pilot and feasibility grant program and training awards, thus these programs could be at risk. Raising funds for endowment, while challenging, would provide a more secure future for BBDC.

6. International Comparators

The scope and quality of research at BBDC is exceptionally high. BBDC ranks among the most select diabetes research institutes in its field in terms of impact, including the Harvard Joslin Diabetes Center, the Fraternal Order of Eagles Diabetes Research Center at the University of Iowa, the Helmholtz Zentrum München in Germany, and the Hong Kong Institute for Diabetes and Obesity.

Opportunities

- Acknowledgement of BBDC by members in talks and manuscripts would promote external recognition of BBDC.
- Metrics of research success and examples of outcomes and impact should be increasingly leveraged for recognition, fundraising, and long-term success.

7. Conclusions

BBDC has outstanding breadth and strength across the major areas of contemporary diabetes research. BBDC ranks among the most select research institutes in its field in terms of impact. Over the past decade, BBDC has thrived in large measure due to the highly committed leadership from a Director who has had impressive success in nurturing the traditional discovery research programs, fundraising, and developing applied research and education efforts. Looking to the future, BBDC's biggest challenges are the anticipated leadership transition and achieving financial stability and growth.

EXTERNAL REVIEWERS

*Dr. Jean SCHAFFER – Associate Research Director, Joslin
Diabetes Center, Harvard Medical School*

*Prof. Bruce VERCHERE – Director Centre for Molecular
Medicine & Therapeutics, University of British Columbia*

SIGNATURES



3 Dec 2020



3 DEC 2020