SUMMARY

(1) Dr. Elizabeth MacNamara, Medical Lead of the Patient Order Sets project, has been instrumental in implementing digitalized Patient Order Sets throughout the Jewish General Hospital. They have had a significant decrease in length of stay in Surgery, and will be implemented in the Emergency Department and Medicine early in 2017. Since the launch of the Patient Order Sets project, 77 have been implemented with 9,301 used to date. This is the spite having inadequate support from the hospital both clerical and IT, but an excellent nurse coordinator.

Patient Order Sets allow access to the accumulated data sets covering a vast array of diseases, illnesses and medical conditions. This data represents best practices from numerous hospitals and other Health Care Institutions that subscribe to the service. The Jewish General Hospital was the first to implement patient Order Sets in Quebec.

(2) Continue to meet the challenges of Optilab, while continue to evaluating and controlling unnecessary laboratory testing. Improve on the laboratory’s service to the Hospital and outside sources. Expand Special Chemistry testing by incorporating Mass Spectrometry in separation techniques, to further reduce costs and integrate proteomics into the routine laboratory.

(3) To work on a Mobile app development for critical values alert service. The purpose of the App is to allow instantaneous transfer of the critical patient result to the physician’s phone. This will have multiple benefits primarily for the patient but also for the physician, who is responsible for dealing with his patient’s results in a timely fashion as well as the laboratory which wastes time and creates stress trying to reach the physician.

(4) Try to get funds for Research Proteomics at the Jewish General Hospital

(5) Dr. Christoph Borchers has been appointed Head of the Division of Clinical and Research Proteomics at the Jewish General Hospital. The Proteomics Department has expanded to two post-doctoral fellows, three Ph.D. students and a manager. More state-of-the-art equipment has been acquired for the Proteomics Laboratory, in order to develop advanced technologies that increase the range of high-quality proteomics. Applications have been made for CFI, CIHR and Genome Canada funding.

1. Research and publications:

Research
- Dr. MacNamara is continuing her interest in proteomics research. She has become actively involved in the Genomics Innovation Network (GIN). The goal, or mission, of this network is to create a mechanism for the innovation centers across Canada to work.
The Proteomics Department at the Jewish General Hospital has had 14 projects that were either completed or ongoing this past year, including 7 collaborations with different researchers within the Lady Davis Institute/Jewish General Hospital.

**Funding sources:**

- Genome Canada/Genome Quebec GENOMIC APPLICATIONS PARTNERSHIP PROGRAM (GAPP) (project title: iMALDI-based Assays for Protein Activity to Improve Patient Selection for Therapeutic Akt Inhibitors in Cancer Treatment)

**Publications:**

See list of publications in Section II, #2 below

2. **Teaching and learning (undergraduate and graduate):**

2.1 MacNamara, Elizabeth, M.D., FRCPS(C)

Undergraduate, McGill University
Medical Student Elective (4 week period)
Medical Biochemistry Resident (12 month/year)
Medical Student elective (4 week period)
Residents’ Teaching on wards
Attendance at Medical Grand Rounds (4/month)
Internal Medicine Rounds
Palliative Care Attending on 4M, (26weeks/year)
CTU Attending on K7 (4 weeks/year)
IIM Teaching (7weeks/year)
IIM examiner/reviewer (6 hours/year)
LDI Cancer Seminars
Attendance at the Association des Médecins Biochimistes du Québec/Canadian Association of Clinical Biochemists Annual Congress
Mass Spectrometry: Applications to the Clinical Lab (MSACL)
Canadian Society of Palliative Care Physicians Conference, Alberta
Palliative Care Continuing Professional Education Day, McGill
Abstract Reviewer for the 22nd International Palliative Care Congress of Canada

**Lectures given:**

Palliative Care-JGH
- Management of Nausea, Vomiting, Constipation and SBO
- Artificial Feeding in Palliative Patients

Medical Grand Rounds – Jewish General Hospital, Montreal, Quebec
- Should We Stop Doing Venous Blood Gases: A Debate

Medical Grand Rounds - Jewish General Hospital, Montreal, Quebec
- The JGH Patient Order Set Quality Improvement Initiative

Biochemistry and Metabolic Medicine Program
Kuwait Institute for Medical Specializations (KIMS)
Clinical Audits- Theory And What Makes A Good And Bad Audit
Examples in the Laboratory
Laboratory Errors- Do They Matter
Bariatric Surgery- Pre and Post Op Complications

2.2 Eintracht, Shaun, M.D., FRCPS(C)

Undergraduate, McGill University
Postgraduate, McGill University
Resident Supervision/One-on-One Teaching
McGill Medical Biochemistry Residents teaching (12 month period)
Teaching of Hematology and Rheumatology Resident
Journal Club (Ad hoc basis)

Lectures given:

Endocrinology Grand Rounds - Jewish General Hospital, Montreal, Québec

Biotin immunoassay interference

3. Involvement in the community:

4. Partnerships:

- Continuing development and implementation of a Laboratory Training Program for technologists from Health Centers in Gansu Province, China. This is part of the collaboration between the Jewish General Hospital laboratory and the Ministry of Health, Gansu, China.

- Dr. MacNamara has been appointed as the Chair and External Examiner for the Medical Biochemistry and Metabolic Medicine Program, Kuwait Institute for Medical Specialization (KIMS). Duties include reviewing the exam questions, participating in the oral module of the final exam, and marking the exam with the members of the exam committee.

- Abstract Reviewer for the 22nd International Palliative Care Congress of Canada

- Vice President of Canadian Association of Medical Biochemist-2016-present

- Dawson College

5. Milestones:

Dr. Christoph Borchers has been appointed Head of the Division of Clinical and Research Proteomics at the Jewish General Hospital.

Dr. André Leblanc has been appointed the facility manager of the Proteomics Laboratory, Jewish General Hospital.
SECTION I – DIVISION STATUS UPDATE

1. Mission and Objectives of the Division

Mission Statement

To provide laboratory and clinical services consistent with the needs of the health care team and their patients in a professional and caring manner.

To initiate and collaborate in research activities directed towards the improved understanding of disease, its diagnosis and monitoring.

To ensure the optimal use of the laboratory service.

2. A nominative list of academic staff, their academic rank

Dr. Elizabeth MacNamara, Medical Biochemist, Division of Medical Biochemistry, Associate Professor, McGill University (active)

Dr. Shaun Eintracht, Medical Biochemist, Division of Medical Biochemistry, Assistant Professor, McGill University (active)

Dr. Christoph Borchers, FCAHS
Research Professor, Department of Oncology, McGill University, Montreal
McGill- Segal Chair in Molecular Oncology

SECTION II – GRANTS, PUBLICATIONS AND SERVICE OUTSIDE OF McGill

1. Grants and awards received:

Grant awarded from Genome Canada/Genome B-C in 2012, with the current goal of continuing Genome testing and development within the Proteomics laboratory.

Project Title: Clinical implementation and Outcomes Evaluation of Blood-based Biomarkers for COPD Management (Total: $7,200,000  JGH: $1,516,575)

<table>
<thead>
<tr>
<th>Agency</th>
<th>Title</th>
<th>PI</th>
<th>Time Period</th>
<th>Total amount awarded to Dr. Borchers</th>
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<tbody>
<tr>
<td>The Fonds de recherche du Québec and the Flemish Research Foundation</td>
<td>Innovative cleavable link strategy based on mass spectrometry for the elucidation of drug binding sites</td>
<td>C. Borchers</td>
<td>2017-20</td>
<td>$298,450</td>
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<tr>
<td>Genome Canada / Genome BC</td>
<td>The Pan-Canadian Proteomics Centre: An Integrated Platform for Comprehensive, Innovative, Translational Proteomics Research in Canada</td>
<td>C. Borchers L. Foster</td>
<td>2017-22</td>
<td>$7,467,485</td>
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<td>Genome Canada / Genome BC</td>
<td>The Metabolomics Innovation Centre</td>
<td>C. Borchers D. Wishart</td>
<td>2017-22</td>
<td>$1,782,990</td>
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<tr>
<td>CFI-MSI</td>
<td>The Metabolomics Innovation Centre</td>
<td>C. Borchers D. Wishart</td>
<td>2017-22</td>
<td>$899,215</td>
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2. Scholarly works published in the 2017 calendar year:

Publications


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**Patents and patent applications:**


H Li, CH Borchers, Immuno-MALDI (iMALDI) Technology for Quantitation and Identification of Peptides and Proteins. US provisional patent application filed: 06/06/2017 (62/346,080). (Expired)

**Other publications:**

CH Borchers, “MALDI Assay Shows Potential as Clinical Cancer Biomarker Tool”. Interview for Genomeweb, (09/07/2017)

CH Borchers, “Protein modeling brings hope for dementia treatment”. Interview for UVic Communications and Media Relations, (07/17/2017)

3. Academic and community engagement service outside of McGill by individual members of the unit

a. Conference organizational committees:

- Symposium organizer, “Advances in Clinical Proteomics and Metabolomics”, Montreal, Nov 6 2017

- Canadian Association of medical Biochemist -2017

**SECTION III-CONFIDENTIAL INFORMATION**

1. **Consulting activities:** None

Respectfully submitted,

Elizabeth MacNamara, MD
Chief, Division of Medical Biochemistry