

# WORLD HEALTH ORGANIZATION COLLABORATING CENTRE

*GOVERNANCE, ACCOUNTABILITY & TRANSPARENCY  
IN THE PHARMACEUTICAL SECTOR*

Activities Report  
October 2015 to January 2018

Director  
Dr. Jillian C. Kohler

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## ABOUT US

The World Health Organization (WHO) Collaborating Centre for Governance, Accountability and Transparency in the Pharmaceutical Sector was convened in 2015 and is currently led by Dr. Jillian C. Kohler, at the Leslie Dan Faculty of Pharmacy (University of Toronto).

*Our mission is to conduct research, analysis and training on critical issues related to good governance and transparency in medicines.*

The Collaborating Centre has three objectives:

- To use existing research facilities at the University of Toronto for pharmaceutical policy research, analysis, and training on critical issues related to good governance and transparency in medicines, in collaboration with the WHO.
- To ensure global dissemination of knowledge on the issues related to good governance and transparency by establishing a global network of researchers, policy makers, and advocates in coordination with the WHO.
- To support collaboration and help intensify the work of the WHO in areas related to good governance and transparency in medicines.

## TERMS OF REFERENCE

The WHO Collaborating Centre for Governance, Accountability and Transparency in the Pharmaceutical Sector (WHO CCGAT) conducts the following activities:

- Policy Workshops, Symposiums and Seminars
- Undergraduate and Graduate Courses
- Information Dissemination and Media

These activities and their outputs are further described throughout the report.

## Who We Are

This WHO Collaborating Centre (WHO CC) involves the following multidisciplinary team of directors, faculty members, research fellows and global collaborators:

### Directors

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**DR. JILLIAN C. KOHLER**  
Director

*Leslie Dan Faculty of Pharmacy  
University of Toronto*

**DEIDRE DIMANCESCO**  
Technical Director

*Medicines Policy, Access & Rational Use  
World Health Organization*

### Research Fellows at University of Toronto

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**DR. ZUBIN AUSTIN**

Professor  
*Leslie Dan Faculty of  
Pharmacy*

**DR. SUZANNE CADARETTE**

Associate Professor  
*Leslie Dan Faculty of  
Pharmacy*

**DR. JOHN FARRELL**

Executive Director  
*Centre for Practice  
Excellence*

**DR. SARA GUILCHER**

Associate Professor  
*Leslie Dan Faculty of  
Pharmacy*

**DR. PAUL GROOTENDORST**

Associate Professor  
*Leslie Dan Faculty of  
Pharmacy*

**DR. ALISON THOMPSON**

Associate Professor  
*Leslie Dan Faculty of  
Pharmacy*

**DR. ERICA DIRUGGIERO**

Associate Professor  
*Dalla Lana School of Public  
Health*

**DR. LISA FORMAN**

Associate Professor  
*Dalla Lana School of Public  
Health*

**DR. ANITA MCGAHAN**

Professor  
*Munk School of Global  
Affairs*

**DR. JOSEPH WONG**

Professor  
*Munk School of Global  
Affairs*

**DR. JOEL LEXCHIN**

Associate Professor  
*Faculty of  
Medicine*

**DR. TRUDO LEMMENS**

Associate Professor  
*Faculty of  
Law*

**DR. NAV PERSAUD**

Associate Scientist  
*Li Ka Sing Knowledge  
Institute*

**DR. MARIANA PRADO**

Associate Professor  
*Faculty of  
Law*

## Global Research Fellows

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### **DR. TIM K. MACKKEY**

Assistant Professor  
*Anesthesiology and Global  
Public Health*  
(University of California)

### **DR. MARC-ANDRÉ GAGNON**

Associate Professor  
*School of Public  
Policy & Administration*  
(Carleton University)

### **DR. VARUN GAURI**

Head & Senior Economist  
*Global Insights Initiative  
(Development Research  
Group)*

### **DR. MATTHEW HERDER**

Associate Professor  
*Faculty of Medicine*  
(Dalhousie University)

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## Workshops, Symposiums, Courses & Intellectual Salons

2017-2018

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*January 18, 2018*

### ***Health Law, Ethics & Policy Seminar Series: The Benefit and Risks of Expedited Development and Regulatory Approval of New Drugs***

Along with the Faculty of Law, University of Toronto, the WHO CC sponsored a lunchtime seminar on the topic of expedited drug approval processes. The key speaker was Dr. Aaron Kesselheim and the commentator was Dr. Megan Bettle from Health Canada.

(Link: <https://www.law.utoronto.ca/scholarship-publications/workshops-and-seminars/health-law-ethics-and-policy-seminar-series>)

#### **Outcomes:**

Professionals, community members and students were able to engage in a stimulating discussion on relevant and topical issues related to drug approval processes in North America. Attendees learned about streamlined drug development processes in the US, their implications and how they compare to Canada.

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*January 17, 2018*

### ***Idea Salon with Dr. Aaron Kesselheim: Expedited Development & Regulatory Approval of New Drugs***

A dinner with experts from the Ontario and Federal Governments, academia and the non-governmental organization (NGO) community was hosted at the University of Toronto's Faculty Club, in advance of Dr. Kesselheim's seminar presentation to discuss related issues in a smaller, off-the record setting.

#### **Outcomes:**

Experts were able to meaningfully share ideas and engage in a small-group discussion on this topic. Attendees also raised critical thoughts on related and relevant issues. This salon successfully connected leading-thinkers from NGOs, academic institutions, as well as federal and Ontario governments.

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*September 29, 2017*

### ***Governance of Pharmaceuticals Policy Workshop***

Internationally renowned experts gathered for this workshop to discuss the impacts of corruption and lack of good governance on the pharmaceutical sector. This one-day course was offered to researchers, policy makers, the private sector, and undergraduate and graduate students at the University of Toronto.

(Link: [http://www.pharmacy.utoronto.ca/sites/default/files/upload/who\\_cc/sept17-workshop/Sept%202017%20Workshop%20Agenda.pdf](http://www.pharmacy.utoronto.ca/sites/default/files/upload/who_cc/sept17-workshop/Sept%202017%20Workshop%20Agenda.pdf))

#### **Outcomes:**

Participants learned about how corruption and a lack of good governance can have an impact on the pharmaceutical sector. Participants also learned about strategies and tactics for countering vulnerabilities in this sector. Learning materials are available online on our WHO CC website.

September 28, 2017

***Tackling corruption in procurement: how open contracting improved healthcare in Nigeria, Ukraine and Honduras***

This workshop was presented by Lucas Amin (Transparency International, UK).

(Link: [http://www.pharmacy.utoronto.ca/sites/default/files/upload//who\\_cc/Sept28%2C2017-Amin.Kohler.pdf](http://www.pharmacy.utoronto.ca/sites/default/files/upload//who_cc/Sept28%2C2017-Amin.Kohler.pdf))

**Outcomes:**

A presentation on the challenges with drug procurement was delivered to an audience of graduate students in the Department of Pharmaceutical Sciences.

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May 24, 2017

***Processes for Developing and Updating an Essential Medicines List in Canada?***

This policy meeting was led by a WHO CCCGAT Research Fellow, Dr. Nav Persaud.

**Outcomes:**

This workshop led to important discussions with several policymakers, including representatives from the Ontario Ministry of Health and Long-Term Care, Alberta Health, the Newfoundland and Labrador Department of Health and Community Services, Manitoba Health, British Columbia Ministry of Health, Patented Medicine Prices Review Board, the Canadian Agency for Drugs and Technology in Health (CADTH), Canadian Institute for Health Information, and Health Canada.

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May 23, 2017

***Should Canada Develop a List of Essential Medicines?***

This seminar was presented by the WHO Secretary of the Expert Committee on the Selection and Use of Essential Medicines, Dr. Nicola Magrini and Lars Gustaffson, a Professor in the Department of Laboratory Medicine at Karolinska University.

(Link: <https://munkschool.utoronto.ca/event/23013/>)

**Outcomes:**

A presentation on the benefits and challenges of creating an essential medicines list was delivered. The opinions and reactions of Canadian decision-makers were discussed, followed by an open public forum discussion to involve all participants.

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February 2, 2017

***Access to Medicine – Benchmarking Pharmaceutical Companies in Weak Regulatory Environments***

This seminar was presented by Luca Genovese, a researcher with the Access to Medicine Foundation. This was co-hosted by the Leslie Dan Faculty of Pharmacy, Université Sainte Anne, and Carleton University Faculty of Public Affairs and the WHO CCCGAT. (Link:

[http://www.pharmacy.utoronto.ca/sites/default/files/upload//who\\_cc/Feb%20%20-%20Genovese.Kohler.pdf](http://www.pharmacy.utoronto.ca/sites/default/files/upload//who_cc/Feb%20%20-%20Genovese.Kohler.pdf))

**Outcomes:**

A report from this symposium was published in the Canadian Medical Association Journal.

## 2015-2016

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*November 28, 2016*

### ***Symposium***

#### ***Governance and Corruption in the Pharmaceutical Sector: Causes and Consequences***

The keynote speaker for this symposium was Dr. Sidney Wolfe (Co-founder; Public Citizen's Health Research Group). The event was co-hosted by the Leslie Dan Faculty of Pharmacy, Université Sainte Anne, and Carleton University Faculty of Public Affairs and the WHO CCGAT.

(Link: [http://www.pharmacy.utoronto.ca/sites/default/files/upload/who\\_cc/Symposium%20on%20Combating%20Corruption%20in%20Health%20Care%20and%20PharmaceuticalsC.pdf](http://www.pharmacy.utoronto.ca/sites/default/files/upload/who_cc/Symposium%20on%20Combating%20Corruption%20in%20Health%20Care%20and%20PharmaceuticalsC.pdf))

#### **Outcomes:**

This was the first policy workshop of the 2016-2017 work program and led to a multidisciplinary discussion on legal, financial and ideological varieties of corruption.

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*April 29, 2016*

#### ***Taking the Pulse of Governance, Accountability and Transparency in the Pharmaceutical Sector: Diagnosing the Issues***

This policy workshop included a series of presentations led by multiple experts, researchers and students.

(Link: [http://www.pharmacy.utoronto.ca/sites/default/files/upload/who\\_cc/Save%20the%20date%20WHO%20C%20launch.pdf](http://www.pharmacy.utoronto.ca/sites/default/files/upload/who_cc/Save%20the%20date%20WHO%20C%20launch.pdf))

#### **Outcomes:**

A series of presentations were provided from research fellows and experts in the field. Notes and an overview from this workshop is available on our WHO CC website.

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*April 28, 2016*

#### ***Corruption and the Pharmaceutical & Healthcare Sector: Global Policy & Structural Issues***

This meeting was led by James Sale, a Project Officer from Transparency International (UK).

(Link: [http://www.pharmacy.utoronto.ca/sites/default/files/upload/who\\_cc/SALE.James%20Apr%2028%20-%20Kohler.pdf](http://www.pharmacy.utoronto.ca/sites/default/files/upload/who_cc/SALE.James%20Apr%2028%20-%20Kohler.pdf))

#### **Outcomes:**

This seminar provided graduate students and attendees with knowledge on the topic of corruption.



## Publications & Knowledge Dissemination

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### **Presentations from Conferences (chronological order):**

- **April 2016.** Panel at Consortium for Universities for Global Health – San Francisco:
  - Are Current Anti-Corruption Tools in the Health Sector Good Enough for Health Security? Speakers – Josh Michaud, Kaiser Foundation, Jillian C Kohler (WHO CC and LDFFP), Maureen Lewis (Georgetown University), Taryn Vian (Boston University), Tim Mackey (University of San Diego).
  - Corruption and Global Health Security: Tools for Health Security. Taryn Vian, SM, PhD, Associate Professor of Global Health Boston University School of Public Health.
  - Corruption in Global Health: Scope, Diversity, Case Studies, Tools, and Legal Frameworks Tim Mackey, MAS, PhD, Assistant Professor, UC San Diego – School of Medicine.
  - Transparency and Accountability in Pharmaceutical Pricing and Procurement: Are Current Anti-Corruption Tools in the Health Sector Good Enough for Health Security? Jillian Clare Kohler, Associate Professor, Leslie Dan Faculty of Pharmacy, University of Toronto Director, WHO Collaborating Centre for Governance, Transparency and Accountability in the Pharmaceutical Sector.
  - An Evaluation on of Accountability and Transparency in Brazil’s Pharmaceutical System (Abstract) Martinez MG (Leslie Dan Faculty of Pharmacy, University of Toronto), Kohler JC (Leslie Dan Faculty of Pharmacy, University of Toronto) (Winner of the 2016 Lancet-Consortium of Universities for Global Health Annual Meeting - Best Student Poster Track: Governance).
- **October 2016.** Workshop co-presenter, Beyond medicalization: an international view of MD roles in long term care, Ontario Long Term Care Clinicians, Toronto. Presenter: Lexchin, J.
- **October 2016.** Panelist, Plenary panel: big pharma and health care. Annual conference, Council of Canadians, St. John's. Presenter: Lexchin, J.
- **October 18, 2016.** Twitter Analysis and Drug Abuse: Discussion About Data Collection, Methods, Analysis, and Recent Research. Mackey TK. UCSD Human Nature Group - Public Health, San Diego, CA Presenter: Mackey, TK.
- **October 31, 2016.** Joint Comprehensive Plan of Actions: An Opportunity for Applied Health Diplomacy? Session Title: "Health Diplomacy: A Tool for Mobilizing the Right to Health" Mackey TK. 2016 American Public Health Association Annual Meeting, Denver, CO. Presenter: Mackey, TK.
- **November 2016.** Drug prices in the United States. Webinar for American Medical Students Association. Presenter: Lexchin, J.

- **November 28, 2016.** "Corruption of the Canadian drug regulatory system". Combating corruption in health care and pharmaceuticals. Toronto. Presenter: Lexchin, J.
- **December 1, 2016.** SDGs, Anti-corruption and Equity: Leave No-one Behind to Deliver on the SDGs Mackey TK. 17th International Anti-Corruption Conference (IACC), Panama City, Panama. Presenter: Mackey, TK.
- **January 25, 2017.** Commentary on Katrina Perhudoff, "Unpacking the 'Core Content' of Essential Medicines Under the Right to Health", Dalla Lana School of Public Health. Presenter: Lemmens, T.
- **March 2017.** Seminar on expedited drug approval programs in Canada and the United States, Centre for Healthcare Resilience and Implementation Science, Macquarie University, Sydney, Australia. Presenter: Lexchin, J.
- **March 8, 2017.** Essential medicines. Toronto, Ontario, Canada. Presenter: Persaud, N. Ontario Committee to Evaluate Drugs.
- **March 22, 2017.** Participation Panel on "The Opioid Crisis", event organized by the Health Law Club, Faculty of Law. Presenter: Lemmens, T.
- **April 4, 2017.** Securing the Drug Supply Chain: Using Blockchain to Fight Fake Medicines. Mackey TK. IEEE Blockchain Summit, 2017. IEEE International Conference on Cloud Engineering, Simon Fraser University, Vancouver, British Columbia, Canada. Presenter: Mackey, TK.
- **April 7, 2017.** Promoting Transparency, Accountability and Participation through a Multi-Stakeholder Initiative: Lessons from the Medicines Transparency Alliance. Consortium of Universities for Global Health in Washington DC. Presented by: Kohler, JC.
- **April 8, 2017.** Fighting Fakes with Tech: Exploring Digital Solutions to Combat Fake Medicines. Session "Fake Medicines: An Unseen Threat to Global Health" Mackey TK. 8th Annual Global Health Conference, Consortium of Universities for Global Health, Washington DC. Presenter: Mackey TK.
- **April 11, 2017.** Essential medicines and data transparency. Ottawa Ontario, Canada. Presenter: Persaud, N. Prescription for equity. National conference of Canadian Health Coalition.
- **April 25, 2017.** Blockchain: Modernizing Security of the Global Drug Supply Chain. A Landscape View of Applications and Considerations of Blockchain Across Industries. Mackey TK. IEEE Standards Association, Computer History Museum, San Jose, CA. Presenter: Mackey, TK.

- **May 2017.** Panelist, Seniors' Housing as part of Housing Policy Forum Series sponsored by Social Planning Toronto, Wellesley Institute, Toronto Alliance to End Homelessness and City of Toronto, Toronto. Presenter: Lexchin, J.
- **May 2, 2017.** Curing Health Inequalities with Technology & Social Reform. Mackey TK. Health Technology Forum 2017, Stanford University, CA. Presenter: Mackey, TK.
- **May 8, 2017.** Data transparency and unpublished. Toronto, Ontario, Canada. Presenter: Persaud, N. HOO retreat.
- **May 9, 2017.** Educational Panelist: Webinar "Securing the Pharma Supply Chain with Blockchain", IEEE Standards Association. Presenter: Mackey, TK.
- **June 2017.** Myths and realities about why US drug prices are so high. PharmedOut Conference, Washington. Presenter: Lexchin, J.
- **June 2017.** Panelist, Ensuring safety, efficacy and access to medical products in the age of global deregulation. Yale Collaboration for Economic Integrity and Transparency and European Public Health Alliance, New Haven Connecticut. Presenter: Lexchin, J.
- **June 6, 2017.** The Last Mile: Design Elements that incentivize the Use of Blockchain Beyond Compliance. Mackey TK. IEEE Pharma Supply Blockchain Forum, Johns Hopkins University, Rockville, MD. Presenter: Mackey, TK.
- **June 22, 2017.** RCT of free essential medicines. North American Primary Care Research Group Practice- based Research Network Conference. Washington, USA. Presenter(s): Persaud, N.
- **July 27, 2017.** Do country characteristics explain Essential Medicines List differences? Jiang M, Shaikh R, Bali A, Oronsaye E, Woods H, Drozdal G, Rajakulasingam Y, Wang R, Persaud N. Keenan Research Summer Student Poster Competition 2017. St. Michael's Hospital. Senior Responsible Author: Nav Persaud. Presenter: Persaud, N.
- **August 2017.** The danger of imperfect regulation: how Purdue was allowed to push Oxycontin. Public lecture, Unitarian Church Vancouver. Presenter: Lexchin, J.
- **August 31, 2017.** Educational Speaker: Webinar/Webex "Case Study of Counterfeit Avastin: A Story of Economic Opportunity and Pharmaceutical Crime", US FDA Workgroup on Economically Motivated Adulteration. Presenter: Mackey, TK.
- **September 2017.** Where do we go from here: physicians, the medical profession and industry at Health Action International AGM, Berlin. Presenter: Lexchin, J.

- **September 2017.** Panelist, Beyond medicalization: an international view of MD roles in long-term care, Re- imagining Long-term Residential Care project, Toronto. Presenter: Lexchin, J.
- **September 7, 2017.** Carefully selected, Easily Accessible, at no charge Medications: CLEAN Meds Trial. Breezy Ridge, Muskoka, Ontario, Canada. Presenter(s): Persaud, N. PSI Graham Farquharson Knowledge Translation Fellows Retreat.
- **September 12, 2017.** Conflict of Interest Policy for Committee Members at Health Quality Ontario. Panel on Health Quality Ontario Board of Directors. 90 min lecture. Presenter(s): Persaud N, Patel R, Apkon M, Tunks E. Provincial talk at Health Quality Ontario.
- **September 22, 2017.** People's health matters seminar - who benefits from opioid prescribing? Ethics of Caring for People with Addictions: Power, Politics, and Practicalities - An Ethics Education Event. St. John's, Newfoundland, Canada. Presenter: Persaud, N.
- **September 26, 2017.** for the Pharma Supply Chain. Mackey, TK. Distributed Health 2017 Conference. Presenter: Mackey, TK.
- **September 29, 2017.** The Pharmaceutical Triple Aim: Policies to promote universal accessibility, appropriateness, and affordability of prescription drugs. Canadian Institutes of Health Research, Ottawa, Ontario, Canada. Presenter(s): Persaud, N. CIHR Best Brains Exchange.
- **September 29, 2017.** Speaker, Governance and corruption in the pharmaceutical sector: causes and consequences, WHO Collaborating Centre for Governance, Accountability and Transparency in the Pharmaceutical Sector, Toronto. Presenter: Mackey, TK.
- **September 29, 2017.** Leveraging the Sustainable Development Goals to Tackle Pharmaceutical Corruption. Mackey TK. World Health Organization Collaborating Centre on Pharmaceutical Governance, Accountability and Transparency, University of Toronto. Presenter: Mackey, TK.
- **October 9, 2017.** Going Digital: A Landscape View of Digital Technologies to Combat the Fake Medicines Trade. Mackey TK. SciX 2017 Conference, Reno, Nevada. Presenter: Mackey, TK.

### Academic Publications (alphabetical order):

- Annaloro, John, and Tim K. Mackey. "Policy Implications and Paths Forward for Post-Brexit Biotech." *Nature Biotech* 35 (2017): 710-711.
- Bhattacharyya, Onil, Kathryn Mossman, John Ginther, Leigh Hayden, Raman Sohal, Jieun Cha, Ameya Bopardikar et al. "Assessing health program performance in low-and middle-income countries: building a feasible, credible, and comprehensive framework." *Globalization and Health* 11, no. 1 (2015): 51.
- Bhattacharyya, Onil, Diane Wu, Kathryn Mossman, Leigh Hayden, Pavan Gill, Yu-Ling Cheng, Abdallah Daar et al. "Criteria to assess potential reverse innovations: opportunities for shared learning between high-and low-income countries." *Globalization and Health* 13, no. 1 (2017): 4.
- Burden, Andrea, Andrea Gruneir, Michael J. Paterson, and Suzanne M. Cadarette. "Examining Exposure Misclassification of Oral Bisphosphonate Therapy and the Associated Fracture Risk: A Cohort Study." *Advances in Pharmacoeconomics and Drug Safety* 4, no. 188 (2015): 2167-1052.
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- Cadarette, Suzanne M., Mina Tadrous, Joseph Delaney, Joshua J. Gagne, Shirley V. Wang, H. Whitaker, J. Hallas, and Malcolm Maclure. "Control yourself: guidance for the application and reporting of self-controlled study designs in pharmacoepidemiology [abstract]." *Pharmacoepidemiol Drug Safety* 26 (2017): 3.
- Consiglio, Giulia P., Andrea M. Burden, Malcolm Maclure, Lisa McCarthy, and Suzanne M. Cadarette. "Case-crossover study design in pharmacoepidemiology: Systematic review and recommendations." *Pharmacoepidemiology and Drug Safety* 22, no. 11 (2013): 1146-1153.
- Cosgrove, Lisa, Allen F. Shaughnessy, Shannon M. Peters, Joel R. Lexchin, Harold Bursztajn, and Lisa Bero. "Conflicts of interest and the presence of methodologists on guideline development panels: a cross-sectional study of clinical practice guidelines for major depressive disorder." *Psychotherapy and Psychosomatics* (2017): 168-170.
- Cuomo, Raphael E., Robert L. Seidman, and Tim K. Mackey. "Country and regional variations in purchase prices for essential cancer medications." *BMC Cancer* 17, no. 1 (2017): 566.
- Cuomo, Raphael E., and Tim K. Mackey. "The availability of essential cancer medication: An analysis of national formularies." *Journal of Cancer Policy* 12 (2017): 49-54.

- Habibi, Roojin, Joel R. Lexchin, Barbara Mintzes, and Anne Holbrook. "Unwarranted claims of drug efficacy in pharmaceutical sales visits: are drugs approved on the basis of surrogate outcomes promoted appropriately?" *British Journal of Clinical Pharmacology* (2017).
- Hemminki, Elina, Joel R. Lexchin, and Nicolas Rasmussen. "Evolution of Physician-Industry Relationships in Producing Knowledge of Drug Therapy-Comparison of the United States and Finland." *SSRN Abstract* (2017).
- Hensel, Jennifer M., Jay Shaw, Lianne Jeffs, Noah M. Ivers, Laura Desveaux, Ashley Cohen, Payal Agarwal et al. "A pragmatic randomized control trial and realist evaluation on the implementation and effectiveness of an internet application to support self-management among individuals seeking specialized mental health care: a study protocol." *BMC Psychiatry* 16, no. 1 (2016): 350.
- Jandoc, Racquel, Andrea M. Burden, Muhammad Mamdani, Linda E. Lévesque, and Suzanne M. Cadarette. "Interrupted time series analysis in drug utilization research is increasing: systematic review and recommendations." *Journal of Clinical Epidemiology* 68, no. 8 (2015): 950-956.
- Kalyanam, Janani, Takeo Katsuki, Gert Lanckriet, and Tim K. Mackey. "Exploring trends of nonmedical use of prescription drugs and polydrug abuse in the Twittersphere using unsupervised machine learning." *Addictive Behaviors* 65 (2017): 289-295.
- Kalyanam, Janani, and Tim K. Mackey. "A Review of Digital Surveillance Methods and Approaches to Combat Prescription Drug Abuse." *Current Addiction Reports* 4, no. 4 (2017): 397-409.
- Katsuki, Takeo, Tim K. Mackey, and Raphael Cuomo. "Establishing a link between prescription drug abuse and illicit online pharmacies: analysis of Twitter data." *Journal of Medical Internet Research* 17, no. 12 (2015).
- Klein, Peter, Joseph Mahoney, Anita McGahan, and Christos Pitelis. "Organizational governance adaptation: Who is in, who is out, and who gets what." *Academy of Management Review* (2017): 459.
- Kohler, Jillian, Nicholas Mitsakakis, Faridah Saadat, Danalyn Byng, and Martha Gabriela Martinez. "Does Pharmaceutical Pricing Transparency Matter? Examining Brazil's Public Procurement System." *Globalization and health* 11, no. 1 (2015): 34.
- Kohler, Jillian C. "Governance and Corruption in the Pharmaceutical Sector." In *Pharmaceutical Public Policy*, edited by Thomas Fulda, Alan Lyles, and Albert L. Wertheimer, 91-104. RC Press, 2016.

- Kohler, Jillian C., and Tim K. Mackey. "Treating Health and Pharmaceutical Corruption: The Need for a Multi-stakeholder U.N. Partnership." *International Affairs Forum* (2016).
- Kohler, Jillian C., Martha Gabriela Martinez, Michael Petkov, and James Sale. "Corruption in the pharmaceutical sector: diagnosing the challenges." UK: Transparency International (2016).
- Lemmens, Trudo. "Restoring the Integrity of the Pharmaceutical Science Record: Two Tales of Transparency." *Jotwell Journal* (2016): 246.
- Lexchin, Joel R., Peter Doshi, Janice E. Graham, Matthew Herder, Tom Jefferson, Trudo Lemmens, Barbara Mintzes, and Nav Persaud. "Response to Health Canada discussion paper on Regulations Amending the Food and Drug Regulations (on safety reporting)." *Health Canada* (2017).
- Lexchin, Joel R., Peter Doshi, Janice E. Graham, Matthew Herder, Tom Jefferson, Trudo Lemmens, Barbara Mintzes, and Nav Persaud. "Response to Health Canada discussion paper on the release of clinical data." *Health Canada*. (2017).
- Lexchin, Joel R., Quinn Grundy, Alice Fabbri, Barbara Mintzes, and Lisa Bero. "Brief to the Therapeutic Goods Administration regarding strengthening monitoring of medicines in Australia." (2017).
- Lexchin, Joel R. "Drug prices: How do we get to a better place?" *Canadian Medical Association Journal* 189, no. 23 (2017): E792-E793.
- Lexchin, Joel R. "Market Exclusivity Time for Top Selling Originator Drugs in Canada: A Cohort Study." *Value in Health*, no. 8 (2017): 1139-1142.
- Lexchin, Joel R. "Medicines Save, Medicines Kill." *Drug Safety* 4, no 6 (2017): 457-459.
- Lexchin, Joel R. "Myths and Realities About Why Prescription Drug Prices in the United States Are So High." *Pharmaceutical Medicine* 31, no. 3 (2017): 143-148.
- Lexchin, Joel R. "Priority reviews: innovation and safety." *Canadian Medical Association Journal* 189, no. 26 (2017): E895-E895.
- Lexchin, Joel R. "Publication of confirmatory studies required by health Canada for drugs approved under a notice of compliance with conditions: a cohort study." *CMAJ Open* 5, no. 2 (2017): E295.
- Lexchin, Joel R. "Response to Health Canada consultation paper on Mandatory Reporting of Adverse Drug Reactions by healthcare institutions." *Health Canada* (2017).



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- Lexchin, Joel R. "Six myths about pharmacare." *Health Law in Canada* (2017): 44-51.
- Lexchin, Joel R. "The Pharmaceutical Industry and the Canadian Government: Folie à Deux." *Healthcare Policy* 13, no. 1 (2017): 10-16.
- Lexchin, Joel R. "The relation between promotional spending on drugs and their therapeutic gain: a cohort analysis." *Canadian Medical Association Journal open* 5, no. 3 (2017): E724-728.
- Mackey, Tim K., and Bryan A. Liang. "After Amarin v FDA: What will the future hold for off-label promotion regulation?" *Mayo Clinic Proceedings* 91, no. 6 (2016): 701-706.
- Mackey, Tim K., Jillian C. Kohler, William D. Savedoff, Frank Vogl, Maureen Lewis, James Sale, Joshua Michaud, and Taryn Vian. "The disease of corruption: views on how to fight corruption to advance 21st century global health goals." *BMC Medicine* 14, no. 1 (2016): 149.
- Mackey, Tim K., and Virginia J. Schoenfeld. "Going "social" to access experimental and potentially life-saving treatment: an assessment of the policy and online patient advocacy environment for expanded access." *BMC Medicine* 14, no. 1 (2016): 17.
- Mackey, Tim K., and Bryan A. Liang. "In Reply—Electronic Health Records and Drugs Prescribed for Off-label Indications." In *Mayo Clinic Proceedings* 92, no. 4 (2017): 684-685.
- Mackey, Tim K., Janani Kalyanam, Takeo Katsuki, and Gert Lanckriet. "Machine learning to detect prescription opioid abuse promotion and access via Twitter." *American Journal of Public Health* (2017).
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## Summary

### 2015 Activities

- The WHO CCGAT convened in October 2015. It is currently led by Dr. Jillian C. Kohler who works with a large multidisciplinary team of local and global research fellows. The expertise of said professionals informed the direction and planning for this research and training program.

### 2016 Activities

- Several workshops and symposiums were hosted in alignment with the program goals. Highlights (e.g. agendas and presentations) from these academic events are captured and further described on our WHO CC website.

### 2017 Activities

- Several workshops, symposiums and one summer course was hosted this past year in alignment with the program goals. Several publications (i.e. conferences, academic articles) were disseminated to reflect the current work of this WHO CC.

## Future Directions

Moving forward, the WHO Collaborating Centre for Governance, Accountability and Transparency in the Pharmaceutical Sector aims to continue to provide a global venue for discussing and researching critical issues related to good governance in medicines.