



McGill

McGill Summer Institute in
Infectious Diseases and
Global Health

MCGILL UNIVERSITY • MONTREAL • JUNE 11-15, 2018

TB RESEARCH METHODS

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Mon • June 11	Tues • June 12	Wed • June 13	Thurs • June 14	Fri • June 15
8:30AM – 5:00PM	9:00AM – 5:00PM	9:00AM – 5:00PM	9:00AM – 5:00PM	9:00AM – 4:30PM
Introductions and overview	Randomized trials	Modeling and economic analysis	Operational research	Molecular epidemiology, systematic reviews

HOSTS



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GLOBAL HEALTH PROGRAMS

PROGRAMMES DE SANTÉ MONDIALE

Centre international de TB McGill



McGill International TB Centre



MacLean Centre for Tropical Diseases
McGill University

Institut de recherche
Centre universitaire de santé McGill



Research Institute
McGill University Health Centre

*Infectious Diseases and Immunity in Global Health Program
Programme en maladies infectieuses et immunité en santé mondiale*



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Interdisciplinary Initiative in Infection and Immunity

Course Location: Centre Mont Royal, 2200 rue Mansfield, 3rd Floor

*Faculty and speaker information is available in the *Ukova* event app*



OVERVIEW OF SMALL GROUPS

GROUP 1

Randomized trials

Bill Burman & Greg Fox
Assisted by Andrea
Benedetti (bio-statistician)
as needed

Interpreting RCT results – critical analysis and an applied / translational approach. This group will focus on the application of specific clinical trial results into TB program activities. This will include a careful comparison of the study population to the program population, review of the feasibility of the study intervention to the program, how to prioritize evidence-based interventions when several have been tested in RCTs, estimating relative magnitude of the effect of different interventions on program outcomes, distinguishing statistical significance from programmatic significance. The group will choose the program area of interest to which we evaluate the applicability of RCTs. Participants are asked to indicate ahead of time about areas of particular interest, and reasons for that choice.

GROUP 2

Systematic reviews

Faiz Ahmad Khan & James
Johnston. Assisted by
Andrea Benedetti

A choice of two approaches is offered:

1. Practical aspects. Searches, file management, data entry, quality assessment, and meta-analysis. This group will have hands on experience with searches – matching search strategies to the PICO, performing searches in different data bases. Saving searches and using different software to manage title selection. Data entry and meta-analysis using R.
2. Protocol development. If there is interest - a sub-group will work on developing a systematic review protocol – from PICO to registration.

GROUP 3

Economic analysis

Olivia Oxlade, Alice
Zwerling, Jonathon
Campbell & Kevin
Schwartzman

This group will learn how to design an economic analysis, using a research question selected by the group. In preparing its research protocol, the group will discuss specific types of costs to consider, practical approaches to data gathering, key considerations such as economic perspective and target audience. The focus of the small group will be costing for economic analyses, and will not explicitly include modelling exercises.

GROUPS 4 & 5

Operational
Research

Tony Harries, Dick Menzies
& Gonzalo Alvarez.
Assisted by Andrea
Benedetti as needed

This group will meet together on Day 1, and split into sub-groups for the rest of the week. Groups will develop protocols for operational research. Questions will be proposed by participants and shaped into feasible operational research projects by all members of each sub-group, with the help of the facilitators, who will each work with all groups – providing different perspectives and experiences.

DAY 1 AGENDA

MONDAY, JUNE 11

Time	
8:30AM	<i>Registration</i>
9:00-9:15AM	Welcome and Introductions M. Behr
9:15-9:30AM	Course objectives and overview D. Menzies
9:30-10:00AM	How will research End TB? The Global Action Framework for TB Research D. Menzies
10:00-10:30AM	How will research End TB? What are the ‘big’ questions in global TB research? B. Burman
10:30-11:00AM	<i>Coffee Break</i>
11:00-11:30AM	Quantitative methods – overview of study designs D. Menzies
11:30-12:00PM	Qualitative methods – a complementary approach with a case study of understanding TB stigma A. Daftary
12:00-1:00PM	<i>Lunch</i>
1:00-1:15PM	Late Breaker 1: “Fake basic science news” M. Divangahi
1:15-1:30PM	Late Breaker 2: “A tale of two drugs: Capreomycin vs Linezolid for MDR-TB – results from the latest analyses” D. Menzies
1:30-2:00PM	DPSICO-TB - Developing study objectives - from a problem to precise questions D. Menzies
2:10-2:30PM	Small groups: Organization – who, where, what? D. Menzies
2:30-5:00PM (Includes Coffee Break)	Small groups: Overview of each topic by group leaders Forming sub-groups and selecting objectives
5:15PM	<i>Group Picture</i>
6:00-7:30PM	Welcome Reception Venue: Notman House / Osmo Cafe (51 Sherbrooke St W, Montreal QC H2X 1X2) 10 min walk on Sherbrooke—Food and non-alcoholic drinks free. Alcoholic drinks for purchase.

DAY 2 AGENDA

TUESDAY, JUNE 12

Time

9:00-9:45AM

Trial design and selecting study populations– minimizing bias, maximizing generalizability
G. Fox

9:45-10:30AM

Clustered trial designs
G. Fox

10:30-10:45AM

Coffee Break

10:45-11:15AM

End-points, planned and unplanned secondary analyses, interim analyses, stopping rules
D. Menzies

11:15-12:00PM

Applying RCT results to practice – clinical and public health
B. Burman

12:00-12:45PM

Data analysis 101
A. Benedetti

12:45-1:45PM

Lunch

1:45-2:15PM

Debate “Basic science research in TB should not be publicly funded”
Pro: G. Fox
Con: M. Behr

2:15-2:30PM

Late Breaker 3: “Fake news from molecular epidemiology: Linking genetic variants with drug-resistance”
M. Behr

2:30-5:00PM
(Includes Coffee Break)

Small groups:
Finalizing the study question
Picking the design, study populations, and data sources

DAY 3 AGENDA

WEDNESDAY, JUNE 13

Time	
9:00-9:30AM	Introduction to modeling– what it can do, what it can't A. Zwerling
9:30-10:15AM	Introduction to decision analysis O. Oxlade
10:15-10:30AM	<i>Coffee Break</i>
10:30-11:15AM	Economic analyses – Not just Dollars and Cents K. Schwartzman
11:15-11:45AM	Key studies in economic analysis – questions, design & methods. Getting the most bang for your buck! A. Zwerling
11:45-12:00PM	Discussion and questions
12:00-12:45PM	<i>Lunch</i>
12:45-1:30PM	Data Analysis 101 A. Benedetti
1:30-2:15PM	Beat the clock – Two teams will compete to develop study objectives in 5 minutes or less. Questions selected from suggestions from participants Team 1: J. Johnston, B. Burman Team 2: G. Alvarez, F. Khan <i>Judging – Is the question clear? (using DPSICO criteria)</i> T. Harries
2:15-5:00PM (Includes Coffee Break)	Small groups: Refining data gathering Data analysis and sample size

DAY 4 AGENDA

THURSDAY, JUNE 14

Time

9:00-9:45AM

Operational research – what, why, and how

T. Harries

9:45-10:30AM

Capacity building for operational research in low- and middle-income countries- the SORT IT Model

T. Harries

10:30-10:45AM

Coffee Break

10:45-11:30AM

Principles and structure of a research protocol

T. Harries

11:30-12:00PM

Examples of operations research changing policy and practice

T. Harries

12:00-12:30PM

TAIMA TB – the project, the successes and the lessons

G. Alvarez

12:30-1:00PM

TBD – Indigenous health research – what, who, and how

R. Long

1:00-2:00PM

Lunch

2:00-2:30PM

Late Breaker 1: “Fake Epidemiological News”

R. Long

Late Breaker 2: “Estimated impact of the World Health Organization latent tuberculosis screening guidelines in a low TB incidence region”

J. Johnston

2:30-5:00PM

(Includes Coffee Break)

Small groups:

Finalizing protocols

Preparing presentations

DAY 5 AGENDA

FRIDAY, JUNE 15

Time

9:00-9:45AM

Molecular methods for typing and branding the tubercle bacillus

M. Behr

9:45-10:30AM

Molecular Typing for patient, outbreak and population-level studies of TB epidemiology

M. Behr

10:30-11:00AM

Coffee Break

11:00-11:45AM

Systematic reviews, and meta-analyses

J. Johnston

11:45-12:30PM

Individual patient data meta-analyses (IPD)

F. Khan

12:30-1:30PM

Lunch

1:30-4:00PM

(Includes Coffee Break)

Small groups:

Presentation of study protocols by small groups

Comments on study protocols

Moderated by: D. Menzies & F. Khan

4:00-4:30PM

Course evaluations and closure

D. Menzies

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