



McGill

**McGill Summer Institute in
Infectious Diseases and
Global Health**

MCGILL UNIVERSITY • MONTREAL • JUNE 6-10, 2022

TB RESEARCH METHODS

DAY 1

Mon • June 6

8:30AM – 5:00PM

Introductions and
overview

DAY 2

Tues • June 7

9:00AM – 5:00PM

Randomized trials

DAY 3

Wed • June 8

9:00AM – 5:00PM

Systematic reviews
and, The Nuts and
Bolts of Research

DAY 4

Thurs • June 9

9:00AM – 5:00PM

Operational research

DAY 5

Fri • June 10

9:00AM – 4:30PM

Modeling and
economic analysis

HOSTS



GLOBAL
HEALTH
PROGRAMS



School of
Population and
Global Health

École
de santé des populations
et de santé mondiale

Centre universitaire
de santé McGill
Institut de recherche



McGill University
Health Centre
Research Institute

Centre
international
de TB McGill



McGill
International
TB Centre

A PAHO/WHO Collaborating Centre for Tuberculosis Research



MacLean
Centre for
Tropical
Diseases
McGill University



M[i]⁴

Interdisciplinary Initiative in
Infection and Immunity



AMR

Antimicrobial
Resistance Centre



McGill

McGill Centre for
Viral Diseases

OVERVIEW OF SMALL GROUPS

GROUP 1	Randomized Trials	<p>Bill Burman & Greg Fox (Biostatistician: Andrea Benedetti)</p>	<p>Interpreting RCT results: 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 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.</p> <p>The past 10 years have provided us with substantially better regimens for treatment of latent TB (3HP, 4RIF). Ongoing trials focus on contacts of MDR-TB, or even shorter regimens (1HP, 6wP). The challenge is to get these better regimens widely used. Therefore, the RCT group will carefully review 2-3 papers on newer regimens and discuss their programmatic implementation. These discussions become similar in some ways to operational research, as they address barriers to using established tools in a program.</p>
GROUP 2	Systematic Reviews	<p>James Johnston, Mayara Bastos, & Thu Anh Nguyen</p>	<p>A choice is offered:</p> <ol style="list-style-type: none"> 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 interest - a sub-group will work on developing a systematic review protocol – from PICO to Prospero registration.
GROUP 3	Costing in Operational Research	<p>Jonathon Campbell with Alice Zwerling & Kevin Schwartzman</p>	<p>This group (which may also split into sub-groups) will work on developing protocols for operational research projects with a focus on the economic or costing aspects. The goal in these protocols will be to derive estimates of the true costs of novel programmatic interventions. With the assistance of the facilitators, groups will examine start-up costs, capital costs, and recurrent or ongoing costs, as well as patient vs health system perspectives. Participants will also learn to use a new tool for measurement of costs in TB programmes in LMIC.</p>
GROUP 4	Operational Research	<p>Tony Harries & Gonzalo Alvarez & Richard Long</p>	<p>This group will split into sub-groups for the week, to 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. Groups with focus on community-based, and/or participatory research may be formed – if there is sufficient interest.</p>

DAY 1: MONDAY, JUNE 6

Time	
8:30AM	<i>Registration</i>
9:00-9:10 AM	Welcome Madhukar Pai
9:10-9:30 AM	Introductions, course objectives and overview Dick Menzies
9:30-10:10 AM	How will research End TB? The “big” questions in TB Disease (and DR-TB)? Bill Burman
10:10-10:50 AM	How will research End TB? The “big” questions in TB Infection? Tim Sterling
10:50-11:05 AM	<i>Coffee Break</i>
11:05-11:40 AM	How will research End TB? What about kids? Pregnant women? Kelley Dooley - by ZOOM
11:40-12:15 PM	How will research End TB? What about patients? Participant preferences in shaping questions/design of RCT Amrita Daftary - by ZOOM
12:15-1:00 PM	<i>Lunch</i>
1:00-1:30 PM	Qualitative methods – how qualitative research can fill the gaps of quantitative research— understanding the “why”. Amrita Daftary - by ZOOM
1:30-2:00 PM	Quantitative research: Overview of study designs Dick Menzies
2:00 - 2:15 PM	Late Breaker 1 James Johnston “TBA”
2:15-2:30 PM	Small groups: Organization – who, where, what? Dick Menzies
2:30-5:00 PM (Includes Coffee Break)	Small groups: Overview of each topic by group leaders Forming sub-groups and selecting objectives

DAY 2: TUESDAY, JUNE 7

Time	
9:00-9:30 AM	DPSICO-TB: Developing study objectives. From a clinical problem to study questions Dick Menzies
9:30-10:00 AM	Trial design and selecting study populations—minimizing bias, maximizing generalizability Bill Burman
10:00-10:30 AM	Clustered trial designs: DOBS vs DOTS Greg Fox
10:30-10:45 AM	<i>Coffee Break</i>
10:45 - 11:15 AM	Operationalizing RCT results of 3HP into practise: a Tale of two cities Gonzalo Alvarez
11:15-11:45 AM	Including Children, pregnant women, vulnerable populations in trials - how, and when Tim Sterling
11:45-12:15 PM	Applying RCT results to practice – clinical and public health Bill Burman
12:15-12:45 PM	“After the researchers pack up and go home - sustaining/scaling up - example from ACT4” Thu Anh Nguyen
12:45 - 1:30 PM	<i>Lunch</i>
1:30 - 2:15 PM	The Great Debate: “TBA” Pro: Greg Fox (“Seriously— all this TST vs IGRA, INH vs 3HP - a big waste of time. Just find cases”) Con: Dr Gonzalo Alvarez (“Treatment of TBI is the only way to achieve long term reduction in TB rates”)
2:15-2:30 PM	Late Breaker 2: Jonathon Campbell: “Evaluating the effectiveness of a novel systematic screening approach for tuberculosis among individuals suspected or recovered from COVID-19: Experiences from Niger and Guinea”
2:30-5:00 PM (Includes Coffee)	Small groups: Work on projects

DAY 3 WEDNESDAY, JUNE 8

Time

9:00 - 9:45 AM

Systematic reviews, and meta-analyses

James Johnston

9:45 - 10:30 AM

Individual patient data meta-analyses (IPD)

Mayara Bastos

10:30 - 11:00 AM

Coffee Break

11:00 - 11:30 AM

The nuts and bolts of research: 1. Writing a funding proposal. (\$\$\$\$)

Dick Menzies

11:30 - 12:00 PM

The nuts and bolts of research: 2. From protocol to enrolment. Starting a study (with over 40,000 participants!)

Greg Fox

12:00 - 12:30 PM

The nuts and bolts of research: 3. Publishing your results (getting past those reviewers #\$\$@#!)

Jonathon Campbell

12:30-12:40 PM

Group photo

12:40-1:30 PM

Lunch

1:30-2:00 PM

All about sample sizes—what, how, how many

Andrea Benedetti

2:15-2:30 PM

Late Breaker 3:

TBA

2:15-5:00 PM
(Includes Coffee Break)

Small groups:

Work on projects

DAY 4 THURSDAY, JUNE 9

Time	
9:00-9:30 AM	Lecture 1: Operational research – what- why and how. Tony Harries
9:30-10:05 AM	Lecture 2: Capacity building for operational research in low- and middle-income countries- the SORT IT Model. Tony Harries
10:05-10:40 AM	Lecture 3: Principles and structure of a research protocol Tony Harries
10:40-10:55 AM	<i>Coffee break</i>
10:55-11:30 AM	Lecture 4: Examples of operations research changing policy and practice Tony Harries
11:30-12:00 PM	Engaging Indigenous communities in health research — approaches, and lessons Richard Long
12:00 -12:30 PM	After TAIMA TB- from pilot to program - the lessons, keeping communities engaged Gonzalo Alvarez
12:30-1:15 PM	<i>Lunch</i>
1:15-1:45 PM	Data Analysis 101 Andrea Benedetti
1:45 - 2:00 PM	Late Breaker 4: Thu Anh Nguyen: “Standardized patient study to assess tuberculosis case detection within the private pharmacy sector in Vietnam”
2:15 - 2:30 PM	Late Breaker 5: TBA
2:30-5:00PM (Includes Coffee)	Small groups: Finalizing protocols Preparing presentations

DAY 5 FRIDAY, JUNE 10

Time	
9:00-9:30 AM	Introduction to modeling—what it can do, what it can't Alice Zwerling
9:30-10:00 AM	Decision analysis—methods and applications Jonathon Campbell
10:00-10:30 AM	Economic analysis—cost effectiveness, cost minimization, cost-outcome descriptions—what's the difference? Kevin Schwartzman
10:30-10:45 AM	<i>Coffee Break</i>
10:45-11:15 AM	Key studies in economic analysis—questions, design and methods. Getting the most bang for your buck! Alice Zwerling
11:15-11:45 AM	Applying Costing to operational research - how to accurately assess the true costs of a new public health/TB programme intervention Jonathon Campbell
11:45-12:30 PM	Panel Discussion TBA
12:30 - 1:30 PM	<i>Lunch</i>
1:30 - 4:00 PM (Includes Coffee)	Small groups: Presentation of study protocols by small groups Comments on study protocols Moderated by: Dick Menzies, Alice Zwerling and Bill Burman
4:00 - 4:30PM	Course evaluations and closure Dick Menzies