Mentorship in graduate training: the evidence-based approach

Lehana Thabane
Professor of Biostatistics
Disclosure and Confidentiality

• No financial COI to declare
• As a professor, I get academic credit by giving workshops like this
My track-record in mentorship

- **Over 70 PhD/MSc students** (past and current) as the main supervisor
  - At least **40** receiving some awards, scholarships or fellowships under his supervision,

- **Over 200 MSc/PhD students** (past and current) as a thesis committee member;

- **10 junior faculty mentees** of whom
  - **6** received career awards from CIHR or HHS, and
  - **4** received CIHR RCT mentorship awards

- **Mentor, CIHR HIV CTN international Fellowship program**
  - Botswana, Cameroon, Uganda, Zambia, Lesotho, South Africa

- **Co-I/Mentor, ADAPT (African Development of AIDS Prevention Trials Capacities) program**

- **Over 100 informal mentees** around
The **CE&B Teaching Excellence Award** (2004-2006) and
The **FHS Graduate Supervision Award** in 2012,
The **2016 Carnegie African Diaspora Fellowship** to provide research mentorship to the University of Cape Town, South Africa.

**Co-PI/mentor: DSECT** (Drug Safety and Effectiveness Cross-Disciplinary Training) Program
✓ CIHR funded program

**PI/Co-I, over 200 funded national and international studies**
✓ Over $300 millions
✓ Over 800 publications (with about 50% as led by mentees)

**Taken formal training** on mentorship
My track-record in global and multi-cultural mentorship
Learning Objectives

1) **What** is mentorship?

2) **Why** mentorship?

3) **How** to: What **mentors** can do for their mentees?

4) **How** to: What **mentees** do for themselves?

5) **What** to do when the relationship go sour?
What is mentorship?
Mentor [n]
1. trusted counselor or guide;
2. a friend of Odysseus entrusted with the education of Odysseus' son Telemachus

[Latin, from Greek word Mentōr]
Synonyms for mentor

✓ coach
✓ counsel
✓ lead
✓ guide
✓ pilot
✓ shepherd
✓ tutor
A mentor can play many roles simultaneously or at different times during your career.
### Key attributes of best mentors

<table>
<thead>
<tr>
<th>Good traits</th>
<th>Good behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Respect</td>
<td>✓ Nurturing</td>
</tr>
<tr>
<td>✓ Power/Influence</td>
<td>✓ Adaptable</td>
</tr>
<tr>
<td>✓ Experience</td>
<td>✓ Proactive</td>
</tr>
<tr>
<td>✓ Political Acceptance</td>
<td>✓ Encouraging</td>
</tr>
<tr>
<td>✓ Honesty</td>
<td>✓ Committed</td>
</tr>
<tr>
<td>✓ Trust</td>
<td>✓ Considerate</td>
</tr>
<tr>
<td>✓ Patience</td>
<td>✓ Responsible</td>
</tr>
<tr>
<td>✓ Humility</td>
<td>✓ Respectful</td>
</tr>
<tr>
<td>✓ Good judgment</td>
<td>✓ Unselfish</td>
</tr>
<tr>
<td></td>
<td>✓ Objective</td>
</tr>
</tbody>
</table>

**Track Record as Mentor**
Gordon Guyatt’s attributes of a good mentor

✓ objectivity, disinterested
  – keep yourself out of it
✓ unselfishness
  – commitment
✓ good judgment
  – wisdom
✓ highly skilled
  – productive
✓ patience
What Mentoring Isn’t

(Giacomini M. Faculty Mentoring in the Department of Clinical Epidemiology and Biostatistics, McMaster University. May 15, 2007)

- **Insurance**
  - Mentors don’t ensure the success of the Mentee’s own work
  - Mentors don’t compensate for the Mentee’s own work

- **Supervision**
  - Mentoring is based on mutual respect and understanding
  - Relationship can be stopped if not working

- **Indefinite relationship**
  - Mentoring period should have beginning, middle and end
I strongly believe in mentorship

Mentoring Young Statisticians: Facilitating the Acquisition of Important Career Skills

Lehana Thabane¹, Marroon Thabane² and Charles Harry Goldsmith³

Training Young Statisticians for the Development of Statistics in Africa

Lehana Thabane,¹ Oliver Chinganya,² and Chenglin Ye³

Developing a Biostatistical Collaboration Course in a Health Science Research Methodology Program

Lehana Thabane, Stephen D. Walter, Steven Hanna, Charles H. Goldsmith, and Eleanor Pullenayegum
McMaster University
Most critical characteristic of an ideal mentor

The decision to be a mentor
Why mentorship?
The root causes of inequality in our society are structural, institutional, cultural, and psychosocial—and have nothing to do with merit or behaviour.
Fig. 1 The coin

- Top of the coin
  - You have advantage others do not
  - You did not earn it
  - You have it because of who you happen to be

- The coin
  - The social structure that produces and maintains inequality
    e.g., sexism, racism, ableism

- Bottom of the coin
  - You have disadvantage others do not
  - You did not earn it
  - You have it because of who you happen to be

privilege

system of inequality

oppression
Fig. 2 The intersecting nature of the coins, which produces complex patterns of advantage and disadvantage.

Each of the following systems of inequality* (or coins) intersects with the others to co-constitute inequalities:

- **classism**
- **racism**
- **settler colonialism**
- **ableism**
- **heterosexism**
- **cisgenderism**
- **sexism**

*These examples do not represent all systems of inequality; e.g., other coins not presented here include systems of inequality related to age, religion, accent, or shade of skin.
There is empirical evidence showing the existence of gender bias in many areas of academic medicine.
The purpose of this review was to evaluate temporal trends in representation of women as authors in heart failure RCTs published in high-impact medical journals and explore RCT characteristics associated with women as lead authors.
Central Illustration: Under-Representation of Women as Authors in Randomized Controlled Trials of Heart Failure Published in High-Impact Journals

Underrepresentation of Women as Authors in Randomized Controlled Trials of Heart Failure 2000-2019

Women represented:
- 15.6% of lead authors
- 12.9% of senior authors
- 11.4% of corresponding authors
- 19.6% of total authors

Characteristics associated with decreased odds of women as lead authors:

- Multicenter trials (OR 0.58)
- Trials coordinated in North America (OR 0.21) or Europe (OR 0.33)
- Drug interventions (OR 0.42)
- Men senior authors (OR 0.50)


Of 403 randomized controlled trials (RCTs) published in high-impact journals, women were under-represented as authors of heart failure (HF) RCTs, with no change in temporal trends. Women had lower odds of lead authorship in RCTs that were multicenter, coordinated in North America or Europe, tested drug interventions, or had men as senior authors. OR — odds ratio.
Women are under-represented as lead authors of HF RCTs, with no change in temporal trends.
<table>
<thead>
<tr>
<th>Recommendations for early- and mid-career women cardiologists</th>
<th>Engage in online and social media networks, limiting content to science Participate in national and international research networks or registries that offer women research collaboration, mentorship, and sponsorship opportunities Invest in clinical research training (certificate programs offered by societies, advanced degrees and fellowships offered by universities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations for senior men and women cardiologists</td>
<td>Mentor and sponsor the next generation of women trialists Create a supportive culture to ensure equal opportunity and recognition Learn to recognize and intervene during harassment</td>
</tr>
<tr>
<td>Recommendations for academic and departmental leadership</td>
<td>Receive education about gender disparities in research career advancement Eliminate inappropriate questions during interviews for recruitment and promotion, and mitigate implicit bias in selection processes Develop mentoring and sponsoring programs for career growth of researchers Include women as board or executive committee members at research institutes Ensure equal opportunity (in recruitment and retention, compensation, access to resources) and recognition for researchers based on objective criteria Encourage self-nominations and eliminate reliance on department chairs or committees to nominate researchers for awards or advancement opportunities Implement a zero-tolerance policy for workplace harassment Implement flexible promotion policies that recognize the familial and child rearing demands of early-career investigators Encourage women to apply for funding opportunities Participate in anti-bias training</td>
</tr>
<tr>
<td>Recommendations for industry and grant funding agencies</td>
<td>Conduct blind reviews of applications and use more equitable review criteria Provide gender breakdown of applicants and awards Include women scientists as reviewers and chairs on funding committees Include women in luminary networks (key opinion leaders, scientific advisory boards)</td>
</tr>
<tr>
<td>Recommendations for journals</td>
<td>Provide equitable peer review Set objective criteria and avoid informal networks for the selection of editors and editorial boards</td>
</tr>
</tbody>
</table>
Cardiology is most likely not the only area where this bias exists
Differences in Mentor–Mentee Sponsorship in Male vs Female Recipients of National Institutes of Health Grants

Elizabeth W. Patton, MD, MPhil, MSc1,2; Kent A. Griffith, MS3; Rochelle D. Jones, MS4,5; et al

The study surveyed National Institutes of Health (NIH) Mentored Career Development (K) grant awardees to determine if sponsorship differs among men and women.
“Given that sponsorship appears common and is associated with success, further attention to gender equity in this regard is critical. Male and female mentors alike should consciously act as sponsors by reviewing opportunities and offering high-profile opportunities to mentees. Mentees should seek connections with higher-level leaders to cultivate sponsors as part of their mentorship team...”
Deliberate mentorship is one potential solution to address this gap.
Where is the evidence to support the potential benefits of mentorship?
Greater career satisfaction

More research productivity:

✓ More grants and more publications;
✓ More protected time for research
Effective faculty precepting and mentoring during reorganization of an academic medical center

CAROLE A. BENSON, PAGE S. MORAHAN, AJIT K. SACHDEVA & ROSALYN C. RICHMAN
MCP Hahnemann University, Philadelphia, PA, USA

RESEARCH ARTICLE

One year outcomes of a mentoring scheme for female academics: a pilot study at the Institute of Psychiatry, King’s College London

Rina Dutta¹, Sarah L. Hawkes⁵, Elizabeth Kuipers⁵, David Guest⁵, Nicola T Fear⁴ and Amy C Iversen⁴

Factors Affecting Academic Promotion in Obstetrics and Gynaecology in Canada

Michelle R. Wise, MD,¹,²,³ Heather Shapiro, MD, FRCSC,¹ Janet Bodley, MD, FRCSC,¹ Richard Pitkini, MD, FRCSC,¹ Darren McKay, BCS,² Andrew Willan, PhD,¹,²,³ Mary E. Hannah, MDCM, FRCSC¹,²,³

Mentoring in Academic Medicine
A Systematic Review

JAMA. 2006;296:1103-1115
What are the attributes of effective mentors and mentees?

- 4 studies explored mentees
  - Mentees should be in the 'driver's seat'
  - Respectful, organised, committed

- 6 studies explored mentors
  - Personal: altruistic, understanding, honest, nonjudgmental, active listener, motivator
  - Relational: accessible, sincere, compatible
  - Professional: knowledgeable and experienced
What are the actions of an effective mentors?

- **Personal**
  - Providing moral support
  - Addressing private/personal issues
  - Goal setting/vision building
  - Role modeling
  - Developing skills
  - Career monitoring
  - Navigating the institution
  - Connecting/networking

- **Institutional**
  - Protection and advocacy
Mentorship in Academic Medicine
Sharon E. Straus and David L. Sackett
Clinician-trialist rounds:  
7. Mentoring: why every clinician-trialist needs to get mentored

Sharon E Straus* and David L Sackett

Clinician-trialist rounds:  
8. Mentoring – part 2: the structure and function of effective mentoring: linkage, resources, and academic opportunities

Sharon E Straus* and David L Sackett

Clinician-trialist rounds:  
9. Mentoring – part 3: the structure and function of effective mentoring: advice and protection

Sharon E Straus* and David L Sackett

Clinician-trialist rounds:  
10. Mentoring – part 4: attributes of an effective mentor

Sharon E Straus* and David L Sackett
How to approach mentorship: strategies for mentors
Make your mentees a priority and let it be known!
Improve your own time-management skills

Set time to meet with them regularly and timely

Provide timely feedback on manuscripts
✓ Endless # of readings and revisions

Be prepared to help them practice their presentations, and provide constructive feedback
Get them involved in your research, REB, DSMB meetings

Get them involved in reviewing manuscripts and grants

Write letters of recommendations or nomination for awards

Provide some resources to facilitate research for them

Department of Clinical Epidemiology and Biostatistics
Biostatistics Unit, Father Sean O’Sullivan Research Centre
St. Joseph’s Healthcare Hamilton, 3rd floor Martha Wing
50 Charlton Avenue East
Hamilton ON Canada L8N 4A6

March 26, 2014
Re: FSO RC Scholarship: Guo wei Li

research.stjoes.ca
Remember that as a mentor, you are expected to be a role model!
Show them by example how to model **collegial**, **fair**, **equitable**, **caring**, **diverse**, **nurturing**, and **inclusive** behaviours including how to share credit.
How to mentor: strategies for mentees
I share this advice with all my mentees at the beginning of our relationship to advance all their self-efficacy.
First:
Adopt Some core principles for success
Principle #1: Think Collaboration!
Every project is a **collaboration** with colleagues from different backgrounds and disciplines.
Benefits of collaboration

- It's more **fun** than doing it alone
- **Learn** from your colleagues
- Gain life-long **friends**
- Good for your CV—More collaborative **publications**
- Gain **experience** in collaborative research, equity, diversity, inclusion
Principle #2: “You can always behave yourself to a successful outcome”

Dave Sackett
Founding Father of EBM
There is power in positive thinking!

Stay hopeful!
Principle #3: Make deliberate effort to improve your soft skills
Time management
Principle #4
Be Kind and generous to others!
Remember "you are because they are!"
These principles are also essential pillars in building and nurturing a **collegial, equitable, equal, diverse, and inclusive culture**
Second: Thesis writing—your approach is the key to success!
Writing a thesis can feel like a mammoth task
Focus on writing papers—one at a time
Success breeds success
An interdisciplinary knowledgew intervention in long-term care: final results from the vitamin D and osteoporosis study (ViDOS) pilot cluster randomized controlled trial


Published in final edited form as:
George Ioannidis did 4 papers for PhD in our program:
Took 3 years doing it part-time

Program Description

Canadian Quality Circle pilot project in osteoporosis
Rationale, methods, and feasibility

BMC Musculoskeletal Disorders

Optimizing care in osteoporosis: The Canadian quality circle project
George Ioannidis*1,8, Lehana Thabane2,3,8, Amiram Gafni2,8,
Anthony Hodsman4,8, Brent Kvern5,8, Dan Johnstone6,8, Nathalie Plumley6,8,
Lena Salach7,8, Fatima Jiwa5,8, Jonathan D Adachi1,8 and
Alexandra Papaioannou1,8

BMC Medical Education

The utilization of appropriate osteoporosis medications improves following a multifaceted educational intervention: the Canadian quality circle project (CQC)
George Ioannidis*1, Alexandra Papaioannou1, Lehana Thabane2,3,8,
Amiram Gafni2,8, Anthony Hodsman4,8, Brent Kvern5,8, Aleksandra Walsh6,
Fatima Jiwa5,8 and Jonathan D Adachi1

Family Physicians’ Personal and Practice Characteristics that Are Associated with Improved Utilization of Bone Mineral Density Testing and Osteoporosis Medication Prescribing

George Ioannidis, Ph.D.1, Alexandra Papaioannou, M.D.1, Lehana Thabane, Ph.D.2,
Amiram Gafni, Ph.D.2, Anthony Hodsman, M.D.2, Brent Kvern, M.D.5, Aleksandra Walsh, B.Sc.5,
Penida Jiwa, D.O.5 and Jonathan D. Adachi, M.D.1
They need to take specific deliberate steps to succeed at this!
Step #1: Set goals early and devise strategies to achieve them

Clear goals provide the basis for defining “success”
Dave's determinants of success
✓ Mentoring—get a mentor
✓ Regular use of priority checklist
✓ Good time management skills
Step #2: Protect time each week for writing

Need to avoid email and Phone disruptions
Step #3: Find a place conducive for productive writing
Step #4: **Write it down**: Always start with
a) An abstract or synopsis
b) An outline
Structure of a protocol synopsis: General Format

- **Background**
  - ✓ provide a brief overview of the study background and context

- **Objectives/aims**
  - ✓ state the primary and secondary objectives of the study

- **Intervention/program description (if applicable)**
  - ✓ for evaluation studies, include brief details of the programme/intervention under investigation

- **Setting**
  - ✓ indicate the study setting (hospital, clinic, community). Also include the level of the clinical area (for example, primary or tertiary; private practice or instructional)

- **Design/Methods**
  - ✓ describe study design and methods, including dates of data collection, eligibility criteria, sample size justification, sampling method, outcome/variable description, methods of data collection and analysis

- **Relevance of the study**
  - ✓ state the relevance or potential usefulness of the results of the study
Step #5:

- Use conferences to **present only the works that you plan to publish**
- Use conference presentation or poster as a starting point
Step #6:
Produce a complete draft before editing or revising
Third:

**Strengthen your CV**

✓ Enhance chances of getting awards
✓ Enhance your research productivity
Enhance your chances of getting academic “Oscars”
- FHS Publication Award, 2020
- FHS Diversity Award, 2020
- FHS Teaching Assistant Excellence Award, 2020
- HSGSF Excellence in Open Communication and Collaboration award, 2020
- Drug Safety and Effectiveness Cross-Disciplinary Training (DSECT) Trainee Award, 2017
- Canadian Multicentre Osteoporosis Study (CaMos) Fellowship, 2019
- Tim Murray Award, 2018
- Ontario Graduate Scholarship, 2016, 2018, 2019
McMaster University
Faculty of Health Sciences
In recognition of Excellence in Graduate Programs and Postdoctoral Studies
Thuva Vanniyasingam
is awarded a 2016 Faculty of Health Sciences Research Plenary Excellence in Poster Presentation Award.
May 2016

McMaster University
Faculty of Health Sciences
In recognition of Excellence in Graduate Programs and Postdoctoral Studies
Thuva Vanniyasingam
is awarded a 2016 Faculty of Health Sciences Research Plenary Programs Excellence Award.
May 2016
Some practical strategies to enhance your research productivity:

All worked for my trainees through deliberate planning or trial-and-error
Enhancing research publications and advancing scientific writing in health research collaborations: sharing lessons learnt from the trenches

This article was published in the following Dove Press journal: Journal of Multidisciplinary Healthcare

Background: Disseminating research protocols, processes, methods or findings via peer-reviewed publications has substantive merits and benefits to various stakeholders.

Purpose: In this article, we share strategies to enhance research publication contents (ie, what to write about) and to facilitate scientific writing (ie, how to write) in health research collaborations.

Methods: Empirical experience sharing.

Results: To enhance research publication contents, we encourage identifying appropriate opportunities for publications, publishing protocols ahead of results papers, seeking publications related to methodological issues, considering justified secondary analyses, and sharing academic process or experience. To advance writing, we suggest setting up scientific writing as a goal, seeking an appropriate mentorship, making full use of scientific meetings and presentations, taking some necessary formal training in areas such as effective communication and time and stress management, and embracing the iterative process of writing.

Conclusion: All the strategies we share are dependent upon each other; and they advocate gradual academic accomplishments through study and training in a “success-breeds-success” way. It is expected that the foregoing shared strategies in this paper, together with other previous guidance articles, can assist one with enhancing research publications, and eventually one’s academic success in health research collaborations.

Keywords: research publication, scientific writing, health research collaboration
Strategy #1:
Every stage of the planning of a study should yield at least one paper

<table>
<thead>
<tr>
<th>Study design</th>
<th>Study name</th>
<th>Protocol paper*</th>
<th>Results paper*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomized controlled trials</td>
<td>CAMPS trial</td>
<td>Mbuagbaw, 2011</td>
<td>Mbuagbaw, 2012</td>
</tr>
<tr>
<td></td>
<td>PROTECT</td>
<td>Cook, 2011</td>
<td>Cook, 2011</td>
</tr>
<tr>
<td>Observational studies</td>
<td>TOMIS III</td>
<td>Sword, 2009</td>
<td>Sword, 2011</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>Li, 2015</td>
<td>Li, 2016</td>
</tr>
<tr>
<td>Systematic reviews and meta-analyses</td>
<td>N/A</td>
<td>Morfaw, 2012</td>
<td>Morfaw, 2013</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>Li, 2013</td>
<td>Li, 2014</td>
</tr>
<tr>
<td>Individual patient data meta-analysis</td>
<td>N/A</td>
<td>Mbuagbaw, 2011</td>
<td>Mbuagbaw, 2012</td>
</tr>
<tr>
<td></td>
<td>OA Trial Bank study</td>
<td>van Middelhoop, 2013</td>
<td>van Middelhoop, 2016</td>
</tr>
</tbody>
</table>

Note: *Expressed as first author, publication year* reference number.
Abbreviations: CAMPS trial, Cameroon Mobile Phone Short Message Service trial; PROTECT, Prophylaxis for Thromboembolism in Critical Care Trial; TOMIS III, The Ontario Mother and Infant Study III; OA Trial Bank, Osteoarthritis Trial Bank study; N/A, not applicable.
Example 1: The effects of treatments for acute diarrhea and acute gastroenteritis in children

The effectiveness and safety of treatments used for acute diarrhea and acute gastroenteritis in children: protocol for a systematic review and network meta-analysis

Florez et al. Systematic Reviews (2016) 5:14
DOI: 10.1186/s13643-016-0186-8

The effectiveness and safety of treatments used for acute diarrhea and acute gastroenteritis in children: protocol for a systematic review and network meta-analysis

Ivan D. Florez1,2, Reem Al-Khalifah3,4, Javier M. Sierra3, Claudia M. Granados5, Juan J. Yepes-Nuñez1,2, Carlos Cuello-García4, Giordano Pérez-Gaxiola3, Adriana M. Zea7, Gilma N. Hernandez6, Areli-Angeliki Veroniki8, Gordon H. Guyatt3,9 and Lehana Thabane1,9

Comparative effectiveness and safety of interventions for acute diarrhea and gastroenteritis in children: A systematic review and network meta-analysis

Ivan D. Florez1,2, Reem Al Khalifah3, Juan J. Yepes-Nuñez1,2, Javier M. Sierra3, Robin W. M. Vernooij5, Jorge Acosta-Reyes6, Claudia M. Granados5, Giordano Pérez-Gaxiola3, Carlos Cuello-García4,10, Adriana M. Zea7, Yuan Zhang1, Nashmeh Foroutan5,1, Gordon H. Guyatt3,9, Lehana Thabane1,9,13

research.stjoes.ca
The HAART cell phone adherence trial (WelTel Kenya1):
a randomized controlled trial protocol
Richard T Lester*1,2, Edward J Mills3, Antony Kariri1, Paul Ritvo4,
Michael Chung5, William Jack6, James Habyarimana6, Sarah Karanja1,
Samson Barasa1, Rosemary Nguti1, Benson Estambale7, Elizabeth Ngugi1,
T Blake Ball2, Lehana Thabane8, Joshua Kimani1,2, Lawrence Gelmon1,2,
Marta Ackers9 and Francis A Plummer2,10

Effects of a mobile phone short message service on
antiretroviral treatment adherence in Kenya
(WelTel Kenya1): a randomised trial

Richard T Lester, Paul Ritvo, Edward J Mills, Antony Kariri, Sarah Karanja, Michael H Chung, William Jack, James Habyarimana,
Mohsen Sadat-Afzali, Mehran Najafizadeh, Carlo A Mario, Benson Estambale, Elizabeth Ngugi, T Blake Ball, Lehana Thabane, Lawrence J Gelmon,
Joshua Kimani, Marta Ackers, Francis A Plummer

Summary
Background Mobile (cell) phone communication has been suggested as a method to improve delivery of health services. However, data on the effects of mobile health technology on patient outcomes in resource-limited settings are limited. We aimed to assess whether mobile phone communication between health-care workers and patients starting antiretroviral therapy in Kenya improved drug adherence and suppression of plasma HIV-1 RNA load.
Example 3: Pilot trials

A pragmatic pilot randomized trial to investigate the effectiveness of behavioural activation group therapy in reducing depressive symptoms and improving quality of life in patients with depression: the BRAVE pilot trial protocol

Zainab Samaa1,2,3,4,5, Kathryn Lithke3, Kathleen McCabe1,2, Brittany Dennis3, Jeff Whatam2, Laura Garrick2, Laura O’Neill1,2, Terri Ann Tabak1,2, Scott Simons3, Sandra Chalmers5, Brenda Key1,2, Meredith Vanstone6, Feng Xie3, Gordon Guyatt3,5 and Lehana Thabane3,4,5,7,10,12

Behavioral activation group therapy for reducing depressive symptoms and improving quality of life: a feasibility study

Zainab Samaa1,2,3,4,7,18, Brittany B. Dennis3,4,7, Lindsay Kalbfleisch5, Herman Bam6, Laura Zielinski1,4, Monica Bawor1,3, Kathryn Lithke2,3, Kathleen McCabe1,2,13, Jeff Whatam2,13, Laura Garrick7, Laura O’Neill1,2,13, Terri Ann Tabak1,2,13, Scott Simons2,13, Sandra Chalmers3,13, Brenda Key1,2,13, Meredith Vanstone6, Feng Xie3, Gordon Guyatt7,8 and Lehana Thabane3,4,5,7,10,12
Example 4: This can be done for type of study

Mixed methods

Observational studies

IPD meta-analysis

Systematic survey of the literature
Strategy # 2: Plan to multiply the opportunities
Use 5-3 Rule

**Manuscripts:**
- Protocol paper of the systematic review
- Results paper for the systematic review
- Protocol paper for the study
- Results paper for the study
- Qualitative results paper to supplement quantitative work

**Presentations** at a professional meeting
- Local presentation in Department/Faculty
- National meeting
- International meeting
Dr Lawrence Mbuagbaw

✓ CIHR HIV Clinical Trials Network International Fellowship: Training and mentorship in HIV trials
✓ CAMPS (Cameroon Mobile Phone SMS) Trial had excellent output
That's 14 manuscripts and still counting…
Through collaborations, Britt has now co-authored over 50 manuscripts and still counting...
Strategy #3:
For every study, look for opportunities to use the data to write more papers for publication
RESEARCH ARTICLE
Open Access

Comparison of Bayesian and classical methods in the analysis of cluster randomized controlled trials with a binary outcome: The Community Hypertension Assessment Trial (CHAT)
Jinhu Ma1, Lehana Thabane*1,1, Janusz Kaczmorowski2, Larry Chambers3, Lisa Dolovich4, Tina Karwajatzky5 and Cheryl Levin6

* Corresponding author

Abstract

Chu et al. BMC Medical Research Methodology 2011, 11:21
http://www.biomedcentral.com/1471-2288/11/21

RESEARCH ARTICLE
Open Access

Comparing methods to estimate treatment effects on a continuous outcome in multicentre randomized controlled trials: A simulation study
Rong Ou1,2, Lehana Thabane1,2, Jinhu Ma1, Anne Holbrook3,4, Eleanor Punnayayung3,4 and Philip James Devreux2

Competing events in patients with malignant disease who are at risk for recurrent venous thromboembolism
S. Parpia5, J.A. Julian6, L. Thabane7, A.Y.Y. Lee8, F.R. Rickles8 and M.N. Levine9,10

* Ontario Clinical Oncology Group, Dept of Oncology, McMaster University, 50 Concession Street, 10th Floor, Hamilton, ON, L8N 3L8, Canada
2 Centre of Evaluation of Medicines, McMaster University, 50 Concession Street, Hamilton, ON, L8N 4M6, Canada
3 Division of Hematology, University of British Columbia, Diamond Health Care Centre, 2775 Laurel Street, 10th Floor, Vancouver, BC, V5Z 1M9, Canada
4 Keddy Cancer Research Center, George Washington University, 2130 Pennsylvania Ave NW, Washington, DC, 20057, USA

Abstract

Patients with malignant disease enrolled in trials of thrombotic disorders may experience competing events such as death. The occurrence of a competing event may prevent the thrombotic event from being observed. Standard survival analysis techniques ignore competing risks, resulting in possible bias and distorted inference. To assess the impact of competing events on the results of a previously reported trial comparing low molecular weight heparin (LMWH) with oral anticoagulants (OAC) therapy for the prevention of recurrent venous thromboembolism (VTE) in patients with advanced cancer, we compare the results from standard survival analysis with those from competing risk techniques which are based on the cumulative incidence function ( CIF) and Gray's test. The Kaplan–Meier method overestimates the risk of recurrent VTE (17.2% in the OAC group and 8.7% in the LMWH group). Risk of recurrence using the CIF is 12.0% and 6.0% in the OAC and LMWH groups, respectively. Both the log-rank test (p = 0.002) and Gray's test (p = 0.000) suggest evidence in favor of LMWH. The overestimation of risk is 30% in each treatment group, resulting in a similar relative treatment effect; using the Cox model the hazard ratio (HR) is 0.48 (95% confidence interval [CI], 0.30 to 0.78) and HR = 0.47 (95% CI, 0.29 to 0.74) using the CIF model. Failing to account for competing risks may lead to incorrect interpretations of the probability of recurrent VTE. However, when the distribution of competing risks is similar within each treatment group, standard and competing risk methods yield comparable relative treatment effects.

© 2011 Elsevier Inc. All rights reserved.
Strategy # 4:
Every research process or experience is worth sharing
Papers based on my mentor-mentee relationships

How to set-up a long-distance mentoring program: a framework and case description of mentorship in HIV clinical trials

Abstract: Mentoring plays an important role in learning and career development. Mentored researchers are more productive and more likely to publish their work. However, mentorship programs can be challenging to implement, especially in remote settings.

Mentoring in biostatistics: some suggestions for reform

Abstract: Mentoring is routinely used as a tool to facilitate acquisition of skills by new professionals in fields like medicine, nursing, surgery, and business. While mentoring has been

The challenges and opportunities of conducting a clinical trial in a low resource setting: The case of the Cameroon mobile phone SMS (CAMPS) trial, an investigator initiated trial

Lawrence Mbuyagwab1, Lehana Thabane2,3,4, Pierre Ongolo-Zogo5 and Trudie Lang6

Data withdrawal in randomized controlled trials: Defining the problem and proposing solutions

A commentary

Chenglin Ye6,6,6, Lora Giangregorio1, Anne Holbrook2,6,6,6,6, Eleanor Pullenayegum4,6,6,6,6, Charlie H. Goldsmith6,6,6,6,6, Lehana Thabane6,6,6,6,6,6

research.stjoes.ca
Advice for Junior Faculty Regarding Academic Promotion: What Not to Worry About, and What to Worry About

This article was published in the following Dove Press journal:
Journal of Multidisciplinary Healthcare

Abstract: Junior faculty in many universities must go through the promotion process to advance from entry level, e.g., assistant professorship to associate Professor, and ultimately to professorship. The process may often be stressful for some junior faculty, mostly due to some uncertainty about how to optimise their chances of successful promotion. In this paper, we summarise some strategies that would enhance their chances of a smooth promotion
Advice for Junior Faculty Regarding Academic Promotion

What Not to Worry About and What to Worry About

Hello, new and junior faculty! Have you ever wondered what it takes to get promoted? Here are some ideas from folks at the McMaster:

- Identify and read institutional policies for advancement
- Talk with other faculty who have gone through the process
- Talk with faculty who are on tenure and promotion committees
- Create a checklist of documents required
- Identify and collect the documents required to complete the required documents

Institutional Requirements for Advancement

Secure Funding

Join mailing lists for sources of funding

Invest in grant writing training

Persuasion matters

Set a target number of publications per year

Publications

Research time of R&D spend: core funding, challenges and opportunities

Public academic and educational activities: core growth opportunities, workshop reports

Time Management and Priority-Setting

Effective Teaching

- Teach as per agreed commitment
- Document evidence of effective teaching and teaching innovation
- Invest in enhancing teaching skills

Mentorship

Identify a good mentor and seek advice

Work with your department promotion team to meet targets

Collaborative Activities

Join highly productive research groups

Identify opportunities to contribute and benefit from groups

Read the full article here: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7020205
Strategy #5:

Be a good “citizen”—mentor and collaborate with others
All my graduate students have a **responsibility** and the **opportunity** to mentor others.
For example, in 2017, I had 4 invited plenary presentations at different places and these led to many opportunities for my mentees and 8 publications.
Evaluating Completeness of Reporting in Behavioral Interventions Pilot Trials: A Systematic Survey

Meha Bhatt¹,², Laura Zielinski², Nitika Sanger², Ieta Shams², Candice Luo², Bianca Bantoto², Hamnah Shahid², Guowei Li¹, Luciana P. F. Abbade³, Ikunna Nwosu¹, Yanling Jin¹, Mei Wang¹, Yaping Chang¹, Guangwen Sun¹, Lawrence Mbuagbaw¹,⁴, Mitchell A. H. Levine¹,⁴,⁵, Jonathan D. Adachi¹,⁴, Lehana Thabane¹,⁴,⁵, and Zainab Samaan¹,²,⁶,⁷
A Systematic Survey of Control Groups in Behavioral and Social Science Trials

Mei Wang¹,², Guangwen Sun³, Yaping Chang¹, Yanling Jin¹, Alvin Leenus⁴, Muhammad Maaz⁴, Guowei Li¹,², Meha Bhatt¹, Luciana P. F. Abbade⁵, Ikunna Nwosu¹, Laura Zielinski⁶, Nitika Sanger⁷, Bianca Bantoto⁸, Candice Luo⁹, Ieta Shams²,¹⁰,¹¹, Hamnah Shahid¹², Jonathan Adachi¹³, Lawrence Mbuagbaw¹,²,¹⁴, Mitchell Levine¹,¹³, Zainab Samaan¹,¹⁵, and Lehana Thabane¹,¹¹
Invited talk at the first symposium on “Clinical Research in Brazil: Not for Beginners” held on November 30-December 1, 2017 at UNESP in Botucatu, Sao Paolo
What to do when mentorship gets sour?
All relationships go through transitions

- Mentee does not need your help as much
- Mentee becoming a colleague
- Cultural issues of age/authority/gender
  - weight of prior relationship
- Former mentee becoming source of advice, guidance, counsel
Changing Relationships: warning from Gordon Guyatt

Possible experience of mentor
- mentee thinks she’s smarter than I am
- mentee is smarter than I am
- mentee right, I’m wrong
- mentee isn’t listening to me
- mentee doesn’t want my advice
- lack of appreciation/gratitude

Feelings of mentor
- threatened
- competitive
- hurt
- angry
Possible experience of *mentee*

- I’m doing the work, mentor getting credit
- mentor not sharing opportunities sufficiently
- mentor being competitive
- mentor not appreciating/valuing
- mentor feeling hurt

**Mentee's possible feelings**

- disappointment
- bewilderment
- competitiveness
- hurt
Gordon Guyatt’s possible solutions

- Terminate at transition
- Alertness to COI
  - explicit labeling
- Alertness to emotional traps
  - opportunity for personal growth
- Humility - advice from others
In short...

- Have an exit or transition strategy
- Stay alert to COI or emotional traps
- Stay humble, and ask for help
Other Things to Consider

- Mentoring is about facilitating career growth
- Have realistic expectations – no one is perfect
- Draw lessons from own experiences and failures
- Multiple mentors can be useful
Additional resources

- [http://www.mentorshipacademicmedicine.com](http://www.mentorshipacademicmedicine.com)
- Companion website for
A huge thank you to
thank you