

Challenges for Pharmacology  
and Therapeutics Educators

Peter McLeod

Ruedy  
Tamblyn  
Pharmacology  
Education  
Research

Challenges

- Continuing education
- Assessment strategies
- Rational therapy in practice
- Epidemic of diagnoses
- Transfer of learning

Challenge

Continuing education

Program design and delivery in  
Canadian CME Drug Therapy  
Courses

Peter J. McLeod MD; Robert Rangno MD;  
Can. J. Clin. Pharm. 1999

Content Needs Assessment:

Feedback from previous

Peer consultations

Committee decisions

Personal perceptions

Course Delivery:

Teacher-dominated

Passive learning

If formal CME is ineffective,  
why do physicians still  
participate?

P.J. McLeod & A.H. McLeod

McGill Centre for Medical Education  
**Medical Teacher 2004**

## Formal CME Participation

833 practicing physicians

- Fun
- Combat obsolescence
- Curiosity
- Reassurance

Far too large a selection of  
treatment of disease is today  
controlled by the big  
manufacturing pharmacists who  
have enslaved us in a plausible  
pseudoscience



Answers?

- Get the professional organizations involved
- Think about academic detailing
- Think about practice-based learner-driven activities

Challenge

consider 'newer'  
assessment strategies

## Assessment drives learning

### Assessment methods

- Orals
- MCQs
- Essay
- OSCE

‘Newer’ assessment instruments

- Mini CEX
- portfolio assessment
- Script concordance test
- Therapeutics OSCE’s
- Audit of case records

## Challenge

The epidemic of diagnoses

## Diagnoses

- Sadness
- Twitchy legs
- Mood swings
- Insomnia
- Prediabetes
- prehypertension

Answer ?

- Education

Challenge  
Rational drug use  
in practice

Defining inappropriate  
practices in prescribing for  
elderly people: a national  
consensus panel

Peter J. McLeod, MD; Allen R.  
Huang, MD; Robyn M. Tamblyn,  
PhD; David C. Gayton, MD  
CMAJ

Inappropriate  
Prescribing

32 member national panel

- 3 categories
  - generally contraindicated
  - drug-disease interactions
  - drug-drug interactions
- 71 prescribing practices

Questionable prescribing  
for elderly patients in  
Quebec

R.M. Tamblyn, P.J. McLeod, M. Abrahamowicz,  
J. Monette, D.C. Gayton, L. Berkson, W.D.  
Dauphinee, R. M. Grad, A.R. Huang, L.M. Issac,

CMAJ

Do Too Many Cooks Spoil the Broth?  
Multiple Physician Involvement in  
Medical Management of Elderly  
Patients and Potentially Inappropriate  
Drug Combinations

Robyn Tamblyn, PhD; Peter J. McLeod, MD;  
Michal Abrahamowicz, PhD; Rejean Laprise, PhD

CMAJ

Questionable Prescribing

- Two Ca channel blockers 4%
- Thiazide + Thiazide 2%
- BZDP + BZDP 14%
- NSAID + NSAID 5%
- ASA + ASA 3%
- ACEI + ACEI
- K sparer + K supplement

## Inappropriate Drug Combinations

Direct correlation with number of prescribers

Negative correlation with number of pharmacies

## Challenge

Transfer of learning

## Use of Standardized Patients to Assess Between-Physician Variations in Resource Utilization

Peter J. McLeod, MD; Robyn M. Tamblyn, PhD; David Gayton, MD; Roland Grad, MD; Linda Snell, MD; Laeora Berkson, MD; Michal Abrahamowicz, PhD.

JAMA

## Standardized Patients

- 312 total SP visits
- 112 physicians
- Extreme variations in cost of management

## Does Knowledge of Drug Prescribing Predict Drug Management of Standardized Patients in Office Practice

Roland Grad, Robyn Tamblyn, Peter McLeod, Linda Snell, Alfred Ilescas, Don Boudreau

Medical Education

## Knowledge – Performance

Correlation = 0.22

## Association between licensing Examination Scores and Resource Use and Quality of Care in Primary Care Practice

Robyn Tamblyn PhD; Michal Abrahamowicz PhD; Carlos Brailovsky MD; M.A.; Paul Grand'Maison MD, MSc; Joelle Lescop MD, MPH; John Norcini PhD; Nadyne Girard MSc; Jeannie Haggerty MSc.

JAMA.

Exam success predicts

- Fewer inappropriate prescriptions
- More referrals for consultation
- More disease-specific vs. symptom-specific medications prescribed
- More mammography for >50

## Transfer of learning

- Authentic learning
- Use of analogies
- Contrastive learning
- Active, engaged learners
- Use of multiple media
- Reflective learning

## Wisdom of the ages

## The Epidemic of Diagnoses

The arrival in town of a good clown is more benefit to the people than the arrival of 20 asses laden with medicine

T Sydenham

## Assessment

You can observe a lot just by watchin'

Y Berra

Dear Heather. Please walk  
by me again with a drink in  
your hand

Leonard Cohen

CME

One of the first duties of the  
physician is to educate the  
masses not to take medicine

W. Osler

Transfer of learning

After all, the greatest difficulty in  
life is to make knowledge  
effective, to convert it into  
practical wisdom

W.Osler

Rational therapy

To be a successful practitioner,  
one needs but 5 drugs

J Ruedy

Sample Combinations

- K sparer plus K supplement
- Two or more Ca blockers
- Two or more ACE inhibitors
- Two or more TCA's
- Two ASA's

## Faculty Attitudes toward Various Teaching Formats at Two Canadian Medical Schools

P.J. McLeod, M.D., McGill University, Faculty of Medicine, Quebec;  
N.H. Shear, M.D., University of Toronto Faculty of Medicine, Ontario;  
S.M. MacLeod, M.D., McMaster University School of Medicine, Ontario

ACADEMIC MEDICINE 1991

## Attitudes to Teaching Formats

Enthusiasm for teaching 75%

Enthusiasm for:

- SG clinical teaching 75%
- Seminar format 50%
- Lecture format 13%

## Treatment of Benign Prostatic Hypertrophy with Medrogestone

Robert E. Rangno, M.D., FRCPC, Peter J. McLeod, M.D., FRCPC, John Ruedy, M.D.C.M., FRCPC, & R.I. Ogilvie, M.D.C.M., FRCPC

Montreal, Quebec, Canada

Clin Pharm Therap. 1971

## BPH Treatment

- Medrogestone works !

Education & Practice Characteristics Predict Inappropriate Prescribing Excessive LABZ doses

- Recent graduates
- Single medical school
- University affiliation

## Academic Detailing

- 5 Pharmacists
- Lectures ; education materials; provider profiles ; meet 25-50 MDs each
- Prescribing profiles changed to closely follow national recommendations



## Academic Detailing to Improve Antihypertensive Prescribing Patterns

David Siegel, Julio Lopez, Joy Meier, Mary K. Goldstein, Samuel Lee, Bradley J. Brazill & Mazen S. Matalaka  
Am J HBP 2003

Do Medical Education and Practice Characteristics Predict Inappropriate Prescribing of Sedative – hypnotics for the Elderly?

Johanne Monette, Robyn M. Tamblyn, Peter J. McLeod, David C. Gayton & Rejean Laprise

**Academic Medicine 1994**

Characteristics of Physicians Who Frequently Prescribe Long-Acting Benzodiazepines For The Elderly

Johanne Monette, Robyn M. Tamblyn, Peter J. McLeod, David C. Gayton  
Eval. & the Health Professions 1997

## LABZ Prescribers

Older generalists  
Long term care settings  
Graduate of a single school

W. Osler  
1909