

The System. The Problem. The Fix.



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Outcome Expectations


- 1. Describe the elements of a safe and effective medication-use system
- 3. Consider the implications when one or more of these elements are missing.
- 4. Discuss how expanding the role of the pharmacist can improve our medication-use system.

Important Note to the Reader of these Slides



These slides are part of a podium presentation given by Dr. Neil MacKinnon at the Co-Focus meeting in Toronto on May 1, 2007. Thus, these slides are only part of the presentation that was given and, alone, give an incomplete picture of this presentation. Thus, please do not reproduce or copy. Thanks.

What is the ideal
medication-use system?



Essential Elements of a Safe & Effective Medication-Use System



- ① Prompt and accurate response to signs and symptoms
- ② Access to safe and efficacious medicines
- ③ Prescribing for definite objectives
- ④ Dispensing and tailored patient advice
- ⑤ Active patient/caregiver cooperation
- ⑥ Monitoring
- ⑦ Documentation and communication system
- ⑧ Systems management (performance indicators)

Are there problems with
the medication-use
system? If so, how large
are the problems?

How Big is the Problem?

- Ernst & Grizzle (2001) estimated the total annual cost of drug-related morbidity (DRM) and mortality in the United States to be **\$177 billion USD** in their cost-of-illness model, up from \$76 billion USD in 1995.
- Bootman, Harrison and Cox (1997) estimated the total annual cost of DRM and mortality in **nursing facilities in the US to be \$7.6 billion USD**. They conclude that for every dollar spent on drugs in nursing facilities, **\$1.33** in healthcare resources are consumed in the treatment of drug-related problems.
- MacKinnon and Kidney (2002) estimated the annual cost of **preventable** DRM in Canadian seniors to be **\$10.9 billion CND**.

“I have read your Article (Deadly Prescriptions) in the Ottawa Citizen on April 7, with great interest.

My mother just died on March 15th. The cause was from her family physician giving her too much medication and not mixing it properly.

Do you have any advice as to what I should be doing to report this and any other advice you can possibly give me as to what can be done so as no other family has to go through this? This incompetence must be stopped.”




Dispensing – ABC’s “20/20”

Special Report

- **U.S. Pharmacy Errors: Unreported Epidemic?
High School Students Filling Prescriptions**

How can we improve the
medication-use system?



Evidence That Pharmacists Can Improve Patient Outcomes



A Randomized Trial of the Effect of Community Pharmacist Intervention on Cholesterol Risk Management

The Study of Cardiovascular Risk Intervention by Pharmacists (SCRIP)

Ross T. Tsuyuki, BSc(Pharm), PharmD, MSc; Jeffrey A. Johnson, BSP, PhD; Koon K. Teo, MB, PhD; Scot H. Simpson, BSP, PharmD; Margaret L. Ackman, BSc(Pharm), PharmD; Rosemarie S. Biggs, BPharm; Andrew Cave, MD, MCISc; Wei-Ching Chang, PhD; Vladimir Dzavik, MD; Karen B. Farris, BSP Pharm, PhD; Donna Galvin, BSc(Pharm); William Semchuk, MSc, PharmD; Jeff G. Taylor, BSP, PhD;
for the Study of Cardiovascular Risk Intervention by Pharmacists (SCRIP) Investigators

- SCRIP: A randomized, controlled trial involving 675 patients, 87 pharmacists and 54 community pharmacies in Alberta and Saskatchewan.
- Patients at high risk for cardiovascular events received verbal and written information from the pharmacist, cholesterol measurements in the pharmacy and referrals to MDs
- The I group had greater achievement of the primary endpoints and improvement was so impressive that the study was **stopped early**.

Do You Need Even More Evidence? (“*Show Me The Money*”)



Clinical Pharmacists and Inpatient Medical Care

A Systematic Review

Peter J. Kaboli, MD, MS; Angela B. Hoth, PharmD;
Brad J. McClimon, MD, PharmD; Jeffrey L. Schnipper, MD, MPH

- 36 studies met inclusion criteria
- Adverse drug events, adverse drug reactions, or medication errors were reduced in 7 of 12 trials that included these outcomes.
- “The addition of clinical pharmacist services in the care of inpatients generally resulted in improved care, with no evidence of harm.”
- “Cost-effectiveness can be improved by identifying pharmacist duties most beneficial to patients and determining whether less skilled and costly personnel can perform other duties.”

Kaboli PJ, Hoth AB, McClimon BJ, et al. Clinical pharmacists and inpatient medical care. A systematic review. *Arch Intern Med* 2006; 166: 955-64.

...still more evidence...

Effect of a Pharmacy Care Program on Medication Adherence and Persistence, Blood Pressure, and Low-Density Lipoprotein Cholesterol A Randomized Controlled Trial

Jeannie K. Lee, PharmD

Karen A. Grace, PharmD

Allen J. Taylor, MD

- A three phase study (2-month run-in, 6-month intervention, 6-month randomization phase of continued pharmacy care vs usual care)
- Included 200 community-based seniors on at least 4 chronic meds
- “A pharmacy care program led to increases in medication adherence, medication persistence, and clinically meaningful reductions in BP, whereas discontinuation of the program was associated with decreased medication adherence and persistence.”

Lee JK, Grace KA, Taylor AJ. Effect of a pharmacy care program on medication adherence and persistence, blood pressure, and low-density lipoprotein cholesterol. A randomized controlled trial. *JAMA* 2006; 296.

Why are pharmacists in these studies succeeding while others are still not providing pharmaceutical care?

Some may say,

“These studies are ok, BUT...”

The infamous BUT statements...

be on guard for them!

People respond to problems in one of three ways:

1. They refuse to accept them
2. They accept them and put up with them
3. They accept them and try to make things better.

John Maxwell argues that leaders always do #3.

“Physicians don’t want pharmacists messin’ with their patients.”

- Physicians are open to the idea of an expanded role for pharmacists but are skeptical about the ability of pharmacists
- However, once physicians see what pharmacists who provide pharmaceutical care can do, they typically become strong advocates for such practices
- *Pharmacist Narcotic Effect*
- What Jerry Avorn, MD says about pharmacists

The Canadian Medical Association – Canadian Pharmaceutical Association Joint Statement on Approaches to Enhancing the Quality of Drug Therapy (1996!) states that the pharmacist has responsibility to monitor drug therapy and to maintain records that document “progress toward treatment goals [if known]”.

“Health care decision makers and politicians aren’t convinced of the value of pharmacists.”

- It is true that many healthcare decision makers and politicians are not completely sure about the role of pharmacists
- Remember: These individuals go to pharmacies too! What do they personally experience?
- Overall, though, these individuals are very receptive to a larger role for pharmacists and, in fact, many times these individuals are the strongest advocates for such roles.

“Health care decision makers and politicians aren’t convinced of the value of pharmacists.”

- “Pharmacists should be counting outcomes instead of pills.”
Becky Cherney, CEO, Central Florida Healthcare, 1996
- “By truly integrating pharmacists into primary care, I believe we can improve the efficiency and effectiveness of drug therapy, reduce costs and enhance patient care. The evidence is clear, the benefits are obvious and the time has come.” -Roy Romanow,
Address at the CPhA AGM, Winnipeg, MB, May 2002
- “As Minister of Health, I appreciate this opportunity...to recognize and reflect on the important role you play in the delivery of health care and in the promotion of healthy living.”
Hon Chris d’Entremont, NS Minister of Health, 2007
- Bill 102?

“Nurses and other health professionals aren’t convinced of the value of pharmacists.”

- Sometimes pharmacists and nurses are accused to be in a “turf-battle” for expanded roles in healthcare
- There is an important role for both health professionals
- Nurses greatly appreciate the knowledge and expertise that pharmacists offer
- Example: Moncton Hospital Seamless Care Study
- “Who better than a pharmacist would be able to tell the patient all they need to know about their medication!”

“Patients don’t want this!”

- Many patient lack confidence in using their medications, while others may be overconfident
- Patients don’t want their pharmacist to interfere with their relationship with their MD
- Patients want the service to be convenient
- Not all patients want/require this – that is a **relief** not a barrier! **Dental office analogy**

“Isn’t it sad that the only thing that kept me going this week was knowing you were going to call today?”

- Patient feedback to a pharmacy student in PEI who initiated a callback program for antidepressants, Summer 2004

“There’s Not Enough Pharmacists!”

- Many pharmacies are reluctant to provide new services, given the current shortage of pharmacists
- However, pharmaceutical care programs can be a great recruitment/retention tool
- Most desired qualities by Dalhousie pharmacy graduates year after year: “Team work/spirit” and “Patient-focused environment”
- New grads are highly trained in these areas and want to use their skills
- *The Triple R Effect*

Supporting an Expanded Role: Professional Duty



- Pharmaceutical Care: The Raison d'être of pharmacists
- Cooperative, responsible provision of drug therapy to achieve definite outcomes intended to improve a patient's quality of life (Hepler and Strand, 1990)
- What kind of care do nurses provide? MDs? Dentists? Pharmacists?
- Pharmacists should aim to provide “family-level” pharmaceutical care
- *The Cheers effect*

“Many times pharmacists spend too much time filling a prescription the patient shouldn’t have.”

-Dr. Charles D. Hepler,
the “father of pharmaceutical care”

Supporting an Expanded Role: Legal Reasons



Horner vs. Spalitto

“The pharmacist in this case filled 2 Rxs for Franklin Horner 6 days before Horner died of an apparent drug overdose. One of the Rxs prescribed was a strong hypnotic drug at a rate of 3 times the normal dose.”

Supporting an Expanded Role: Legal Reasons



“We reject the suggestion in Kampe [a previous med error case] that the only function which a pharmacist must perform to fulfill his duty is to dispense drugs according to a physician’s Rx.”

David Brushwood (pharmacist, professor and lawyer): ”10 to 15 years ago, technical accuracy was all that was required by pharmacists. Well, those days are gone.”

Supporting an Expanded Role: External Factors



- It is easy to assume things will always stay as they are but many external forces are mandating that pharmacists change
- Bill 102 & other payment models
- Physician electronic prescribing
 - What is left for the pharmacist to do if the current model is left intact?
- Technology: Drug dispensing teeth!

Need Inspiration? Look at the Occupational Therapy Model

- Progression of the profession – defined scope of practice
- Reimbursement for products and services
- Client-oriented
- Impact on quality of life
- *The long-handled shoe horn effect*

Take Home Points:

The System. The Problem. The Fix.

- ✓ There are 8 essential elements of a safe & effective medication-use system.
- ✓ Many of these poor outcomes result because one or more of these elements are not in place.
- ✓ Pharmacists who provide comprehensive pharmaceutical care services can improve both the safety and effectiveness of the medication-use system.



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