Managing Medications and QMENTUM: Can We Measure Up?

Neil J. MacKinnon, Ph.D., FCSHP
Associate Professor & Associate Director for Research
Dalhousie University College of Pharmacy
A presentation about accreditation

A. puts me to sleep.
B. causes me to have a panic attack.
C. causes my mind to wander.
D. makes me want to hear what Neil is going to say.
Lectures = a means of transferring notes from the pages of the speaker to the pages of the audience, without going through the mind of either.

NOELS = Nodding-off events per lecture
## Risk factors for nodding off at lectures

(Rockwood, Hogan and Patterson, *CMAJ*, Dec 7, 2004)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Odds Ratio (and 95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dim lighting</td>
<td>1.6 (0.8-2.5)</td>
</tr>
<tr>
<td>Warm room temperature</td>
<td>1.4 (0.9-1.6)</td>
</tr>
<tr>
<td>Comfortable seating</td>
<td>1.0 (0.7-1.3)</td>
</tr>
<tr>
<td>Poor slides</td>
<td>1.8 (1.3-2.0)</td>
</tr>
<tr>
<td>Failure to speak into microphone</td>
<td>1.7 (1.3-2.1)</td>
</tr>
<tr>
<td>Early morning</td>
<td>1.3 (0.9-1.8)</td>
</tr>
<tr>
<td>Post prandial</td>
<td>1.7 (0.9-2.3)</td>
</tr>
<tr>
<td>Monotonous tone</td>
<td>6.8 (5.4-8.0)</td>
</tr>
<tr>
<td>Tweed jacket</td>
<td>2.1 (1.7-3.0)</td>
</tr>
<tr>
<td>Losing place in lecture</td>
<td>2.0 (1.5-2.6)</td>
</tr>
<tr>
<td>Listening to a presentation by Neil?</td>
<td>20?</td>
</tr>
</tbody>
</table>
Presentation Outcome Expectations
(ie. what will I actually get out of this talk?)

- Discuss the current state of hospital pharmacy practice in Canada
- Explore the implications if pharmacists are not practicing at their full potential
- Consider how accreditation standards can serve as a positive influence on the profession of pharmacy
- Describe the initial experiences of hospitals which have used the new 2008 accreditation standards
Outcome Expectations

- Discuss the current state of hospital pharmacy practice in Canada
2 DOCTORS
ACCEPTING NEW PATIENTS
576 3332
Does this sound like your hospital?
Evidence of the (approaching) crisis:

Perceived importance and self-assessment of the skills of Canada’s health-system pharmacy managers

SheRI AxwOrTHy ANd NeIL J. MaCkINNON


Storm Clouds on the Horizon for Hospital Pharmacy

Evidence of the (approaching?) crisis:

- The written comments were powerful. (Axworthy and MacKinnon, Am J Health-Syst Pharm 2002)
- Another paper confirmed that similar gaps exist in US hospital pharmacy heads. (Faris, MacKinnon, MacKinnon, Am J Health-Syst Pharm 2005)
- Widespread difficulties in retention and recruitment of hospital pharmacy heads and the resultant filling of these positions with non-pharmacists.
Key Issues Facing Pharmacy Departments in Institutions

- Maintain services in the face of cost cutbacks/containment
"If you can see the bar chart over my tie, it shows just how much we've saved with the new cost cutting measures."
YOU'LL REGRET IT!
What Canadian Hospital Pharmacy Managers Say

“"I have adequate financial resources to fulfill my department’s mission.”"

- Hospital pharmacy managers in Nova Scotia, New Brunswick and Prince Edward Island (n=12): 1.75 +/- 0.62 (where 1 = strongly disagree … 5 = strongly agree)
- Hospital pharmacy managers in Saskatchewan and Manitoba (n=24): 2.25 +/- 1.26
- Hospital pharmacy managers in British Columbia (n=18): 1.94 +/- 1.06
- Hospital pharmacy managers in Ontario (LHIN 4) (n=10): 2.20 +/- 1.14
Key Issues Facing Pharmacy Departments in Institutions

- Recruitment and retention of pharmacists
RECRUITING FAIR

HEALTHMORE HOSPITAL

JOIN OUR TEAM NOW!

THAT'S NOT FAIR!
"Okay, this is my final offer: $175,000 a year, the full stock and benefits package, my baseball card collection, and you get to punch me in the arm as hard as you can."
What Canadian Hospital Pharmacy Managers Say

- “I have adequate human resources to fulfill my department’s mission.”
  - Hospital pharmacy managers in Nova Scotia, New Brunswick and Prince Edward Island (n=12): 1.83 +/- 0.83 (where 1= strongly disagree ... 5 = strongly agree)
  - Hospital pharmacy managers in Saskatchewan and Manitoba (n=24): 2.08 +/- 0.83
  - Hospital pharmacy managers in British Columbia (n=18): 1.83 +/- 0.92
  - Hospital pharmacy managers in Ontario (LHIN 4) (n=10): 2.10 +/- 0.99
What Are The Biggest Challenges Facing LHIN 4 Hospital Pharmacy Managers?

- Transforming and/or sustaining existing service without more of different resources (i.e. technology and/or staff)
- Limited resources ($ and manpower) to implement necessary programs/technology
- Staff, financial resources
- Having adequate pharmacist resources to support patient medication safety initiatives
- Recruiting/retaining highly skilled/experienced health professionals
- Staff turnover and training of new staff
“Neil’s finally done talking about problems.”
Why should we care if pharmacy departments are struggling and pharmacists are not fully utilized?
Outcome Expectations

- Discuss the current state of hospital pharmacy practice in Canada
- Explore the implications if pharmacists are not practicing at their full potential
Can Pharmacists Reduce Adverse Drug-Related Events?

- The presence of a pharmacist on rounds as a full member of the patient care team in a medical ICU was associated with a 66% reduction in preventable ADEs.
- Approximately $270,000 was saved per year (58 ADEs × $4685 per event).
- What Jerry Avorn, MD, says about pharmacists.

Can Pharmacists Reduce Adverse Drug-Related Events?

A randomized trial of 178 patients discharged home from a general medicine service

Intervention patients received pharmacist counseling at discharge and a follow-up telephone call 3-5 days later

The Intervention group had a lower rate of preventable ADEs 30 days after hospital discharge.

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
- ADEs, ADRs 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.”

Bond and Raehl used a database of 885 hospitals and 2.8 million patients to look for associations between clinical pharmacy services and mortality rates.

Multiple regression analysis used, controlling for severity of illness.

Seven clinical pharmacy services and two staffing variables were associated with reduced mortality rates.

“The number of clinical pharmacy services and staffing variables associated with reduced mortality rates increased from two in 1989 to nine in 1998. The impact of clinical pharmacy on mortality rates mandates consideration of a core set of clinical pharmacy services to be offered in United States hospitals.”

The Moncton Hospital Seamless Care Study

- Fifteen-month randomized controlled study
- Patients were followed for 6 months post discharge
- Location: Moncton Hospital - a 433 bed regional hospital that provides tertiary services
- Results: many problems identified; clinical and humanistic outcomes improved, little change in economic outcomes

“Limited hours of pharmacy coverage at XXX Hospital results in delays in the dispensing of medications, an inability of nursing to access pharmacists from a knowledge resource perspective and nurses looking to alternative sources for medications such as their ‘stash’, all of which can lead to errors.”
Here is the medicine for your cold, sweetly!

Thank You!!
Say Hello To Our Pharmacist Judy!

Employee of the month...

JUDY!!
A pharmacist is a person who I see as being a good person. I get medicine from him/her that helps me get better.
How can we change healthcare delivery to ensure that pharmacists are fully utilized?
Approaches to changing hospital pharmacy practice

- Networking/inspiring colleagues
- Advocacy - speaking up for our profession
  - Nazi Germany analogy
- Using fear/rewards
  - Campground analogy
- Diffusion of innovation
  - Corn hybrids in Iowa
  - “The Pharmacist Narcotic Effect”
One other approach - hospital accreditation standards?!?
“A rising tide lifts all boats.”
Medication Safety & Accreditation Standards

- The 2005 standards introduced both a challenge and an opportunity to pharmacists and pharmacy managers: no longer was hospital pharmacy ignored.
- In fact, safety of the medication-use system became a centerpiece of many hospital administration efforts.
- Medication reconciliation proved to be an incredible opportunity for pharmacy and yet scarcity of resources to fully implement it remains a challenge for many hospitals.
Implementation of Med Rec:
The Nova Scotia Experience

- Percentage of patients that receive med rec services upon admission: mean 17.5% (range 10-25%)
- Percentage of patients that receive med rec services upon discharge: mean 16.3% (range 0-30%)
- How do you decide who receives these services?
  - Nursing
  - Starting out on one high-risk unit
  - Began with pilot project based on nursing and pharmacy resources but hope to expand
  - On complex patients (criteria)
  - Staffing

Unpublished survey data from Fall 2007, Dr. Neil MacKinnon
Percentage of patients that receive med rec services upon admission: mean 15.9% (range 0-85%)

Percentage of patients that receive med rec services upon discharge: mean 23.4% (range 0-80%)

How do you decide who receives these services?
- Pilot project locations
- Consult requests only
- Depends what is started upon admission in ED by nursing staff
- By program, high risk criteria
- Case by case and availability of pharmacist/certified tech

Unpublished survey data from Fall 2008, Dr. Neil MacKinnon
The New Medication Management Standards

- New 2008 standards contain 22 standards for medication management with 140 subcategories
  - 1.1 The organization’s pharmacists and pharmacy staff are recognized as members of the interdisciplinary team.
  - 1.2 The pharmacists and pharmacy staff are actively involved in designing the organization’s medication use and medication management processes
- Use of “tracers”
“Until recently, the criteria for pharmacy services were rather vague, which made it easy for institutions to show things in a rosy light if the survey team did not have a pharmacy expert. With the implementation of new standards...it will be possible to clearly observe and evaluate medication management processes...”

Outcome Expectations

- Discuss the current state of hospital pharmacy practice in Canada
- Explore the implications if pharmacists are not practicing at their full potential
- Consider how accreditation standards can serve as a positive influence on the profession of pharmacy
- Describe the initial experiences of hospitals which have used the new 2008 accreditation standards
How many sites have gone through the new standards and what has been the response?

“Quite a few organizations have been surveyed through the first half of the year (though I don’t have numbers immediately available). Response to new medication management standards has been positive, and few revisions are being made for the next version of the standard.”

E-mail exchange with Christopher Dean, Specialist, Research and Product Development, Accreditation Canada, October 2008
Accreditation Canada Q&A

- Is anyone meeting the med rec requirement at all? If not, will this be altered in the future?

- “The majority of organizations surveyed are adopting and implementing med rec. Areas requiring further work relate to expanding med rec across the organization and obviously this is a particular focus for large regional organizations. We have clarified the expectations for organizations in 2009 to be the same as for 2008; organizations need to have med rec in place at one service or site each for admission and transfer with a plan for spread. We are currently gathering more information to determine what level of expectation to set for 2010 surveys.”

E-mail exchange with Christopher Dean, Specialist, Research and Product Development, Accreditation Canada, October 2008
Are there any common problems with the med mgmt standards? Tips/recommendations to hospitals about to go through the accreditation process?

“No problems with med mgmt standards, as noted they have been well received. The only point is that for organizations that do not have a pharmacy there is sometimes a high number of N/A criteria.”

E-mail exchange with Christopher Dean, Specialist, Research and Product Development, Accreditation Canada, October 2008
Accreditation Canada Q&A

- Anything you can provide on the new ROPs (heparin, etc)?
- “Sorry, I don’t have any additional information. Our website has the latest.”
- “We are still very interested in recruiting pharmacist - surveyors and we would very much appreciate you mentioning this during your address.”
- Anyone who is interested or would like more information should contact Christopher Dean: christopher.dean@accreditation-canada.ca
A new resource to assist with implementation

- New reference published by the Canadian Pharmacists Association called “Safe and Effective” (www.pharmacists.ca/se)
  - Many contributions from CSHP members and CSHP itself
- Intentionally targeted a multidisciplinary audience
- The first book ever endorsed by the Canadian Patient Safety Institute
A new resource to assist with implementation

- Designed as a practical “how-to” guide that also contains background rationale and theory
- 4 foundational chapters
- In-depth exploration of the 8 essential elements of an optimal medication-use system with quick 1-page reviews
- Features 5 case studies, including 2 on medication reconciliation
- Glossary: ADEs vs. medication errors vs. medication misadventures, etc.
Thinking Outside the Box to Expand Pharmaceutical Care
Lessons Learned from Hernia Care

Example: Shouldice Hospital
How Shouldice Hospital “Delights” the Customer

- They have a “service concept” that differentiates them in the industry: a truly valuable, unique, tough-to-copy set of benefits and results for customers.
- They have outstanding performance on both technical quality (“What?” Was the hernia actually repaired) and functional quality (“How?” Provide caring, individualized attention to customers; competence plus courtesy).

Source: Professor David Bowen, Thunderbird, Glendale, AZ
How Shouldice Hospital “Delights” the Customer

- They have designed and maintained an inviting and reassuring “servicescape”

Source: Professor David Bowen, Thunderbird, Glendale, AZ
Every hospital pharmacy doesn’t have to be designed by Martha Stewart but you do need to have an inviting “Servicescape”
How Shouldice Hospital “Delights” the Customer

- They have created **customer loyalty** and returns on loyalty (incredible, favourable word of mouth)
- Their customers are “**co-producers**”: they play a role in the service delivery system
- Manage their employees as “**internal customers**”: enhanced employee (and often customer) retention

Source: Professor David Bowen, Thunderbird, Glendale, AZ
“Whoa—way too much information!”
In the end, the keys to expanding the role of the pharmacist are determination and creativity.

Do you have the right attitude? “The window”
Contact Information:

Dr. Neil J. MacKinnon
Associate Professor & Associate Director for Research
Dalhousie University College of Pharmacy
Halifax, Nova Scotia, Canada
E-mail: neil.mackinnon@dal.ca
Website: http://impart.pharmacy.dal.ca