Pilot study of MEdication RAationalization intervention

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Pilot study of MEdication RAtionalization intervention

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Carol Barrie
Executive Director
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Pilot study of MEduction RAationalization intervention

- Critical Care and Palliative Care Physician at the University Health Network and Sinai Health System in Toronto

- Associate Professor in the Department of Medicine at the University of Toronto

- Program Director for the Subspecialty Residency Program in Palliative Care at the University of Toronto

- Chair of the Postgraduate Education Committee of the Canadian Society of Palliative Care Physicians, and the chair of the Ethical Affairs committee of the Canadian Critical Care Society

- Associated Medical Services Phoenix Fellow for 2016-17

James Downar, MDCM, MHSc, FRCPC
A Pilot Study of a MEdication RAtionalization (MERA) Intervention

Rachel Whitty, BScPhm, RPh, ACPR
James Downar, MDCM, MHSc, FRCPC
University Health Network
Background

- Most Canadians die in an acute hospital setting, without receiving comfort-focused care.
- Medications often mismatched to care
  - Many noncomfort medications
  - Comfort medications not offered
Noncomfort Medication Use

• Review of 70 pts near EOL
  • Final week of life
    • 40 Comfort doses
    • 41 Non-Comfort (NC) doses
    • 3 NC meds stopped
    • 4 new NC meds started
  – 14% of NC meds stopped on day of death/discharge to PCU

Ma and Downar. AJHLM 2013
Polypharmacy

- Common problem with important consequences.
  - 2/3 of Cdn seniors take >5 meds
  - Risk of errors, interactions, ADRs, noncompliance
  - Up to 40% of frail elderly given inappropriate meds

Background

• Deprescription is widely advocated, but there are many barriers.
  • Poor understanding of harms
  • Concerns about precipitating acute event, balancing risks and benefits

Background

- Hospital-based, pharmacy-focused interventions can improve patient safety and reduce costs.
  - Antimicrobial stewardship
  - Medication reconciliation
Pilot Study

- A pharmacy-focused intervention for MEdication RAationalization (MERA)
  - Patients with advanced illness and/or palliative philosophy
  - Deprescription of nonbeneficial medications
  - Addition of PRN comfort medications
  - Evidence based recommendation
  - Involving patients in the process
MERA Study

Study Participants:
• Patients on GIM service at TGH
• Advanced Illness (at risk of 6 month mortality)

Intervention:
• Stop, change, or add medications with comfort focus

Outcomes, is MERA intervention
• Feasible ?
• Acceptable to Patients, family and healthcare team ?
• Effective ?
• Time-efficient ?
MERA Process

**Intro**
- Study is introduced to the patient
- Survey is administered (ESAS, BMQ, PATD)

**MERA Review**
- MERA team reviews diagnosis, prognosis, goals of care and survey results of patient.
- Using evidence-based criteria, make recommendations about stopping, changing or adding medications

**Team Review**
- MERA team attends GIM team meeting
- Suggested changes are reviewed and discussed with the team

**Patient Review**
- MERA team discusses approved recommendation with patient/SDM, to seek their input and consent for the changes.
- Summary report is given to patient
## Tools

- **Surveys**
  - Beliefs about Medicines Questionnaire (BMQ)
  - Patient Attitudes Towards Deprescribing (PATD)
  - Edmonton Symptom Assessment System (ESAS)
- **Medications reviewed with algorithm**

<table>
<thead>
<tr>
<th>Drug</th>
<th>STOPP</th>
<th>Beers</th>
<th>Choosing Wisely Canada</th>
<th>Choosing Wisely USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetylcholinesterase inhibitors</td>
<td>with a known history of persistent bradycardia (&lt; 60)</td>
<td>Increases risk of orthostatic hypotension or</td>
<td>Don’t prescribe cholinesterase inhibitors</td>
<td>Don’t prescribe cholinesterase inhibitors</td>
</tr>
</tbody>
</table>
Results - Enrollment

718 screened

285 met inclusion

70 discharged / transferred
48 bed-spaced
22 language/communication
4 died
16 other

125 eligible

34 (27%) team refused
10 (8%) unable to reach SDM
20 (16%) patient refused

61 (48%) enrolled

54 included

7 not included
Results

- **54 Study patients**

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>% of patients enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt;80</td>
<td>41%</td>
</tr>
<tr>
<td>Cancer</td>
<td>39%</td>
</tr>
<tr>
<td>End Organ Failure</td>
<td>20%</td>
</tr>
</tbody>
</table>

- Patients reported:
  - generally negative beliefs about meds (BMQ)
## Results - Intervention

- MERA recommended an intervention for **96%** of patients
- Very high acceptance of MERA recommendations by GIM team and patients
  - **90%** acceptance from GIM team
  - **95%** acceptance from Patients

<table>
<thead>
<tr>
<th></th>
<th>Meds Stopped</th>
<th>Meds Changed</th>
<th>Meds Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total #</td>
<td>160</td>
<td>48</td>
<td>13</td>
</tr>
<tr>
<td>AVG/Patient</td>
<td><strong>3.0</strong></td>
<td><strong>0.9</strong></td>
<td><strong>0.2</strong></td>
</tr>
</tbody>
</table>
Results – Post Intervention Survey

I found it stressful to meet with the MERA team.

I found the recommendations of the MERA team to be confusing.

I felt comfortable starting the medications recommended by the MERA team.

I felt comfortable stopping the medications as recommended by the MERA team.

I was interested to hear the recommendations of the MERA team.

Overall, I am glad that the MERA team reviewed my medications.
Results - Ethnographic Findings

• MERA intervention received well by:
  - Patients who trust clinicians
  - Self-responsible patients
Trust in Clinicians & the Self-Responsible Patient

“The bottom line was that I trust the doctors. They know the medications and what’s wrong with my mother.”

“You are in charge, I always thought, of your body… Even if he recommends me a drug, I want to know all about it.”
Time and Teaching among Physicians

“It was a great opportunity for teaching the residents about the pharmacy, the evidence behind it, and the concept of a holistic approach.”

“It's just the time. We barely have time to do the teaching that we need to do, and to be doing that on top of it is added stress.”
Results – Top 5 Medications

<table>
<thead>
<tr>
<th>MERA Medication Class</th>
<th># Stops Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamins/Minerals</td>
<td>55 (28%)</td>
</tr>
<tr>
<td>Lipid Lowering Agents</td>
<td>20 (10%)</td>
</tr>
<tr>
<td>Homeopathic/Herbal Supplements</td>
<td>14 (7%)</td>
</tr>
<tr>
<td>Proton Pump Inhibitors</td>
<td>14 (7%)</td>
</tr>
<tr>
<td>Docusate</td>
<td>7 (4%)</td>
</tr>
</tbody>
</table>

- These account for **55%** of meds recommended to stop
Results - Discharge

- Discharge Outcome of Stopped Medications

Total: 160 medications stopped

- Remained Stopped: 60%
- Restarted: 24%
- Other (Patient expired or transferred): 16%
Results – Issues at Discharge

- Restarted Medications at Discharge:
  - Intentional
  - Unintentionally due to interface/system issues
    - Example Below:

<table>
<thead>
<tr>
<th>Medication</th>
<th>MERA Outcome</th>
<th>Discharge Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactulose</td>
<td>CHANGE</td>
<td>CONTINUE</td>
</tr>
<tr>
<td>Advair</td>
<td>STOP</td>
<td>RESTARTED</td>
</tr>
<tr>
<td>Risedronate</td>
<td>STOP</td>
<td>RESTARTED</td>
</tr>
<tr>
<td>Calcium/Vitamin D</td>
<td>STOP</td>
<td>RESTARTED</td>
</tr>
<tr>
<td>Psyllium</td>
<td>STOP</td>
<td>RESTARTED</td>
</tr>
<tr>
<td>Estradiol</td>
<td>STOP</td>
<td>RESTARTED</td>
</tr>
<tr>
<td>Salbutamol</td>
<td>STOP</td>
<td>RESTARTED</td>
</tr>
</tbody>
</table>
Conclusion

MERA intervention is:

• Feasible
• Highly acceptable by both physicians and patients
• Effective at stopping medications
Conclusion

MERA intervention lessons:
• System issues that undermine medication rationalization
• Critical role of pharmacists in medication rationalization
• Distinct from Med Rec
Next Steps

Can the process be made more efficient?

• Automated screening of the 5 most commonly stopped medication classes
• Would save time, increase efficiency

Multi-site Pilot

• MedStopper, due to start Fall 2016
The MERA Team

Pharmacist
• Sandra Porter
• Kiran Battu
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Research Coordinator
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Cultural Anthropologist
• Csilla Kalocsai

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• Gary Wong
• Dr. Rob Wu
• Dr. Isaac Bogoch
• Dr. Peter Wu
• Kendra Delicaet
Partners and Funding

• CFN
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• Canadian Society of Palliative Care Physicians
• Canadian Hospice and Palliative Care Association
• Pallium Canada
Thank You

Any Questions?
Survey and Future Webinars

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TBD

Improve decision making involving frail elderly and caregivers on location of care – results of CFN-funded Core Grant – France Légaré, Université Laval

Wednesday, November 16, 2016 at 12 noon ET

Clinical trial of in-bed cycling in elderly, mechanically-ventilated patients (E-CYCLE) – results of CFN-funded Catalyst Grant – Michelle Kho, McMaster University

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