Deprescribing guidelines education and research – the interplay and the way to move forward

Lisa Dolovich, BScPhm, PharmD, MSc

Leslie Dan Faculty of Pharmacy, University of Toronto

Toronto, Canada

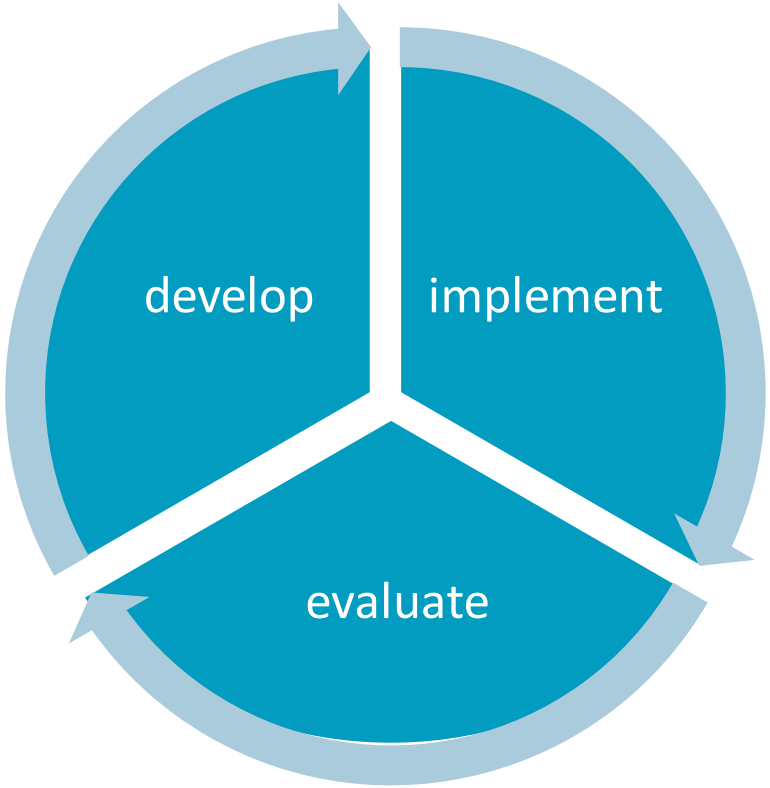
Department of Family Medicine, McMaster University, Hamilton, Canada

School of Pharmacy, University of Waterloo, Waterloo Canada

Executive Committee, Ontario Pharmacy Evidence Network

Many intersections for research and education

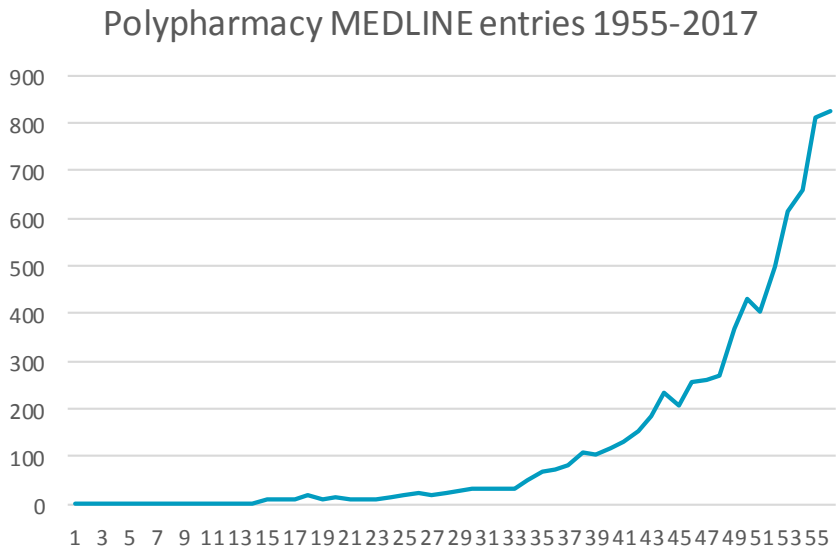
- Research **GUIDES** development of curriculum content and skills
- Education / Practice **GUIDES** research needs
- Training in **RESEARCH SKILLS** as part of the curriculum
- Research to **EVALUATE EFFECTS** of putting new knowledge and skills into the curriculum
  - Understand changes over time including effectiveness

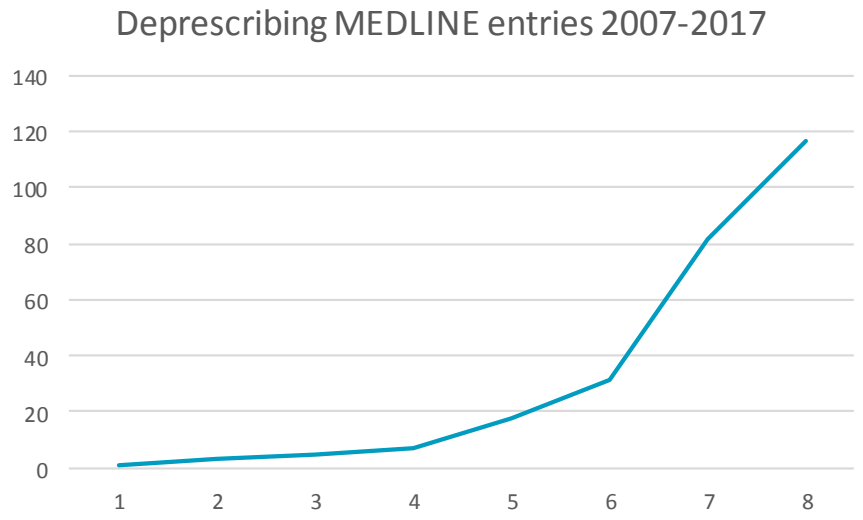


deprescribing.org
INSTITUT DE RECHERCHE Bruyère RESEARCH INSTITUTE

Research guides curriculum content

- A growing focus on multimorbidity / polypharmacy research





deprescribing.org

INSTITUT DE RECHERCHE Bruyère RESEARCH INSTITUTE

Prescribing competency of medical students in Canada: survey of medical education leaders

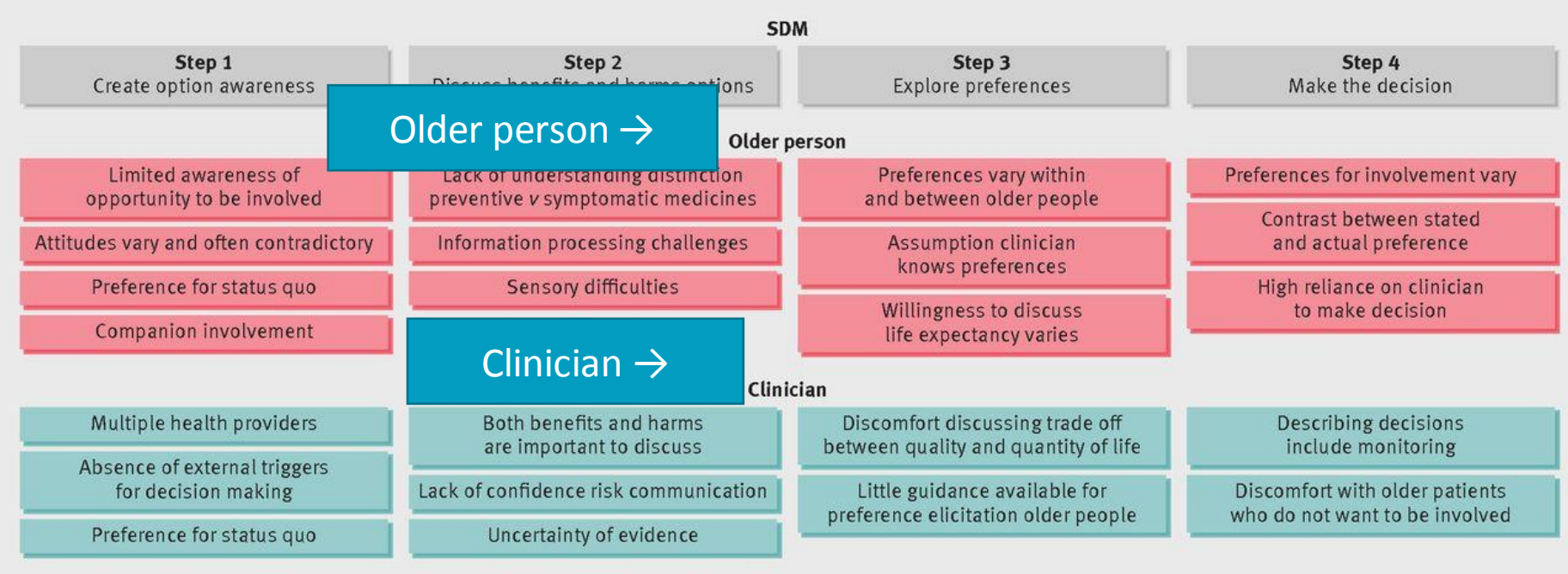
(Liu J et al, 2018)

- 372 (34.6%) respondents faculty from n=17 schools
- 23.4% (SD 22.9%) felt their own graduates' prescribing knowledge was unsatisfactory
- 131 (44.8%) felt obligated to provide close supervision to more than a third of new residents
- 239 (73.0%) believed an assessment process would improve quality
- 262 (80.4%) thought it should be incorporated into their medical school curricula

Research has identified a strong need for focus on prescribing (and thus deprescribing) within formal education systems

Tasks required for shared decision making in deprescribing
Complicated process: a lot goes into decisions

Jansen J et al BMJ 2016



Informed by research from the domains of psychology, communication, decision making

Research providers evidence that education in a number of areas would be helpful

deprescribing.org

INSTITUT DE RECHERCHE Bruyère RESEARCH INSTITUTE

There is lots of research showing prescribing (and thus Deprescribing) can be improved

BMJ Open **Interventions to improve the appropriate use of polypharmacy in older people: a Cochrane systematic review**

Janine A Cooper,[1] Cathal A Cadogan,[1] Susan M Patterson,[2] Ngaire Kerse,[3]

12 studies (computerised decision support or pharmaceutical care approaches) across various settings reduced inappropriate prescribing

Cochrane Library

Cochrane Database of Systematic Reviews

Medicines self monitoring, self-management programs generally effective plus other approaches show promising

Interventions to improve safe and effective medicines use by consumers: an overview of systematic reviews (Review)

Ryan R, Santesso N, Lowe D, Hill S, Grimshaw JM, Prictor M, Kaufman C, Cowie G, Taylor M

Reis WC, Bonetti AF, Bottacin WE, Reis AS Jr, Souza TT, Pontarolo R, Correr CJ, Fernandez-Llimos F. Impact on process results of clinical decision support systems (CDSSs) applied to medication use: overview of systematic reviews. Pharmacy Practice 2017 Oct-Dec;15(4):1036.

https://doi.org/10.18549/PharmPract.2017.04.1036

Improves quality of prescribing and reducing errors

Original Research

Impact on process results of clinical decision support systems (CDSSs) applied to medication use: overview of systematic reviews

Wálleri C. REIS, Aline F. BONETTI, Wallace E. BOTTACIN, Alcindo S. REIS Jr, Thaís T. SOUZA, Roberto PONTAROLO, Cassyano J. CORRER, Fernando FERNANDEZ-LLIMOS.

Received (first version): 26-May-2017 Accepted: 27-Nov-2017 Published online: 18-Dec-2017

RESEARCH INSTITUTE

Many components:

Tools

Activities

Processes

Relationships

Confidence

Context

Etc….

Many stakeholders:

Patients/families

Physicians

Pharmacists

Nurses

Other health care providers

Health organizations

Etc….

Research used to guide curriculum: examples

- Recent PPI (and other guidelines) woven into pharmacotherapy education
- Deprescribing decisions (interplay of multiple stakeholders)
- Research on desprescribing quality indicators (identify and learn from / do research with sentinel practices)

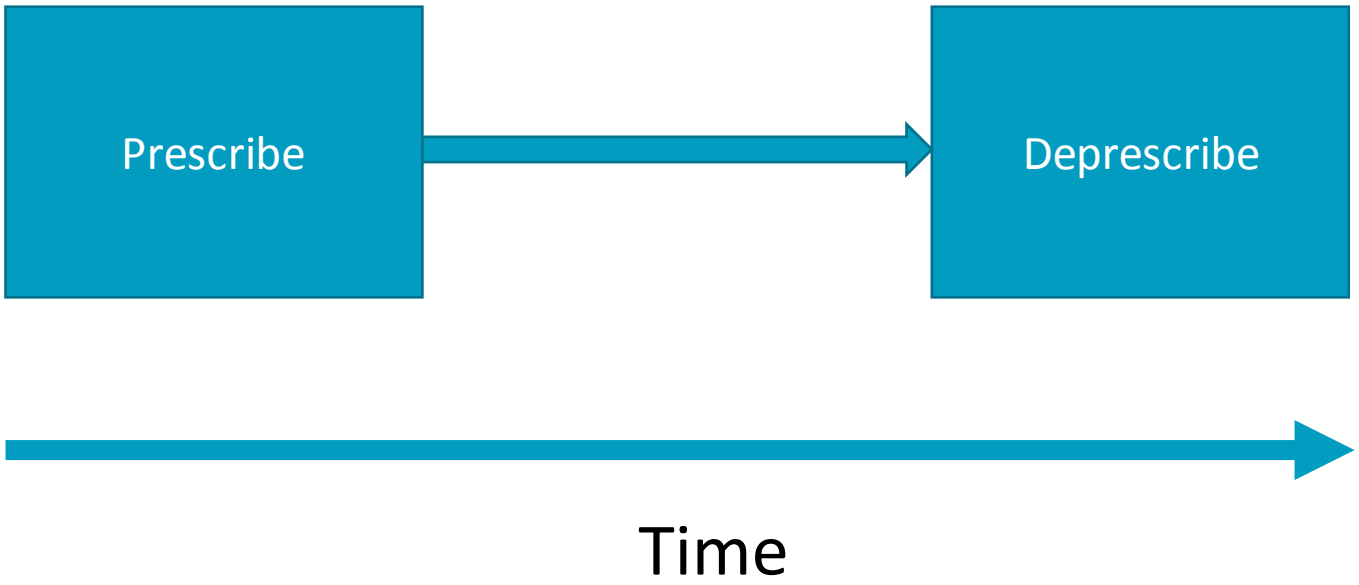
Education / Practice guide research needs

Trends:

- Interprofessional education
- Integrated Care/health system reform
- Quality Improvement
- Technology (use in learning & care)
- Equity/vulnerability
- Global health
- Etc….

Research plans need to account for these evolutions (? revolutions)

Research and education about health and care over time



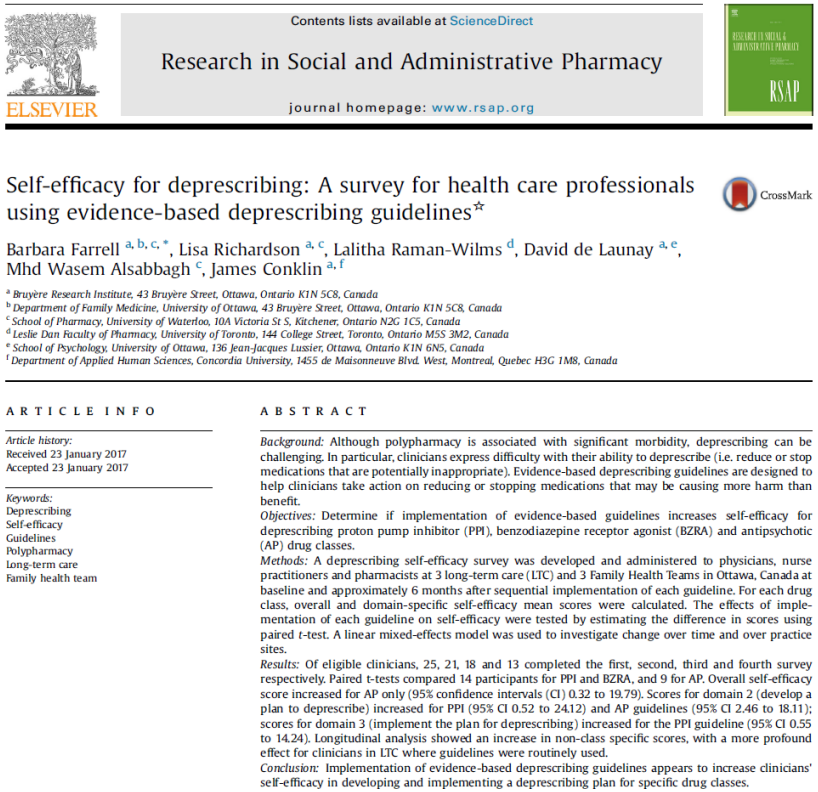
Examples: Life, health and system changes, follow up and monitoring

Training in research skills as part of the curriculum (re deprescribing guidelines)

- Guideline development
- Critical appraisal skills including primary literature, systematic overviews
- Research methods
  - Quantitative
  - Qualitative / social science
  - Including implementation science/knowledge translation and outcomes oriented methods
- As part of leadership training

Self efficacy for deprescribing Farrell B et al, 2017

- Need to ensure we teach people how to use guidelines because
  - Having guidelines increases self-efficacy



Contents lists available at ScienceDirect

Research in Social and Administrative Pharmacy

journal homepage: www.rsap.org

Self-efficacy for deprescribing: A survey for health care professionals using evidence-based deprescribing guidelines☆

Barbara Farrell [a, b, c, *], Lisa Richardson [a, c], Lalitha Raman-Wilms [d], David de Launay [a, e], Mhd Wasem Alsabbagh [c], James Conklin [a, f]

[a] Bruyère Research Institute, 43 Bruyère Street, Ottawa, Ontario K1N 5C8, Canada
[b] Department of Family Medicine, University of Ottawa, 43 Bruyère Street, Ottawa, Ontario K1N 5C8, Canada
[c] School of Pharmacy, University of Waterloo, 10A Victoria St S, Kitchener, Ontario N2G 1C5, Canada
[d] Leslie Dan Faculty of Pharmacy, University of Toronto, 144 College Street, Toronto, Ontario M5S 3M2, Canada
[e] School of Psychology, University of Ottawa, 136 Jean-Jacques Lussier, Ottawa, Ontario K1N 6N5, Canada
[f] Department of Applied Human Sciences, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec H3G 1M8, Canada

ARTICLE INFO

Article history:
Received 23 January 2017
Accepted 23 January 2017

Keywords:
Deprescribing
Self-efficacy
Guidelines
Polypharmacy
Long-term care
Family health team

ABSTRACT

Background: Although polypharmacy is associated with significant morbidity, deprescribing can be challenging. In particular, clinicians express difficulty with their ability to deprescribe (i.e. reduce or stop medications that are potentially inappropriate). Evidence-based deprescribing guidelines are designed to help clinicians take action on reducing or stopping medications that may be causing more harm than benefit.

Objectives: Determine if implementation of evidence-based guidelines increases self-efficacy for deprescribing proton pump inhibitor (PPI), benzodiazepine receptor agonist (BZRA) and antipsychotic (AP) drug classes.

Methods: A deprescribing self-efficacy survey was developed and administered to physicians, nurse practitioners and pharmacists at 3 long-term care (LTC) and 3 Family Health Teams in Ottawa, Canada at baseline and approximately 6 months after sequential implementation of each guideline. For each drug class, overall and domain-specific self-efficacy mean scores were calculated. The effects of implementation of each guideline on self-efficacy were tested by estimating the difference in scores using paired *t*-test. A linear mixed-effects model was used to investigate change over time and over practice sites.

Results: Of eligible clinicians, 25, 21, 18 and 13 completed the first, second, third and fourth survey respectively. Paired t-tests compared 14 participants for PPI and BZRA, and 9 for AP. Overall self-efficacy score increased for AP only (95% confidence intervals (CI) 0.32 to 19.79). Scores for domain 2 (develop a plan to deprescribe) increased for PPI (95% CI 0.52 to 24.12) and AP guidelines (95% CI 2.46 to 18.11); scores for domain 3 (implement the plan for deprescribing) increased for the PPI guideline (95% CI 0.55 to 14.24). Longitudinal analysis showed an increase in non-class specific scores, with a more profound effect for clinicians in LTC where guidelines were routinely used.

Conclusion: Implementation of evidence-based deprescribing guidelines appears to increase clinicians' self-efficacy in developing and implementing a deprescribing plan for specific drug classes.

deprescribing.org

INSTITUT DE RECHERCHE Bruyère RESEARCH INSTITUTE

There are emerging methods for developing deprescribing guidelines

Farrell B et al, 2016

PLOS ONE

RESEARCH ARTICLE

Methodology for Developing Deprescribing Guidelines: Using Evidence and GRADE to Guide Recommendations for Deprescribing

Barbara Farrell[1,2,3☯*], **Kevin Pottie**[1,2,4☯], **Carlos H. Rojas-Fernandez**[3,5‡], **Lise M. Bjerre**[1,2,4‡], **Wade Thompson**[1,4‡], **Vivian Welch**[1,4‡]

1 Bruyère Research Institute, Ottawa, Canada, **2** Department of Family Medicine, University of Ottawa, Ottawa, Canada, **3** School of Pharmacy, University of Waterloo, Waterloo, Canada, **4** School of Epidemiology, Public Health and Preventive Medicine, University of Ottawa, Ottawa, Canada, **5** Schlegel-UW Research Institute on Ageing, Waterloo, Canada

Research to evaluate effects of putting new knowledge and skills into the curriculum

Evaluating Educational Interventions to Improve Prescribing: Systematic review (Karamudin, BMJ Open 2013)

1. Prescribing competence ('knows how')—assessing prescriptions written for theoretical cases;
2. Prescribing performance ('shows how')—assessing prescriptions written for real patients.

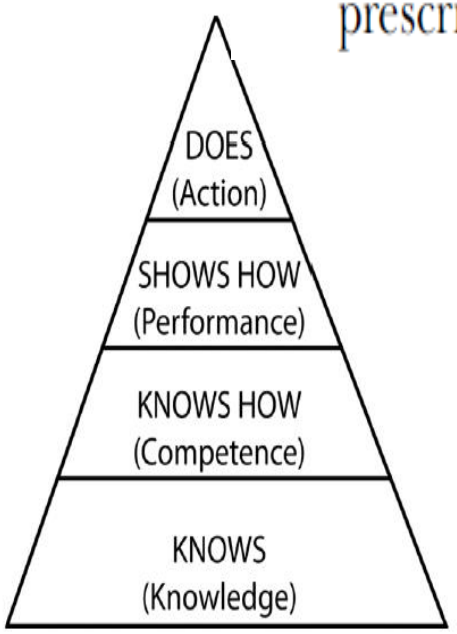


Figure 1 Miller's framework for clinical assessment.[13]

- **Specific prescribing teaching / interventions can lead to improvements in prescribing**
  - **Tutorials, education programs including incorporating into PBL**
    - **WHO Guide to Good Prescribing**
  - **Prescribing can be positively influenced from interventions centred on practice guidelines**
  - **Improved communication among professionals**

deprescribing.org

INSTITUT DE RECHERCHE Bruyère RESEARCH INSTITUTE

Need more scholarship on effects of curriculum change

- Promote scholarship in these areas
  - Reflective practice
  - Experiential learning
  - Interprofessional education and practice
  - Experience, Quality, Outcomes and Value

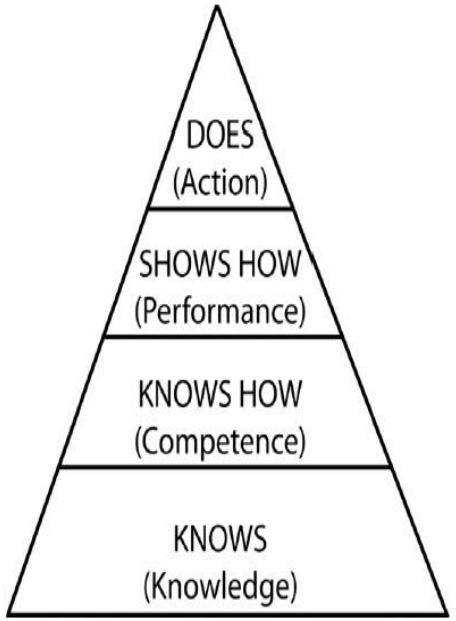


Figure 1 Miller's framework for clinical assessment.[13]

Royal Pharmaceutical Society: Competency Framework for all Prescribers

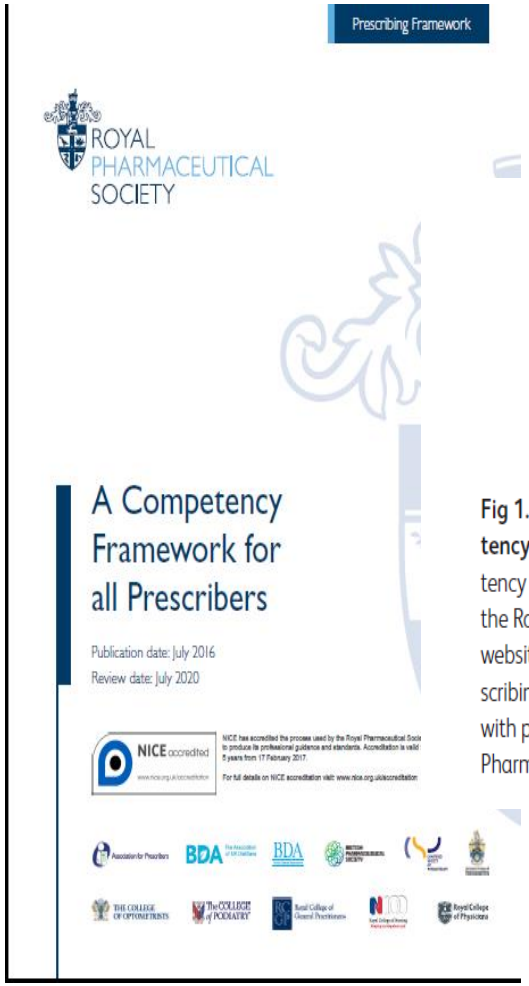
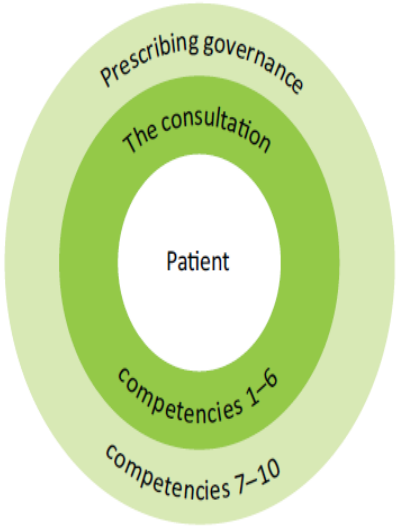


Fig 1. The prescribing competency framework. The full competency framework can be found on the Royal Pharmaceutical Society website (www.rpharms.com/prescribingframework). Reproduced with permission from the Royal Pharmaceutical society.



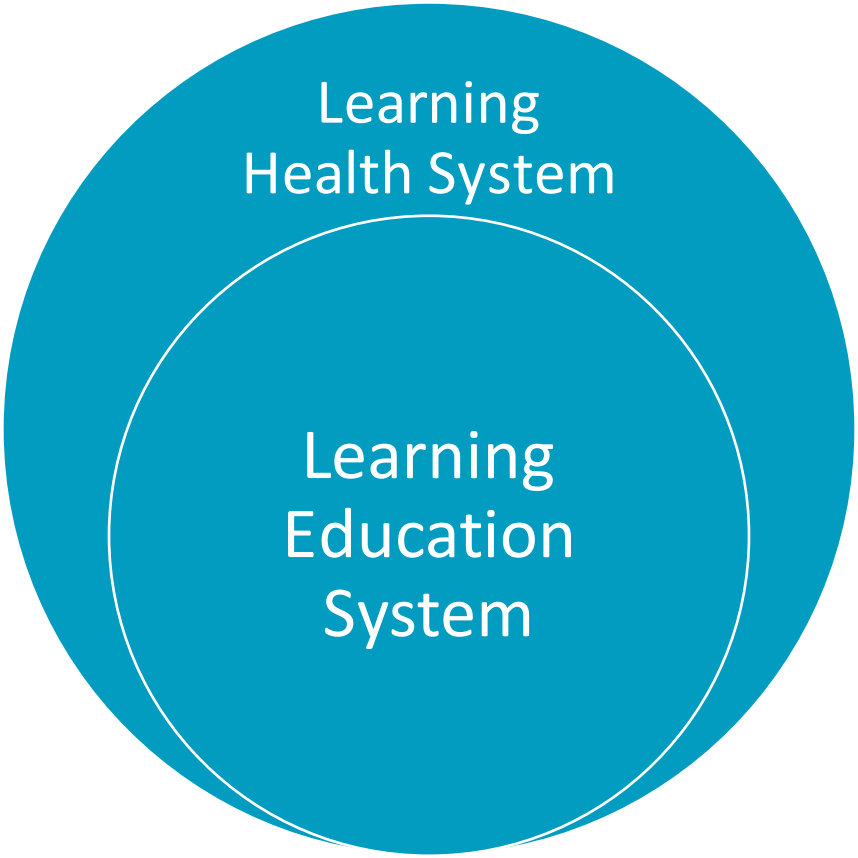
The consultation	Prescribing governance
1 Assess the patient	7 Prescribe safely
2 Consider the options	8 Prescribe professionally
3 Reach a shared decision	9 Improve prescribing practice
4 Prescribe	10 Prescribe as part of a team
5 Provide information	
6 Monitor and review	

Learning Health System – how does this translate into a Learning Education System?

- LHSs are systems in which "science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by- product of the delivery experience." (Institute of Medicine)
- Best practices are fed back into the system to promote change and scale.

Can deprescribing be a model for evolving to a LES as part of a LHS?

Learning Education System: Promote systems for researcher-curriculum developer interactions



deprescribing.org

INSTITUT DE RECHERCHE
Bruyère
RESEARCH INSTITUTE

Emerging Deprescribing International Research Collaborative
(based on meeting on Monday)

- Developing a GRADE Special Interest Group (SIG)
- White Paper on research needs
- Review of current guidelines to examine how deprescribing is handled
- Developing a question on patient experience stopping a medication
- Sharing of research across the collaborative