A Collaborative Model Between Pharmacists, Nurses, and Physicians

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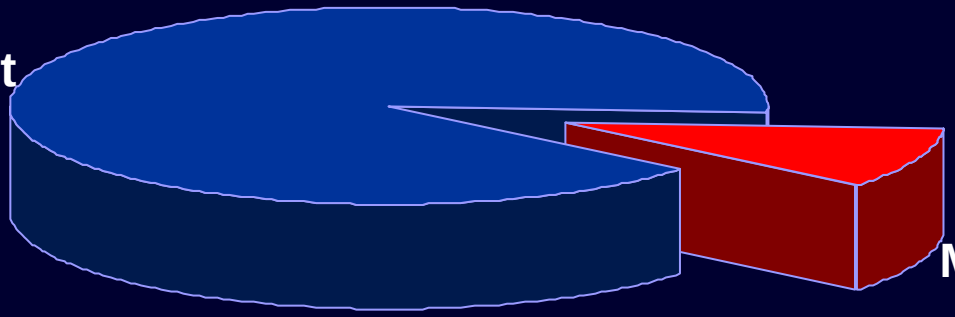
Overview

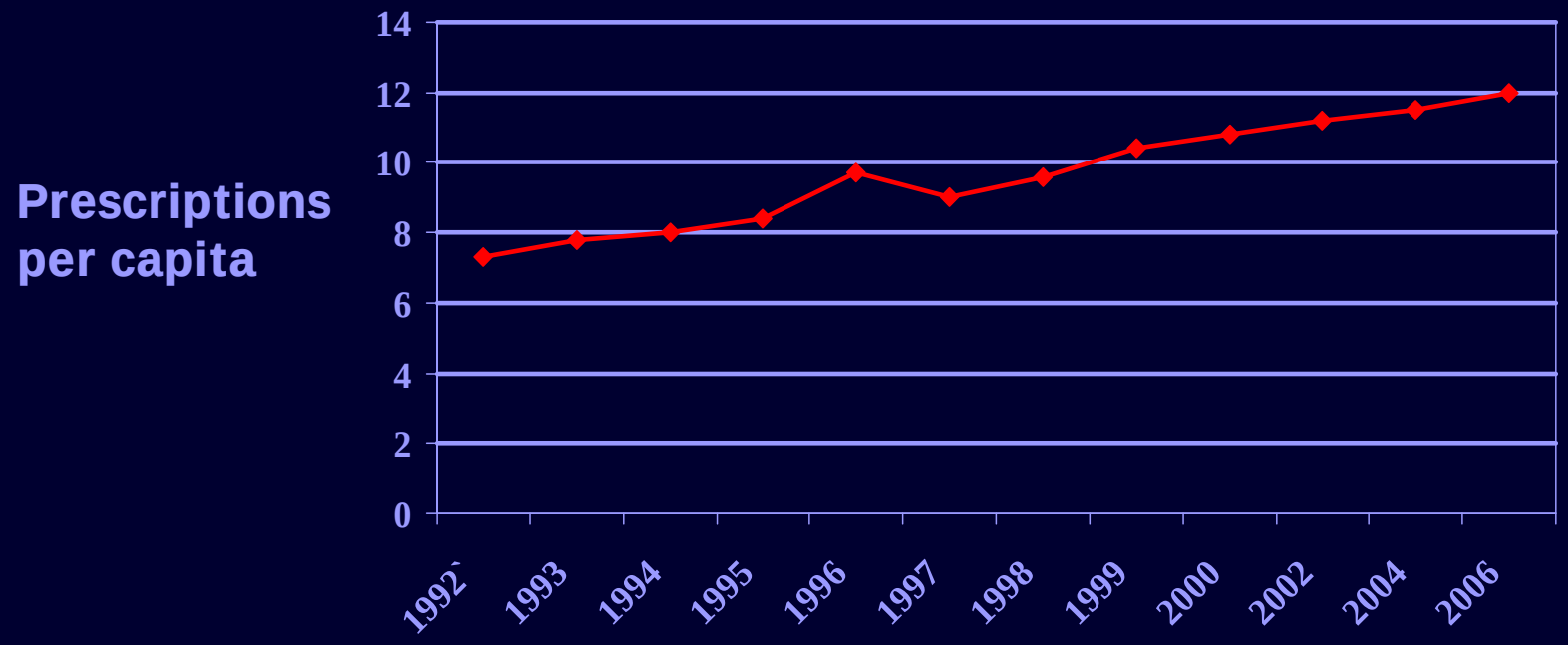
- Introduction
- Pharmacy Environment
- FIP Working Group Report
- Practice Examples
- Education and Training
- Conclusions / Recommendations

Healthcare Environment



Medication Use Environment

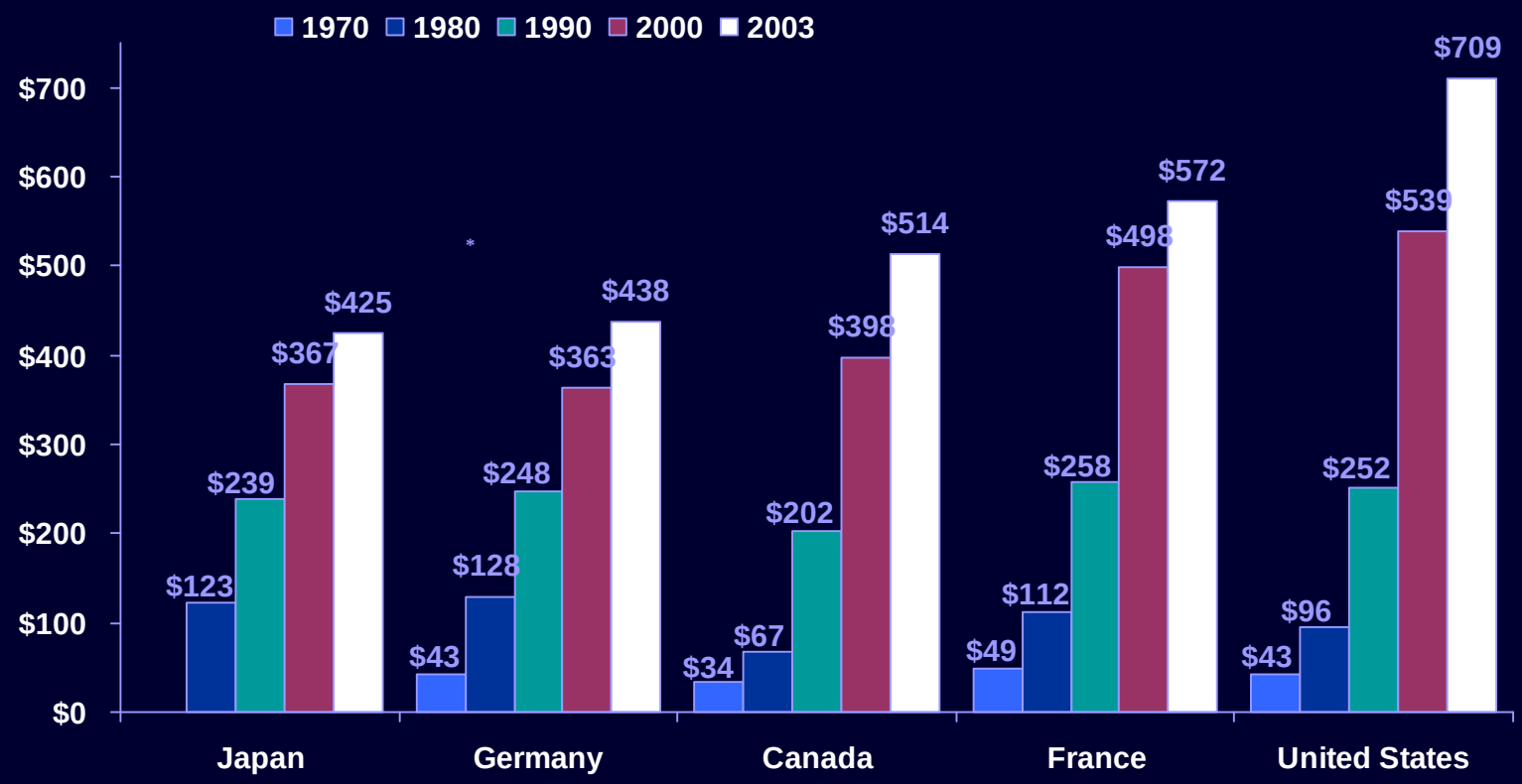
Prescriptions Dispensed per Capita



Source: Prescription Drug Trends, Nov 2007; Kaiser Family Foundation

Per Capita Spending on Pharmaceuticals and Other Non-Durables by OECD Country, 1970-2003

Variation across countries is increasing. Recent growth in North America is most rapid.



Expenditures in U.S. dollars using purchasing power parity rates.
Note: Data is arrayed by spending levels for 2003. Japan not available for 1970.
Source: OECD Health Data 2006.

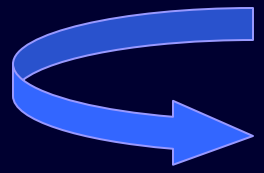
OECD=Organization for Economic, Co-operation, and Economic Development

Medication Use Environment

- More people are taking more medications than ever before ……
- We are spending more money on medications than ever before …..

Medication Use Environment Challenges

- More sophisticated and complex medication regimens associated with increased potential for
  - Drug interactions
  - Adverse effects
  - Nonadherence
  - Increased gap between potential efficacy and actual effectiveness of medicines
- Identifying and managing optimal medication regimens is more challenging and more time intensive



Why Collaborative Pharmacy Practice?

- The pharmacist medication expertise can be used to *complement* the roles of other healthcare professionals to provide quality care for patients.
- In a time of looming healthcare services shortages, utilizing pharmacists' expertise can extend care to those in need.

The International Pharmaceutical Federation (FIP)

Global federation of national associations of pharmacists and pharmaceutical scientists in official relations with the World Health Organization (WHO).

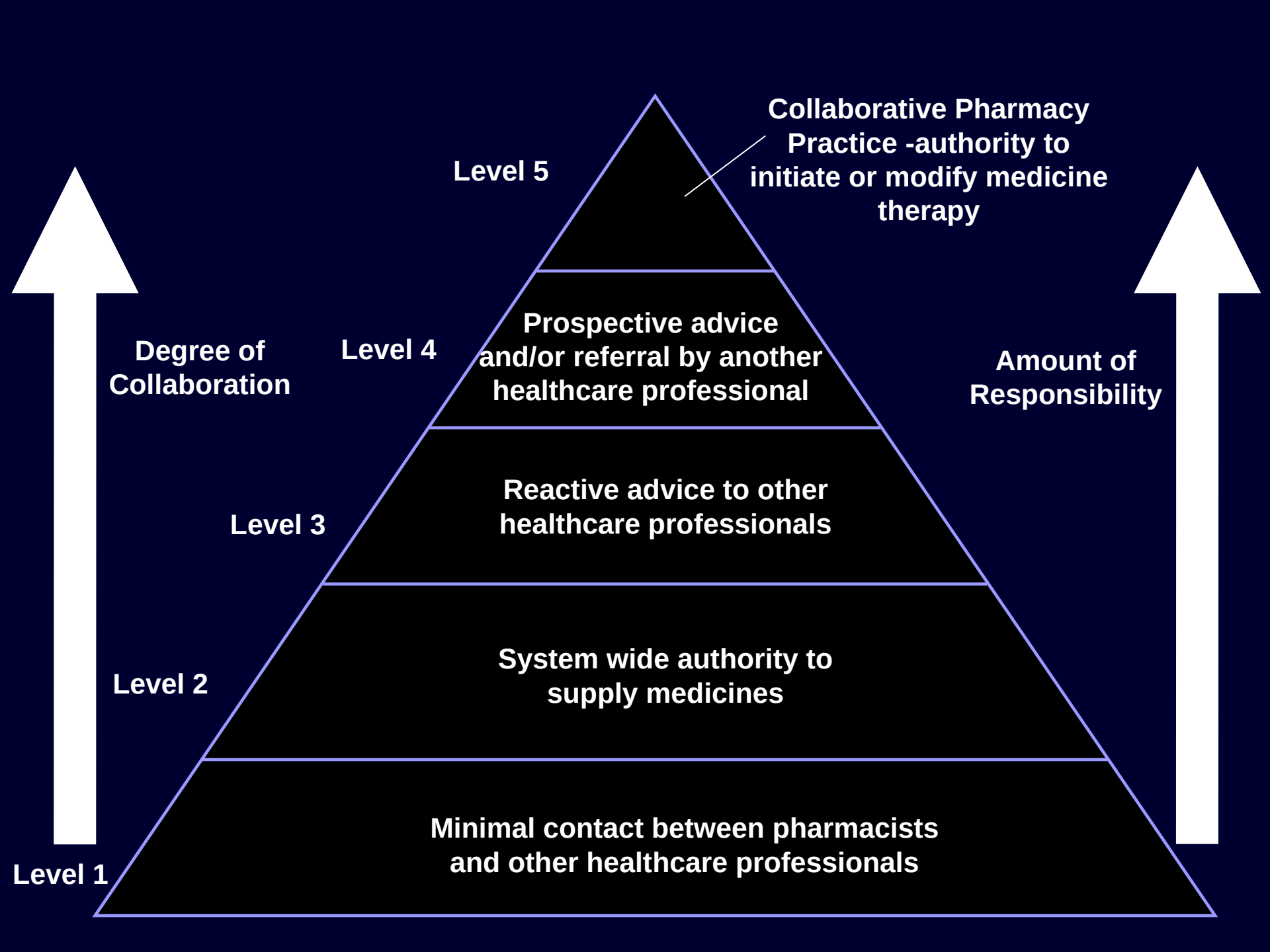
FIP Working Group on Collaborative Practice

- Co-chairs
  - Dr Jill Martin Boone (USA)
  - David Pruce (UK)
- Members
  - Prof. Marja Airaksinen (Finland)
  - Martine Chauvé (France)
  - Dr Timothy Chen (Australia)
  - Andrew Gray (South Africa)
  - Tracy Ruegg (Nurse)
  - Dr Jon Snaedal (Doctor)

FIP Working Group on Collaborative Practice – *selected charges*

- *To agree on a robust definition of collaborative practice with particular emphasis on advanced collaborative practice*
- *To identify the contribution of pharmacists within collaborative practice in terms of evidence based improvements in patient care and/or health economics*
- *To identify the current status of collaborative practice throughout the world and to identify a number of international exemplars of collaborative practice*
- *To make recommendations regarding the further development and implementation of collaborative practice*

Defining Collaborative Pharmacy Practice?


Level 5
Collaborative Pharmacy Practice -authority to initiate or modify medicine therapy
Degree of Collaboration
Level 4
Prospective advice and/or referral by another healthcare professional
Amount of Responsibility
Level 3
Reactive advice to other healthcare professionals
Level 2
System wide authority to supply medicines
Minimal contact between pharmacists and other healthcare professionals
Level 1

Examples of levels

- Level 1 (Minimal contact with other healthcare professionals)
  - Dispensing of prescriptions
  - Sale of OTC medicines
- Level 2 (System wide authority to supply)
  - “Pharmacist Only” category
  - Emergency supply of prescription medicines
  - Patient Group Directions

- Level 3 (Reactive advice)
  - Interventions on prescriptions
  - Reactive ward pharmacy
- Level 4 (Prospective advice/referral)
  - Clinical pharmacist attendance at ward rounds
  - Referral of patients to the pharmacist for advice

- Level 5 (Collaborative Pharmacy Practice)
  - Pharmacist given authority to initiate or modify therapy
  - Part of a supportive collaborative team of professionals treating a patient

Collaborative Pharmacy Practice (CPP)

- *Advanced clinical practice* where pharmacists collaborate with other healthcare professionals in order to care for patients, carers and public.
- Collaborative pharmacy practice may include,
  - Initiation, modification and monitoring of prescription medicine therapy
  - Ordering and performing laboratory and related tests
  - Assessing patient response to therapy
  - Counseling and educating a patient on medications
  - Administering medications

Level 5 practice - assumptions

- Patient Focus
- Collaboration
- Patient information access
- Maintain communication
- Adequate time to provide care
- National clinical standards
- Quality assurance
- Education and training
- Credentialing

What is the evidence?

When pharmacists have been incorporated as a “core” member of the healthcare team……..

- Enhance patient outcomes
- Improve medication adherence
- Advance patient safety
- Assure continuity of care
- Decrease costs

Appendix I and II of FIP Working Group Report

Ambulatory Clinical Pharmacy

Enhancing Patient Outcome

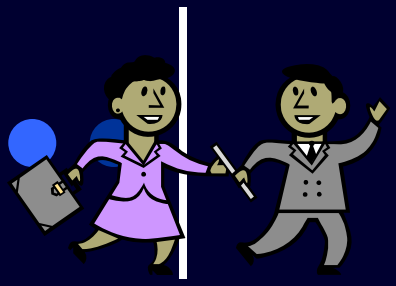
- Lipid Management
  - Working under protocol, pharmacists modified dosages, ordered lab tests, provided behavior modification counseling
    - ***Desired lipid levels were achieved in 84% of patients (baseline 53%)***
- Heart Failure Management Team
  - 181 patients
    - ***Reduction in all-cause mortality and nonfatal heart failure events***
      - Control group = 16 events
      - Intervention group = 4 events

Gattis, et al. Arch Intern Med. 1999.

Patient Medication Compliance

Pharmacists providing care to patients with high cholesterol in their community improved patient compliance with medication from a national average of 40% to 90%.

Source: Bluml BM, McKenney JM, et al. Pharmaceutical care services and results in Project ImPACT: Hyperlipidemia. Journal of the American Pharmaceutical Association. 2000; 40(2): 157-165.



Hospital Setting

Hospital Pharmacist Inpatient

Advancing Patient Safety

- Pharmacists in Medicine Rounds
  - Medication errors reduced 51%
  - Number of patients without a med error increased by 40%

  Scarsi, et al. AJHP. 2002.

- Pharmacists on ICU Rounding Team
  - Errors decreased by 66%
  - Projected $270,000 cost savings

  Leape, et al. JAMA. 1999.

Hospital Pharmacist Inpatient

Assuring Continuity of Care

- Pharmacists Improve accuracy of Medication History on Admission to Hospital
  - Corrected medication history 67% of cases
  - 11-59% were clinically important
- Pharmacist Discharge Counseling Decrease Preventable ADE's 30 days post-discharge
  - 1% with Pharmacist
  - 11% without Pharmacist

Tam et al. JAMC, 2005
Schnipper JL et al. Arch Intern Med; 2006.

Decreasing Cost and Saving Lives

Pharmacists providing patient care services in 1000 hospitals saved nearly 400 lives and $5.1 billion in health care costs

Sources: Bond CA, Raehl CL, et al. Health care professional staffing, hospital characteristics, and hospital mortality rates. Pharmacotherapy. 1999; 19(2): 130-8.

Bond CA, Raehl CL, et al. Clinical pharmacy services, pharmacy staffing, and the total cost of care in U.S. hospitals. Pharmacotherapy. 2000 June; 20(6): 609-21.

Collaborative Pharmacy Practices throughout the world…….

Our findings……

Collaborative Practice Throughout the World ……

- Collaboration between pharmacists and others varies widely both across healthcare systems and within the same healthcare system

Global Pharmacy Practice

- Much of the worldwide pharmacy practice has a product focus
- Higher levels of clinical practice (level 5) most markedly seen in:
  - Great Britain
  - USA
  - Canada
  - Pockets of practice in countries throughout the world (e.g. Singapore, Saudi Arabia, South Africa, South America)

Global Pharmacy Practice

- Examples of Levels 1 – 4 seen in:
  - Europe
  - Australia
  - Asia
  - Africa
  - South America
  - Mideast
- There are a number of different models

Collaborative Pharmacy Practice (CPP) Models

- Collaborative
- May include a form of prescribing
  - Protocol
  - Formulary
- Examples

Institutional Setting

Inpatient Collaborative Practice Protocol
University Hospital

Example 1

"Pharmacist-adjusted medication dosing in patients with renal dysfunction"

- Pharmacy and Therapeutics Committee Approved Protocol
- Pharmacists
  - Receive daily list of patients with renal dysfunction
  - Reviews the patient's chart to determine if all drugs are appropriate dosed
  - Determine new doses as indicated
  - Write for changes - written as an order "per protocol."
  - Documents the intervention in the patient medical record

Inpatient Collaborative Practice Protocol
University Hospital

Example 2

Low Molecular Weight Heparin (LMWH) Therapy

Pharmacist is consulted to assess patient's appropriateness for outpatient treatment with LMWH + warfarin. The process is initiated inpatient and transitioned to the outpatient.

Physician Responsibilities:

1.___ **Contact Clinical Pharmacist On-Call** for procurement of outpatient drug supply and coordination of initial and long-term anticoagulation services.

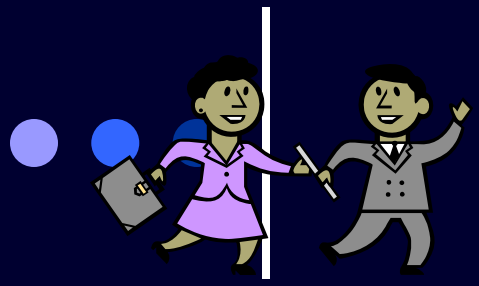
2.___ Initiate clinical protocol for inpatient care

Inpatient Collaborative Practice Protocol
University Hospital

Example 2 - continued

Pharmacist Responsibilities:

1) Coordinate drug distribution and coordinate home nursing needs (blood draws, assisted injections), if applicable, with Home Care Case Manager.
2) Evaluate for drug interactions and LMWH dosing schedule.
3) Educate patient on LMWH self-injection and acute and chronic anticoagulation care plan.
4) Ensure referral forms for Pharmacy Anticoagulation Clinic are complete and schedule patient's first appointment.
5) Complete appropriate documentation in the Progress Notes section of the patient's chart to include:
    - Method of dalteparin administration (if self-injection, patient must have demonstrated appropriate technique, prior to discharge).
    - Specific description of acute and chronic anticoagulation plans.
    - Description of educational points, with patient comprehension and acceptance of their individual plan of therapy noted.



Ambulatory Setting

Ambulatory Collaborative Practice

Harborview Medical Ctr, Washington

Approved By State Board of Pharmacy

- Direct Patient Care
  - Conduct direct patient care activities
    - patient visits to establish therapeutic goals,
    - drug-related physical assessment (eg. BP),
    - lab assessments and
    - telephone calls.
  - Design recommend, monitor and evaluate patient-specific therapeutic regimens….
  - Appropriate referral to other health care practitioners…
  - Ensure continuity of care…
  - Integrate disease prevention
- Prescription Refill Authorization

Ambulatory Collaborative Practice

Harborview Medical Ctr, Washington

Example

- Physician refers the patient for “Pharmacotherapy Consult” or “Disease Specific”

- Pharmacist
  - Clinic visit (s)
  - Establishes plan
  - Orders tests
  - Modifies therapies as appropriate
  - Documents interventions
- Example Disease States
  - Asthma & COPD
  - Congestive Heart Failure
  - Coronary Artery Disease
  - Depression
  - Diabetes Mellitus
  - Dyslipidemia
  - Emergency Contraceptives
  - Hypertension
  - Osteoporosis
  - Pain Management
  - Seizure Disorders
  - Smoking Cessation

Example Collaborative Agreement

Reason(s) for Referral:

- ☐ Therapeutic Drug Monitoring
  Drug_____
- ☐ Medication Administration Technique
- ☐ Laboratory Follow-up
- ☐ Blood Pressure Monitoring
- ☐ Disease State Management :
  - ☐ Education
  - ☐ Medication Dose Titration
  - ☐ Hypertension ☐ Diabetes
  - ☐ Asthma ☐ Hyperlipidemia
  - ☐ COPD ☐ CHF
  - ☐ Other_____

- ☐ Medication Dose Titration
  Drug_____
- ☐ Medication Compliance Counseling
- ☐ Polypharmacy

- ☐ Smoking Cessation
- ☐ Nicotine Replacement Therapy
- ☐ Bupropion

Therapeutic Goal (s):_____

____I will participate with the Outpatient Pharmacotherapy Clinic and authorize the services specified above to be performed by qualified pharmacists.

Physician's Signature:_____ **Date**:_____

Patient's Signature:_____ **Date**:_____

____I agree to provide the services specified by this consult agreement for the patient indicated above. I understand that I am authorized solely to perform these indicated services and that therapeutic management for conditions other than those specified by this document shall be deferred to the primary care physician.

Pharmacist's Signature:_____ **Date**:_____

What type of training is needed for Level 5 - Collaborative Pharmacy Practice?

Education and Training

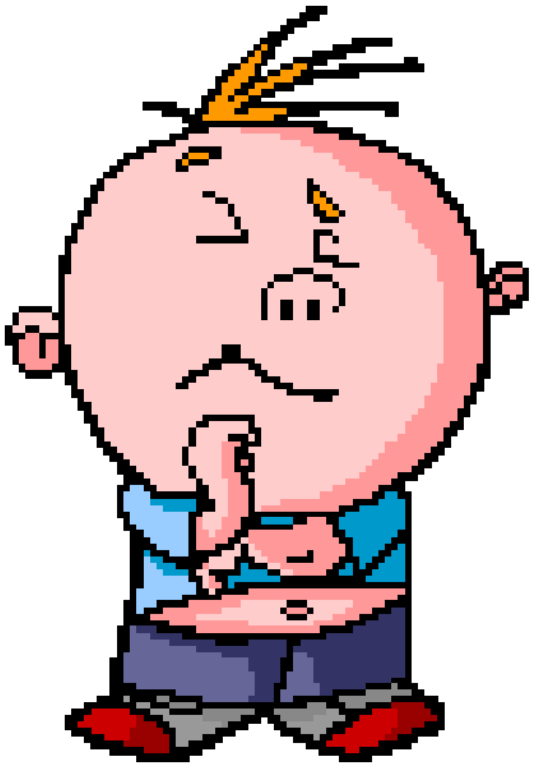
- Most countries consider Collaborative Pharmacy Practice “CPP” advanced practice
  - Pharmacy degree + additional training
    - Residencies (US)
    - Specific certification/credentialing
    - Other


Pharmacists' Collaborative Practice
The Journey

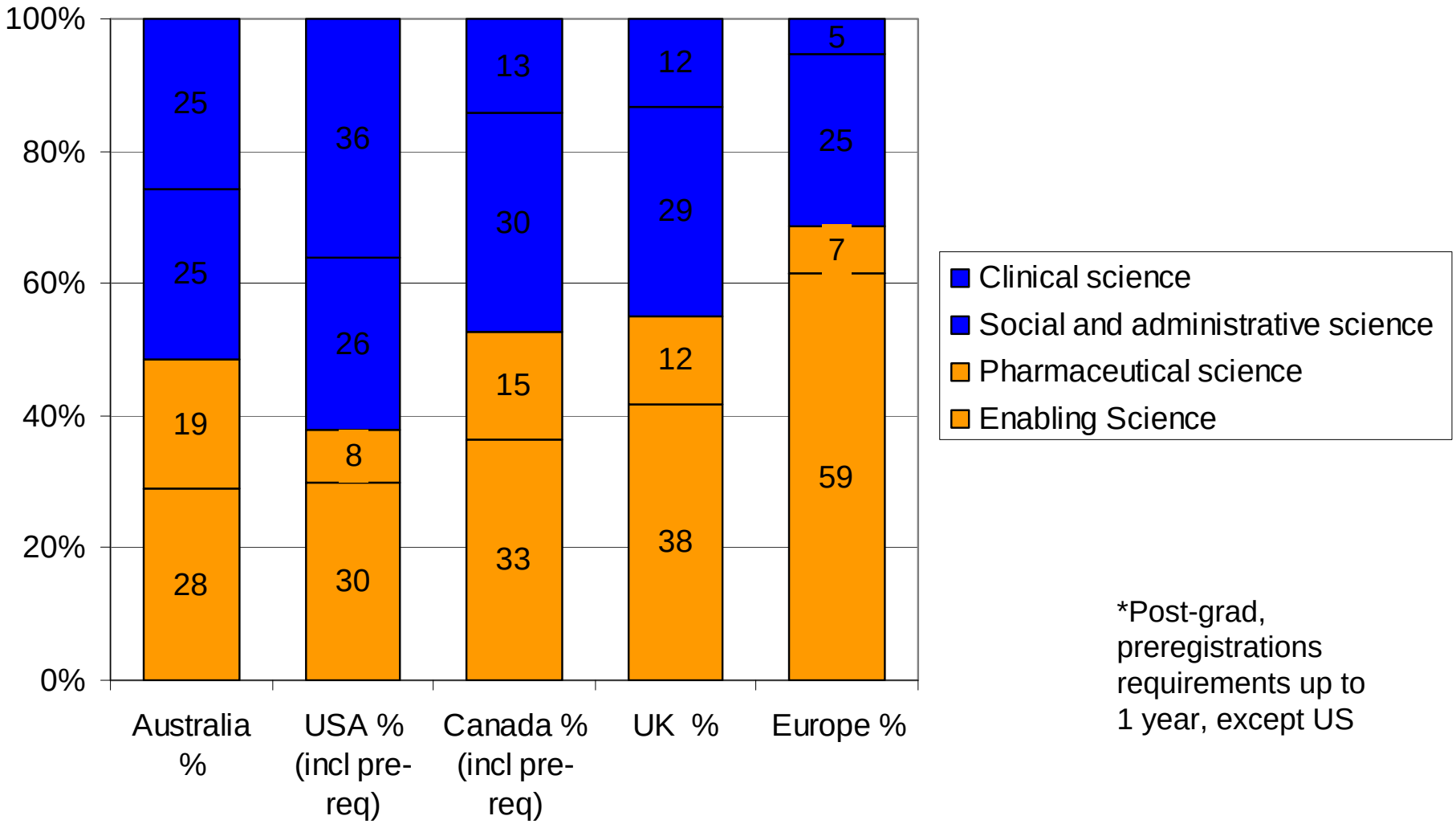
Conclusions and Recommendations

- Pharmacists have much to offer patients, carers, and the public at all “levels” of practice (1 through 5)
- We believe that Collaborative Pharmacy Practice should be promoted as a goal throughout the world.
- We urge all countries to work within their healthcare systems, as appropriate, to ensure pharmacist have a core place in the multidisciplinary team to achieve optimal patient care

Your Thoughts



Course Content Comparison



*Post-grad, preregistrations requirements up to 1 year, except US

Pharmacy Degrees

Australia	Canada	UK	USA
BPharm	BScPhm	MPharm	PharmD

• Entry from secondary school
• 4 year course
• experiential placements
  • 12 weeks undergraduate
  • 48 weeks internship
	• Entry after 1 year university
	• 4 year course
	• experiential placements
	  • 16 weeks undergraduate
	  • 12 weeks internship
		• Entry from secondary school
		• 4 year course
		• experiential placements
		  • limited undergraduate
		  • 52 weeks internship
			• Entry after minimum 2 years university
			• 4 year course
			• experiential placements
			  • 300 hours (~8 weeks) IPPE
			  • 36 weeks APPE

Dr Jennifer Marriott, Monash University, Australia