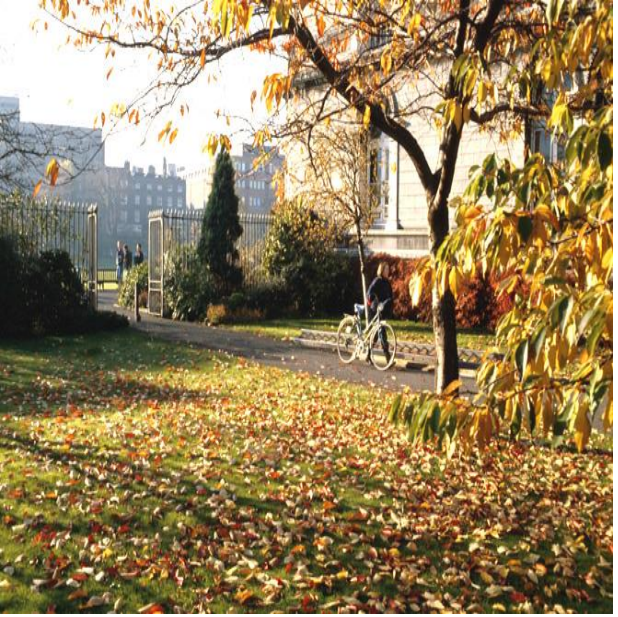
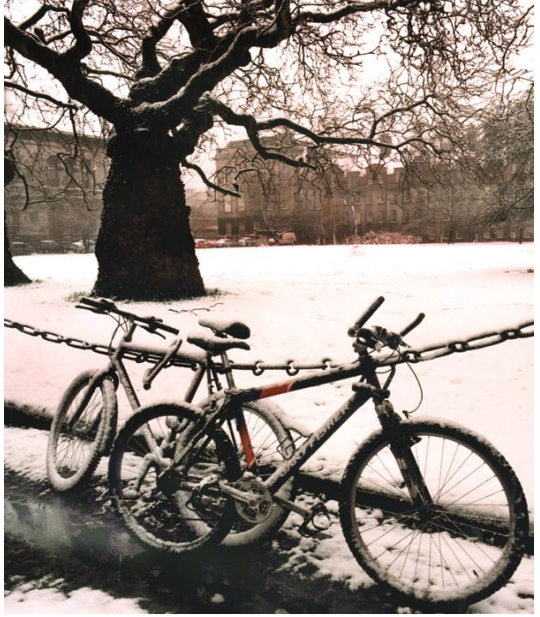




Martin Henman
Trinity College Dublin
School of Pharmacy & Pharmaceutical Sciences

From experience to expertise: how community pharmacy has evolved over the last 20 years and where to go from now.

Martin Henman

Trinity College Dublin, Ireland

Pharmaceutical Care Network Europe
PCNE

Coláiste na Tríonóide, Baile Átha Cliath
Trinity College Dublin
Ollscoil Átha Cliath | The University of Dublin

Pharmaceutical Care: the idea

Pharmaceutical Care: Two decades of dominance

- *Dominance, surely you can't be serious Martin?*
  - I am.
- *Most people use the term to mean what they want*
  - True, but that is not important
- *But it failed*
  - No, not at all
- *We are making progress without it*
  - We are making progress, but not without it, because of it & because we need it, now more than ever
- *PCNE has not had any influence, it just runs fun conferences*
  - Not true, it has, and yes it does, doesn't it?

    And here we are again. Yippee!

Pharmaceutical Care

- “Farmaceutische zorg” - Belgium
- “Farmaceutische patiëntenzorg” -Netherlands
- “Pharmazeutische Betreuung” - German-speakers
- “Farmaceutisk/Farmacøytisk omsorg”-Scandinavia
- “Soin pharmaceutique” in francophone regions

- Others “Seguimento farmacoterapéutico” “pharmacotherapy follow-up”?
- “Medicines management” in parts of the United Kingdom

Pharmaceutical Care

- Revolutionary idea
  - Radical change
- Ambitious in scope
  - Not merely the extension of pharmacy practice
- American idea
  - That inspired many in Europe, but not all, and soon ceased to be referred to in America

Revolutionary & Ambitious

- Providers of patient care rather than suppliers of medicines
- Changes the scope of pharmacy practice & the relationships between pharmacists and…
- Requires policy makers and health service managers to re-examine the roles that they have assigned to medicines and to pharmacists

Pharmacy 20 years ago?

- Medicines supply – ownership, accessibility & costs
- Monopoly of supply & Competition policy
- Professional associations – data for lobbying
- Low baseline level of research in practice
- Universities focussed on teaching hospitals & clinical pharmacy
- Academics dithering over clinical vs social pharmacy
- Pharmacoeconomics & Outcomes research

Practice Research

- American College of Clinical Pharmacy called for health services research in community settings because of the paucity of results demonstrating the value of clinical services in that setting.

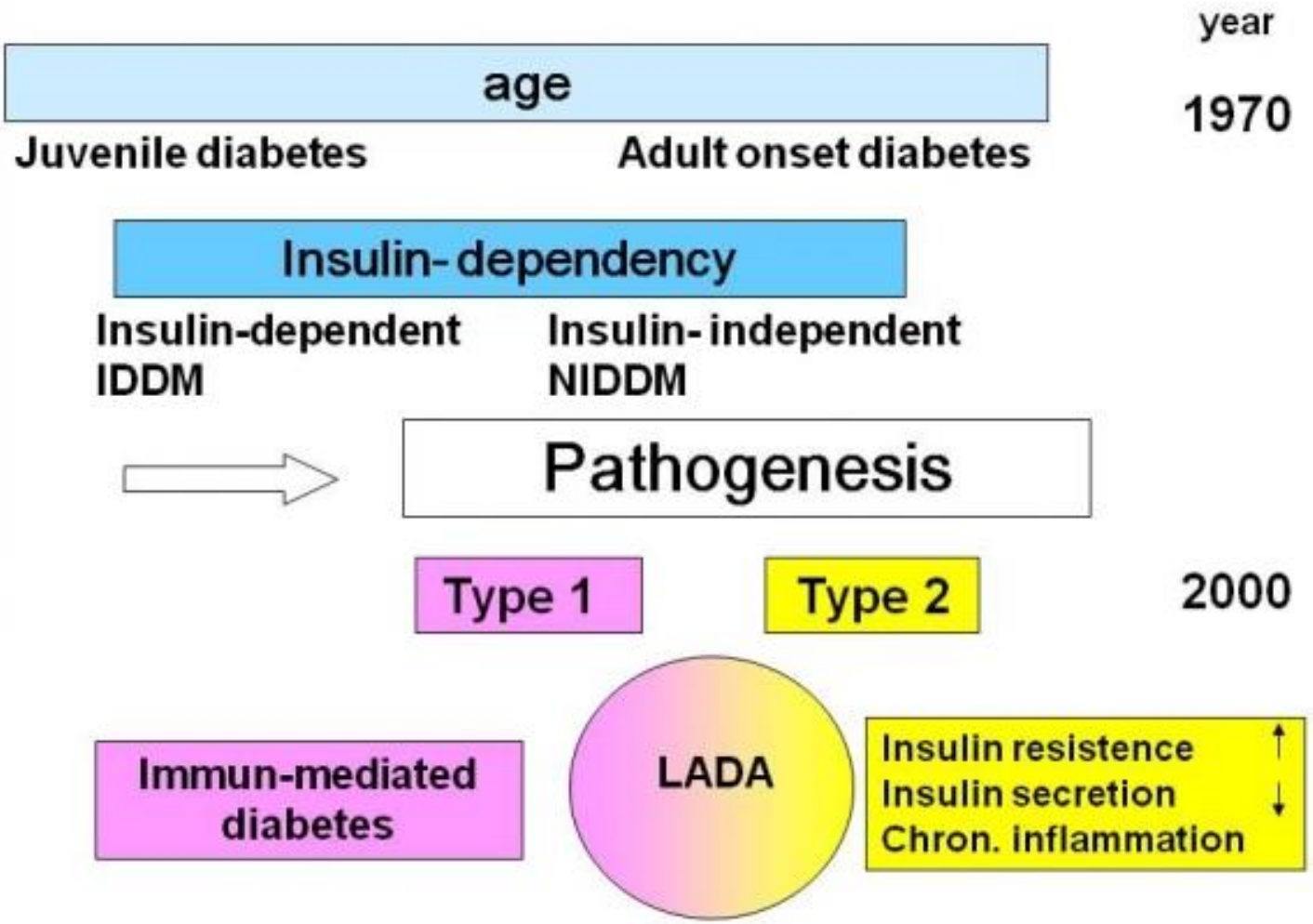
ACCP Clinical Practice Affairs Committee. Clinical pharmacy practice in the noninstitutional setting: a white paper from the American College of Clinical Pharmacy. Pharmacotherapy. 1992;12:358–64.

- *In most European countries research into small elements of pharmacy practice is not normal practice*

Van Mil & Schulz, 2006

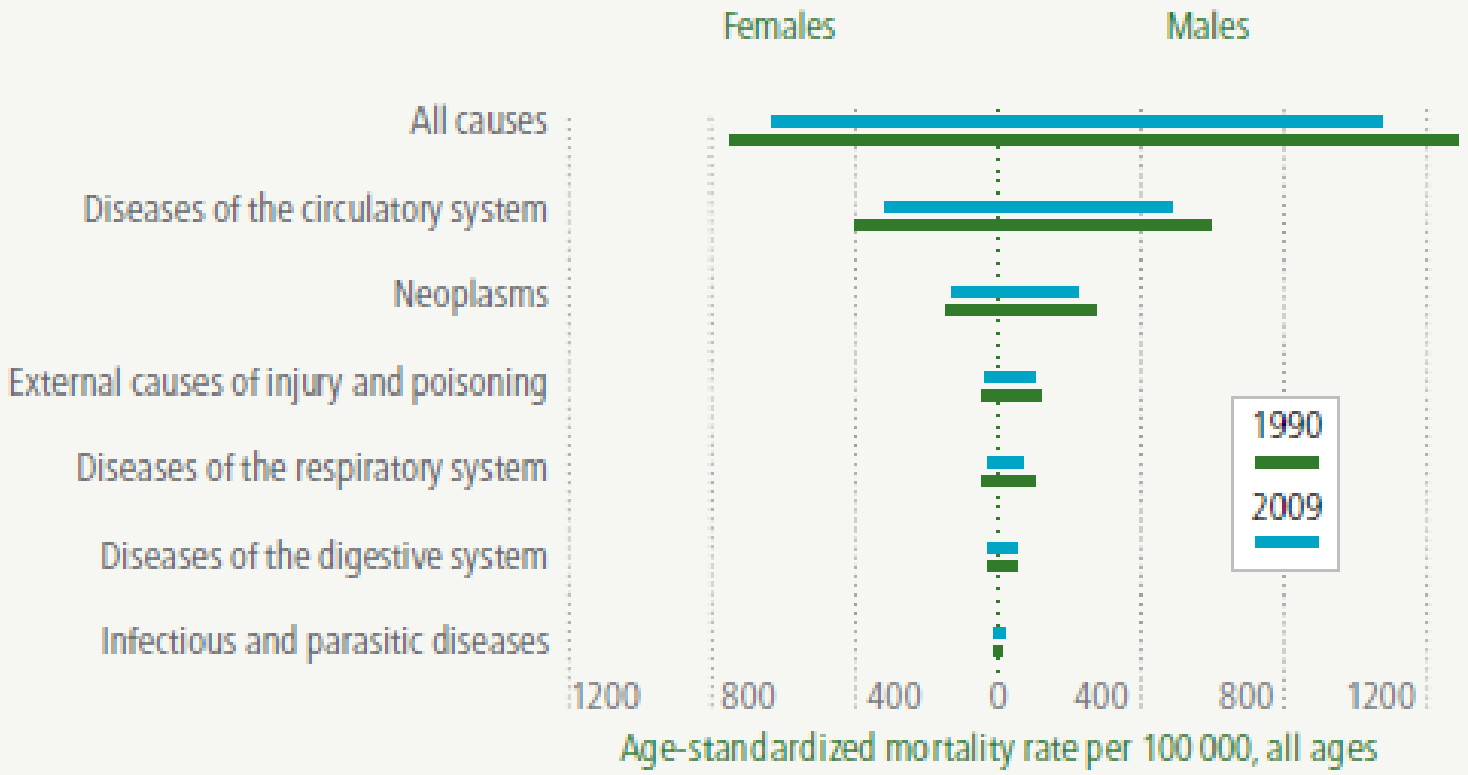
Changes in Health

Evolution of understanding of Diabetes



EU – Mortality rates

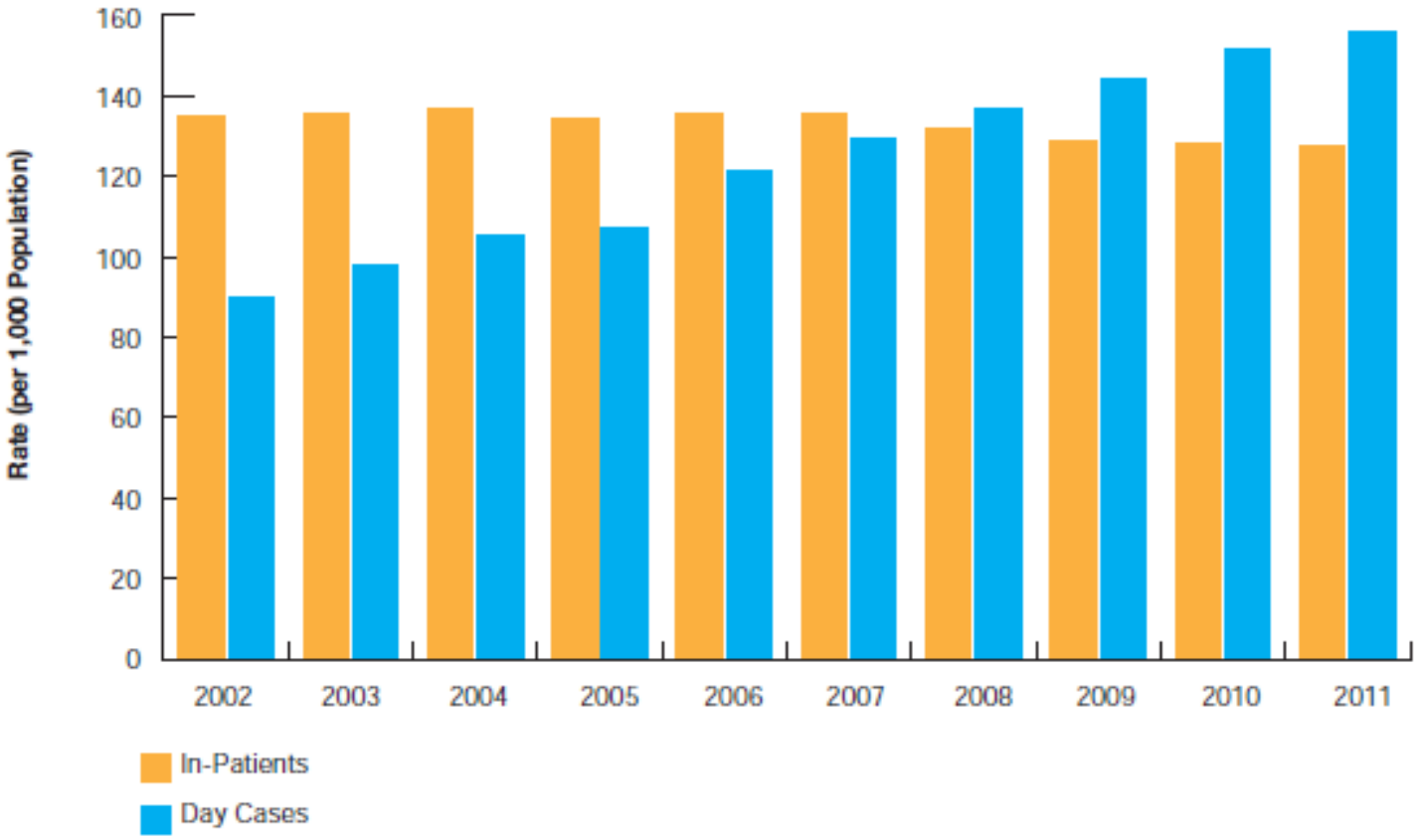
Fig. 18.
Causes of death by main broad group among males and females in the European Region, 1990 and 2009



Source: European Health for All database (6).

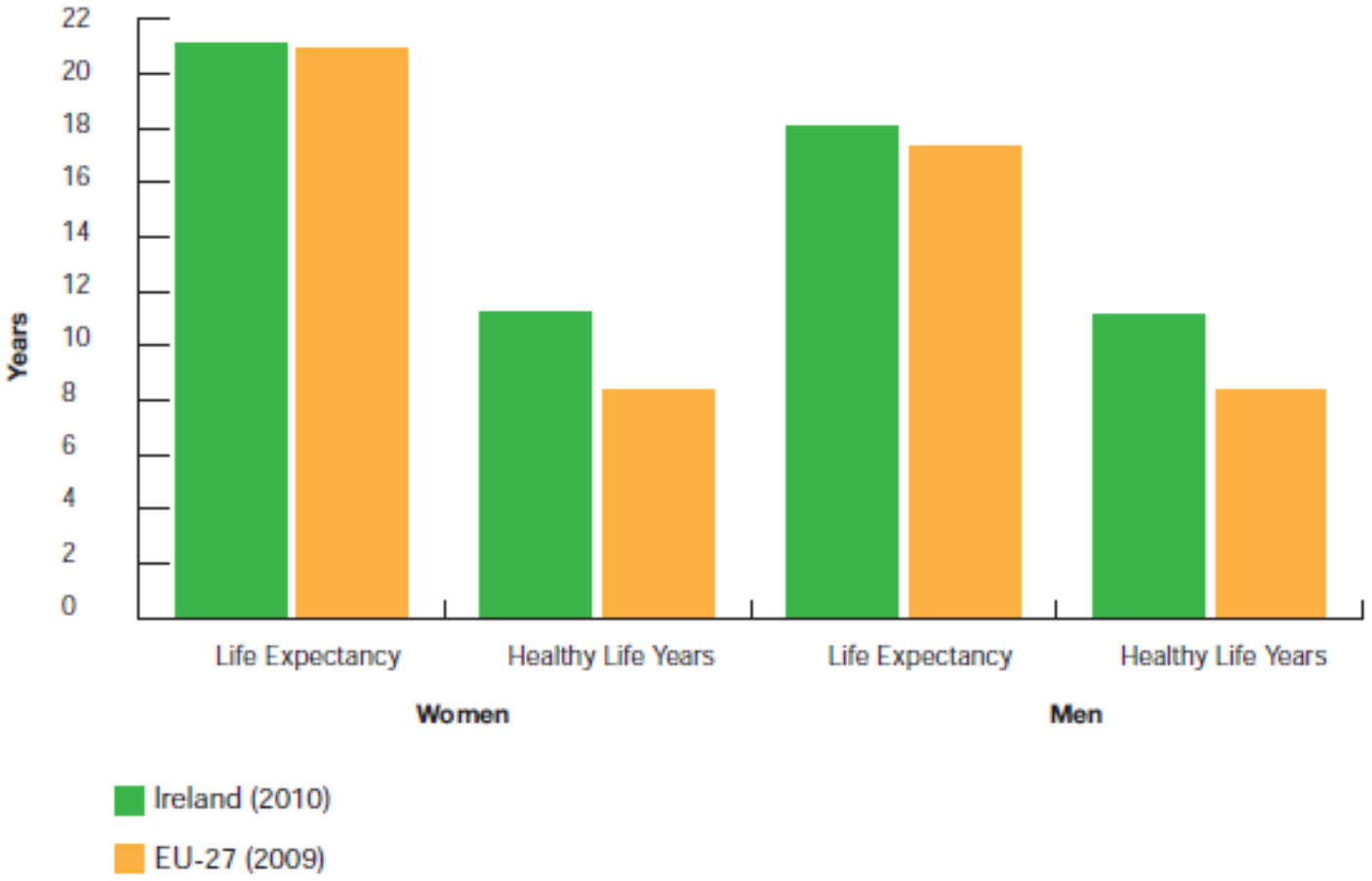
Hospital Utilisation

NUMBER OF INPATIENTS AND DAY CASES IN ACUTE HOSPITALS PER 1,000 POPULATION, 2002 - 2011



Life & Health

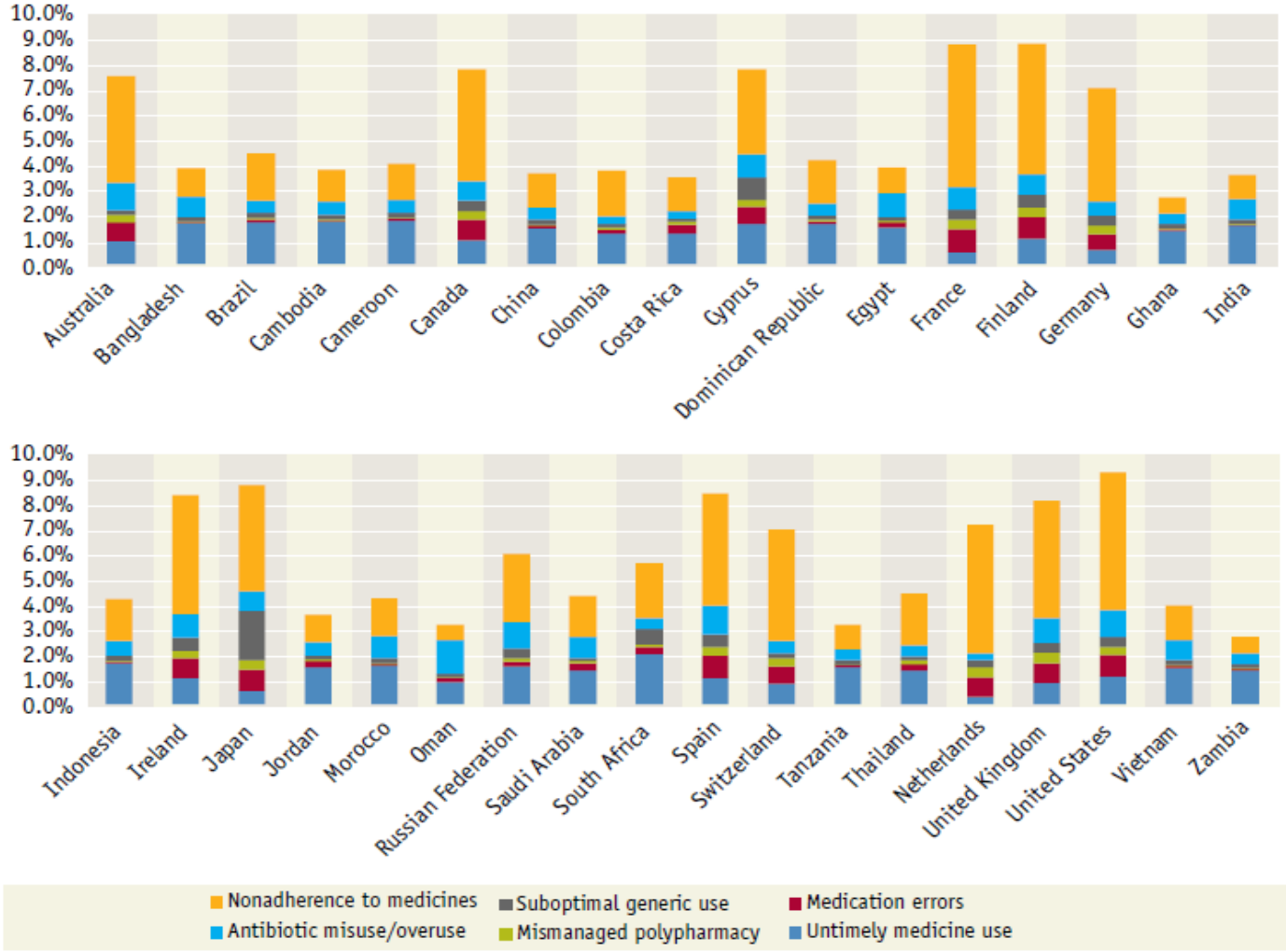
LIFE EXPECTANCY AND HEALTHY LIFE YEARS AT AGE 65, MALE AND FEMALE, IRELAND 2010 AND EU-27 2009



Globalisation & change

- Many people with low-to-moderate incomes slightly better off
- But the poorest people becoming poorer
- The richest becoming extraordinarily wealthy
  - and powerful Oxfam report 2015
- *I believe that the same picture is true in health, with a widening gap between those who have poor health and cannot alter their circumstances suffering disproportionately more than in the past while the richest have almost unlimited opportunities to obtain treatments of all sorts, pharmacological and genetic.*

Every Country faces the same problems but to different degrees



Sources: IMS Institute for Healthcare Informatics, 2012; IMS MIDAS, 2009 and 2011; World Bank 2009; WHO 2009; USD in 2011.

Estimated Avoidable Costs as a percentage of Total Health Expenditure

Two Deteriorating problems in the use of Medicines

1. Inappropriate use of medicines & Nonadherence
   - Acute
   - Chronic
   - Self medication
2. Complex care with medicines
   - Intensification
   - Transitions
   - Multimorbidity
   - Vulnerable groups

Avoidable Costs

IMS estimated worldwide avoidable costs of ~$300-600b if medicines use is improved

57% avoidable cost

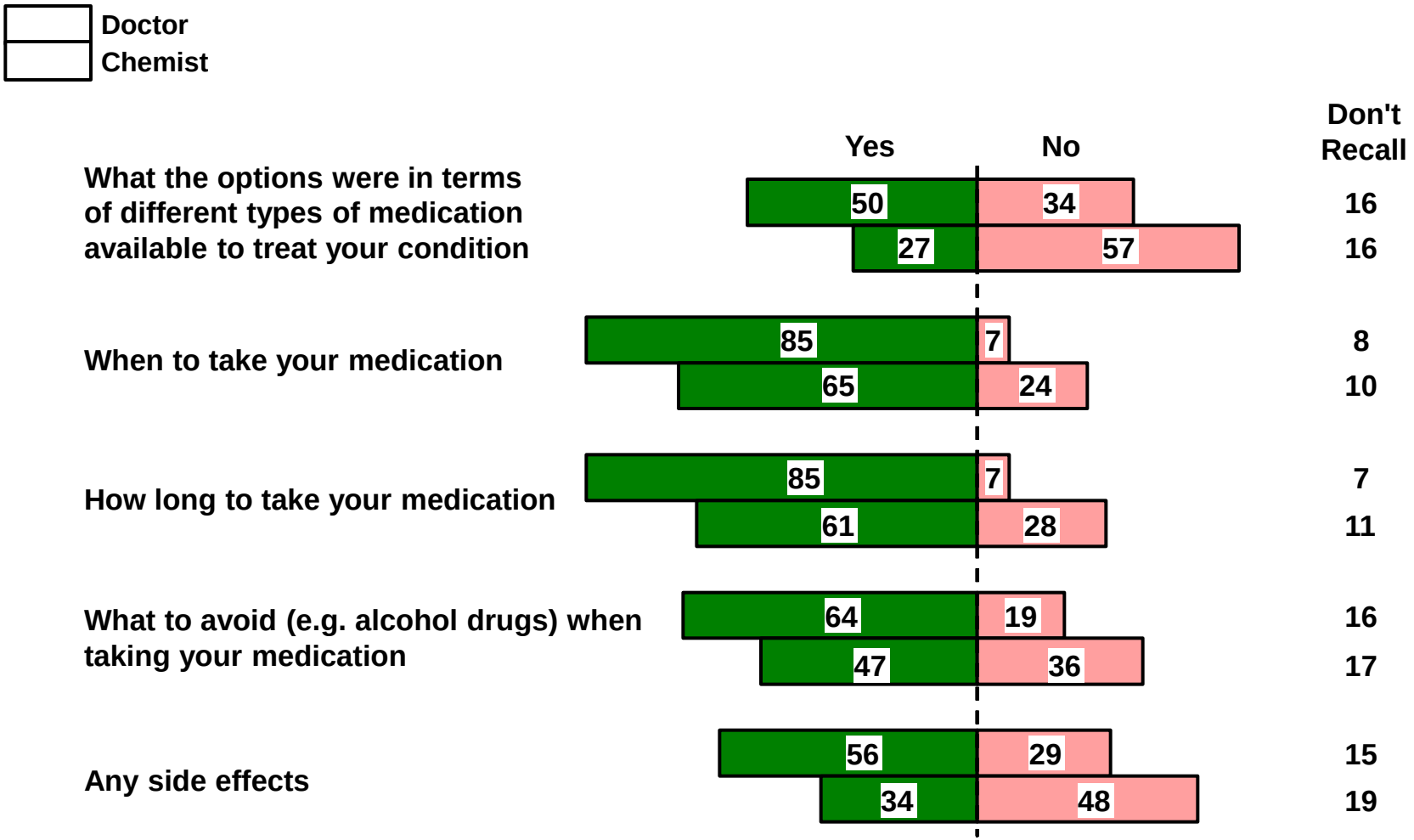
+

17% avoidable cost

~$222-444b

Doctor Vs Chemist - Prevalence of Explanation of Last Prescription

Base: All Visited Doctor/Hospital in Last 12 Months



An Elderly patient – Canada

Mrs. A

- Widow, living alone
- 84 years old
- Severe knee pain limiting mobility
- Often confused, unable to get out of bed
- Has had 3 falls in the last year
- Doesn't want to go out anymore
- Not always taking meds
- Children think she should no longer be living alone

Farrel B, 2011

Medications found at home (*in dosette):

- Aspirin 75mg daily ! !
- Ibuprofen 400mg bid* ! !
- diphenhydramine 50mg nocte
- lorazepam 1mg nocte*
- Warfarin 5mg daily! !
- metoprolol 50mg bid*
- amlodipine 10mg daily*
- ramipril 5mg daily*
- Lakota capsules (White Willow Bark & Devil's Claw & Lumanite) qid ! !
- furosemide 40mg bid*
- atorvastatin 40mg daily*
- dextromethorphan syrup
- lansoprazole 30mg daily*
- Oxybutynin XL 10mg daily*
- Vit. B12 1200mcg daily*
- Slow-K daily*
- Calcium/Vit D bid

Elderly patient – Canada 20 years ago

Mrs. A

- Widow, living alone
- 84 years old
- Severe knee pain limiting mobility
- Often confused, unable to get out of bed
- Has had 3 falls in the last year
- Doesn't want to go out anymore
- Not always taking meds
- Children think she should no longer be living alone

Farrel B, 2011

Medications found at home (*in dosette):

- ibuprofen 400mg bid* **! !**
- diphenhydramine 50mg nocte
- lorazepam 1mg nocte*
- warfarin 5mg daily**! !**
- metoprolol 50mg bid*
- cholestyramine 4g bid**! !**
- amlodipine 10mg daily*
- ramipril 5mg daily*
- furosemide 40mg bid*
- dextromethorphan syrup
- ranitidine 150mg bid *
- vit. B12 1200mcg daily*
- Slow-K daily*

Compliance with medicines

Practical Problems

- 'Pill burden'
- Measurement?
- Patient is decision-maker

Table 3 GEE models predicting subjects' score on the five multi-item scales

Multi-item scale	Persistent versus nonpersistent medications[a] (N = 338)[b]	
	Coefficient on the GEE model[c]	*P*-value
Perceived need for medications	−10.9	<0.001
Side-effect concerns	−10.7	<0.001
Medication-safety concerns	0.3	0.85
Perceived disease severity	−6.1	<0.01
Knowledge about the prescribed medication	−2.5	0.02

Mrs A's medicine burden,
17 medicines
24 doses to be taken each day

Non-persistence questions

- Why is medicine needed?
- What side effects will there be?
- How bad is my condition?

Relevant factors

- Hypoglycaemics perceived as more important than anti-hypertensives
- Patient adherence is lower in more severe disease states
- Early intervention

Aikens & Piette. Diabetes Care. 2009; McHorney & Gadkari. 2010 Patient Preference & adherence

Inertia in pharmacists & Compliance

Pharmacist's Inertia

- Counselling
  - All types of meds
- Pharmacist supply
  - Protocol not followed
  - Ineligible staff supply

Interventions to improve compliance with guideline

- Studies of other health care professional's compliance with guidelines - 8/14 studied pharmacists
- Methodological quality varied widely
- Most did not base intervention on theoretical model
- Most used single intervention
- 10/14 used only an educational intervention
- Education used alone is not very effective

Hakkenes S, Dodd K Qual Saf Health Care 2008; 17:296–300.

Communication effectiveness & needs

- Meta-analysis of 127 studies
  - 106 examined communication quality & adherence
- Patient adherence was 2.16 times more likely if physician communicated effectively
- Patient non-adherence was 1.27 times more likely if physician did not communicate effectively
- Training produces a 12% improvement in adherence

(Compare with; Low dose warfarin reduces risk of clot by 15%)

Zolnierek & DiMatteo Med Care 2009; 47(8): 826-34

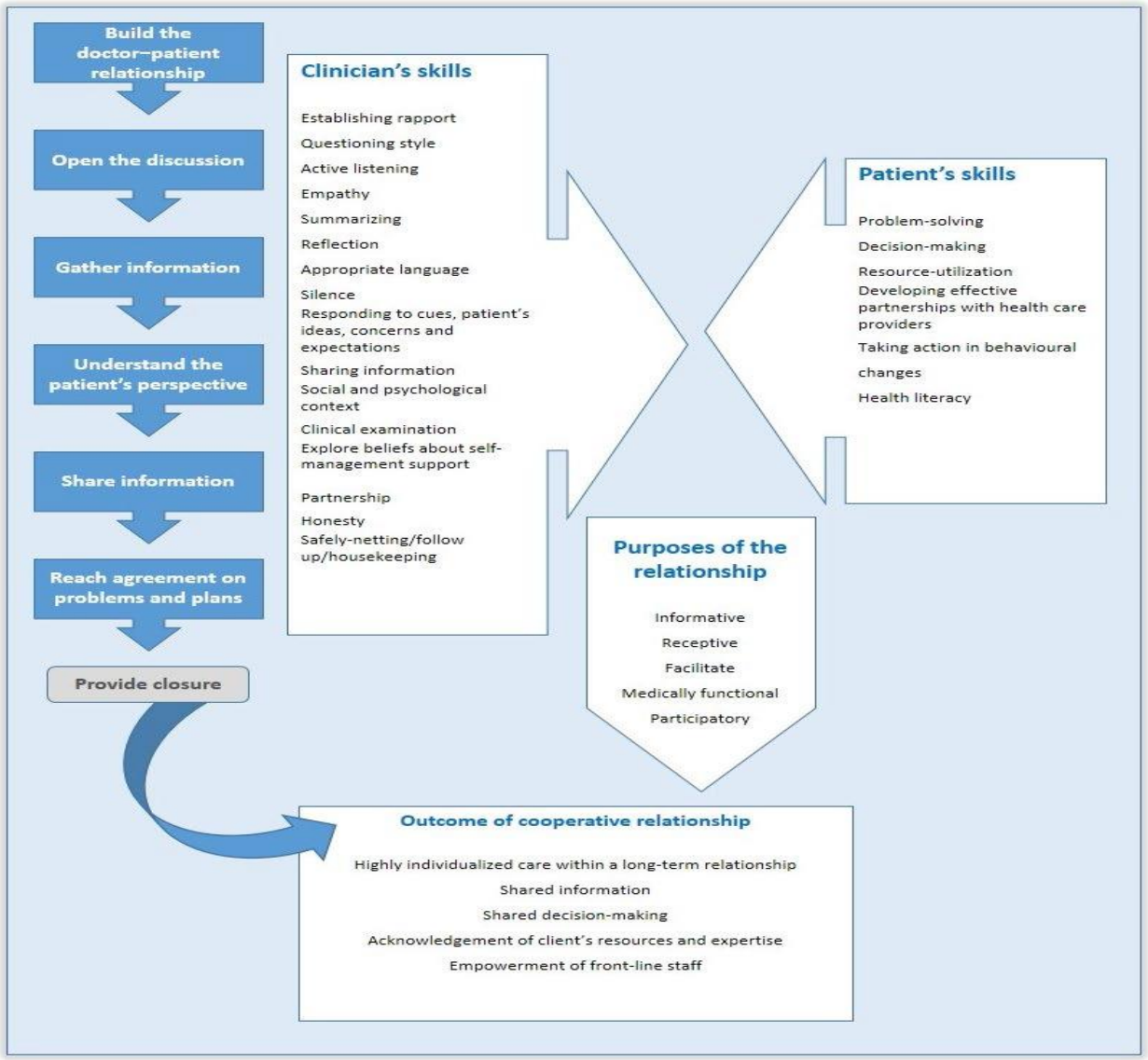
- Health Literacy must be addressed at every level

Keller DL, Ann Pharmacother. 2008 ;42(9):1272-81

- Little work is done even now, to evaluate communication with patients for whom communication is difficult e.g. Stroke & aphasia, People with Intellectual Disability

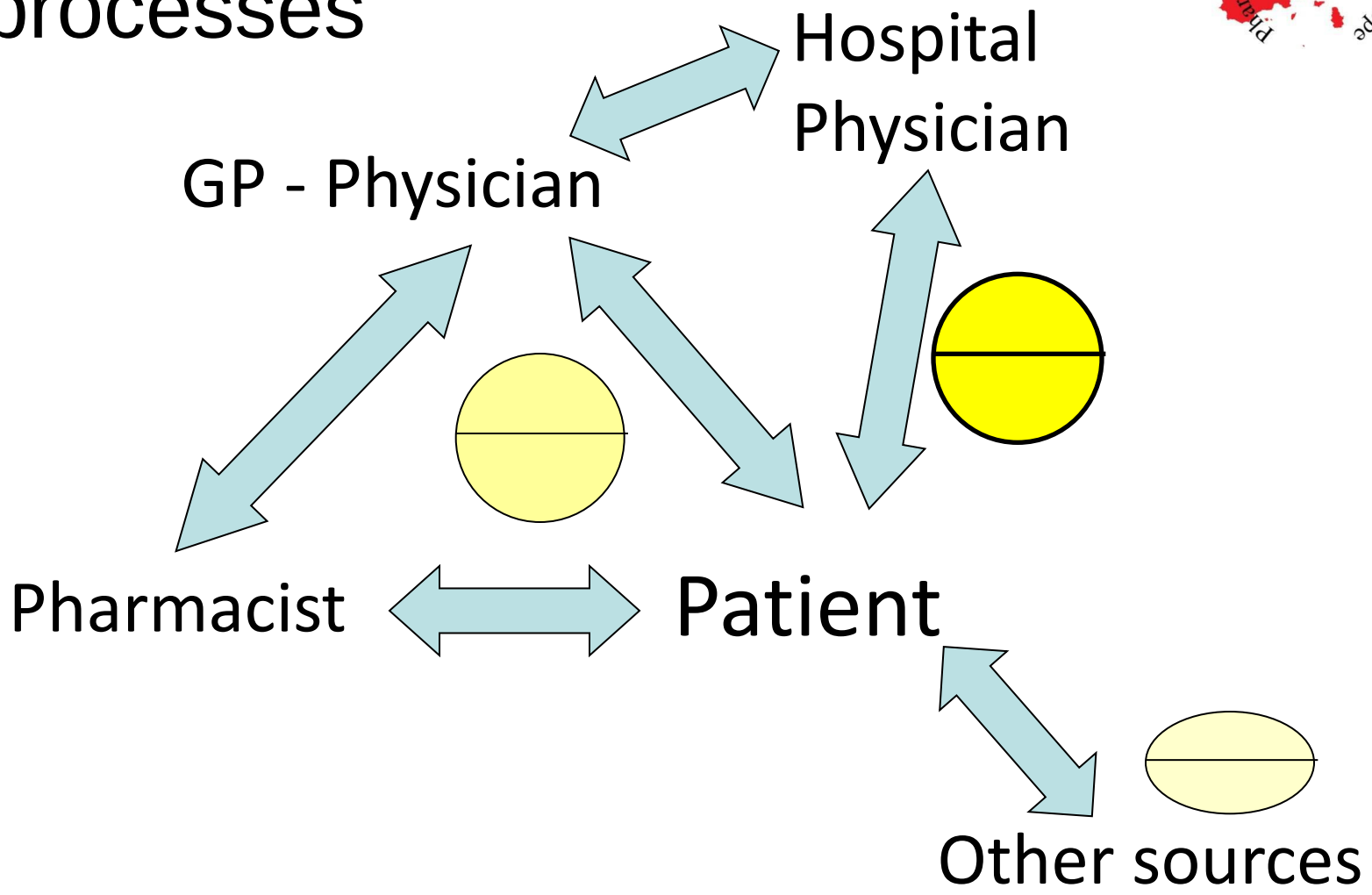
Flood & Henman 2012 Int J Pharm

Co-Production in Clinical Care

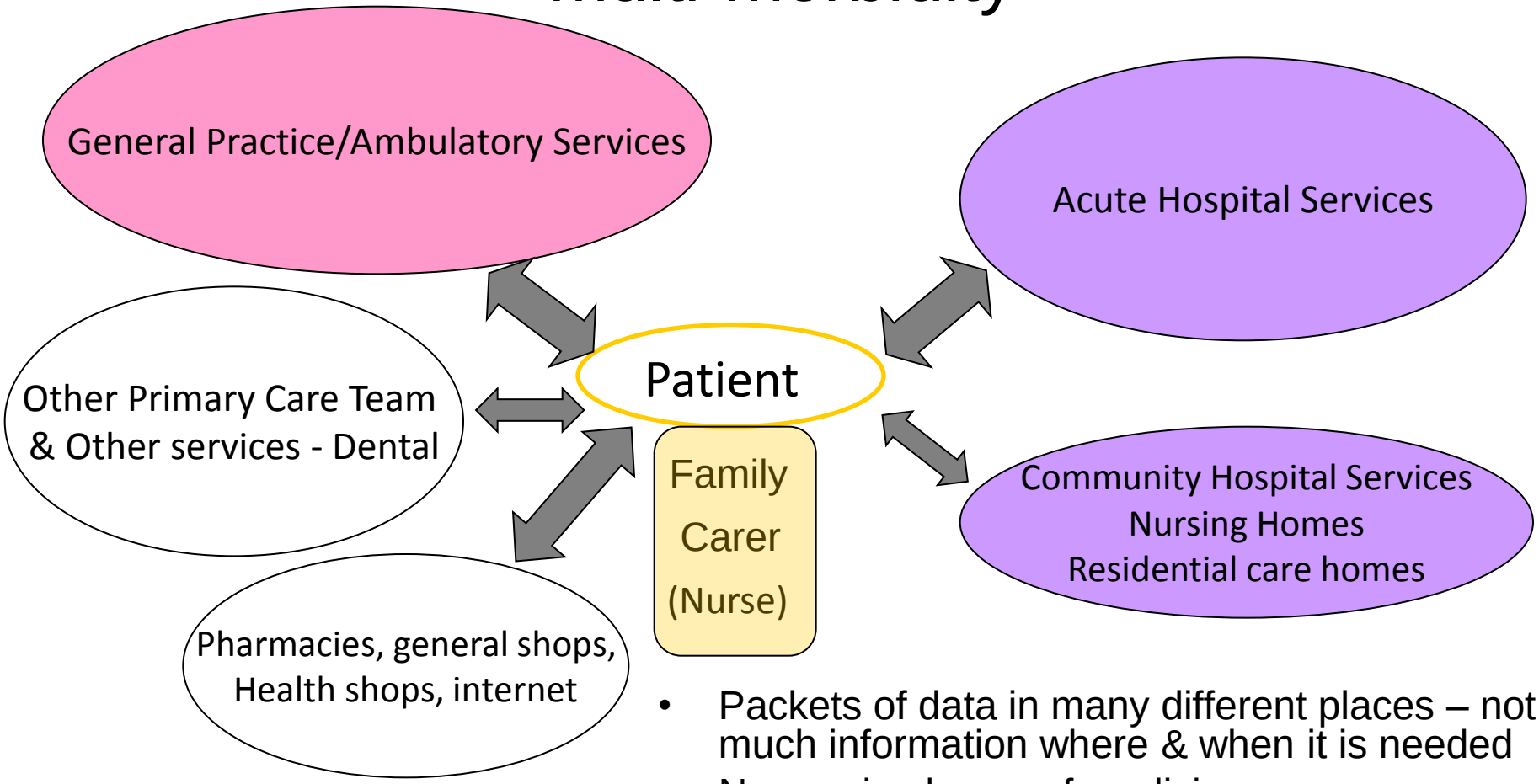


- Patient is not 'owned'
- Professional as facilitator
- Help patient meet their needs
- Professionals support each other
- *Primus inter pares*

Patient's view of medicine use processes



Care with medicines is multi-setting, multi-prescriber & multi-carer : multi-morbidity



- Packets of data in many different places – not much information where & when it is needed
- No-one in charge of medicine use
- Accountability can be shifted to someone else

Health Service & Medicines: practicalities

- Health Service structures & processes are imperfect
- Patients, Practitioners & Carers work around the imperfections
- Frequently they take the right action, but not always
- Medicines use usually involves three people
- There always some inefficiencies
- Benefits from medicines are substantial, but only if used optimally – benefits not realised = cost
- Even if most medicines use is optimal, the cost of the fraction of sub-optimal use is too great to accept

Consequences

- The combination of these and other factors means that the provision of health care is a greater challenge now than before
- And that our previous models of provision have not had the impact on the health of our countries that we would wish
- Nor will they cope any better in the future

Realism

- Overall, progress toward meeting the Healthy People 2010 goal of eliminating health disparities in the United States and in Chicago remains bleak. With more than 15 years of time and effort spent at the national and local level to reduce disparities, the impact remains negligible.

Orsi JM, Margellos-Anast H, Whitman S. Black–White Health Disparities in the United States and Chicago: A 15-Year Progress Analysis. *American Journal of Public Health* 2010;100(2):349-356.

Pharmacy Developments

- Medicines related
- Secondary prevention
- Primary prevention
- Behavioural

Poor practices lead to poor outcomes & increased risk

Poor Quality Practices

- Non-use of proven therapeutic treatment
- Inappropriate medicine selection & duration
- Clinical Inertia
- Compliance/adherance problems
- Insufficient Interprofessional collaboration
- Unaligned Communication & inadequate practitioner-patient relations
- Inept & ineffective promotion of health

Drug-related problems

- Too little of the correct drug
- Not taking a prescribed drug
- Needing drug but not receiving one
- Taking or receiving a drug with no valid medical indication
- Too much of the correct drug
- Taking or receiving the wrong drug
- Experiencing adverse drug reaction

Hepler & Strand, 1990

Medicines-related

- Prescription review & counselling
  - Indicative problems
- Monitored administration
  - Minor Ailment Schemes
  - Methadone
  - Phased dispensing
- Acute medication provision
  - Emergency supply
  - Emergency Hormonal Contraception
- Medication Use Review
  - MUR targeted
  - New Medicines Service
  - Home Medication Review
- Care of Outpatients
  - Shared care
  - High Tech Medicines & Oncology & Palliative care
- Chronic Disease
  - Use of medicines & devices; e.g. Asthma
- Unused medicines
  - DUMP

Prescribing

- Supplementary
- Independent
- UK in 2013 ~ 4,200 Pharmacists (3%)

"Supplementary prescribing in pharmacy didn't work very well because patients aren't usually on just one medicine for a single condition,"

Claire Anderson

- Canada, Scope of practice extended to amending prescriptions in most Provinces

  Prescribing authority - Alberta ~10%

"Pharmacists weren't allowed to prescribe as much as the public wanted."

"I think the biggest issue is confidence: it's holding us (pharmacists) back."

Janet Cooper

- New Zealand
  - 'Viability of pharmacist prescribers in doubt'

Prevention programmes in Pharmacies

Primary: Smoking Cessation

- Structured programmes
  - Validated tools & procedures & Practitioner Support
- Engagement
  - Consensus
  - Product & perception
  - Retention
- Intervention support
  - Signposting
  - Referral
  - Non-prescription treatment
- Evaluation

Secondary: Risk Factor Screening

- Two purposes
  - Identify (assess) people who are at risk & signpost appropriate care pathway; e.g. refer
  - Monitor patients receiving treatment, advise & refer as appropriate
- Three elements
  - Validated risk screening tools
  - Point of care measurements
  - Assessment, intervention

Cardiovascular (& Diabetes) Risk Screening

- Several variants
  - Usual BP measurement
  - Ambulatory BP measurement
  - Other assessments – lipids, glucose
  - Scope of risk factor advice
- Extensively used
  - Middle-aged & older people
  - Not, ‘the worried well’
- Problem types & Interventions
  - Unresolved problems → referral
  - Medicines-related problems → need for MUR
  - Previously undetected problems → referral

Pharmaceutical Care: Barriers, barriers, everywhere

- *Pharmacist conservatism – risk averse*
- Medical dominance
- *Pharmacist inertia*
- The nature of health care
- *Pharmacist payments & incentives*
- Cost containment & medicine prices & pharmacist fees
- *Pharmacist inertia*

Behavioural

- Stages of change
- Motivational interviewing
- Coaching
- Change management in Pharmacies & pharmacy teams
- Commitment to change & Nudging

Practice conflicts create ethical reticence in pharmacists

- Societal/Professional norms/codes are influential
- But the skills of moral reasoning are still needed

➢ Not doing enough, doing wrong induces aversive feelings

➢ Unresolved dilemmas or judgements that we doubt/regret lead to;

Uncertainty about our capability which is unsettling

Cognitive dissonance which is upsetting

(Tassy et al, 2008)

Behaviour & Ethics

- Moral reasoning skills are central to Professional practice
- Moral reasoning can be learnt
- Moral reasoning skills can be taught through a combination of practice, classroom & reflective activities
- Experience alone can be a poor teacher
- Experienced practitioners can be poor teachers
- Moral reasoning produces change in practitioner's behaviour
  - Empowers patient interaction
  - Provides confidence for interprofessional relationships
  - Promotes participation in teams
- Ethicists need to spend time close to practice to contribute effectively

Health Care change

- Acting alone, pharmacists can make a limited impact on the health status of a country
- By themselves, GPs/PracticeNurses/Physiotherapists/Public Health Nurses etc can make a limited……..
- Health & Wellness requires multiple interventions by multiple professionals in several settings with consistency throughout
- Treating Chronic Disease requires multiple interventions…
- Responsible use of medicines & supplement & device particularly involves patients, pharmacists & prescribers & will have a massive impact on the health of the people
- But scale, maintaining programme quality & consensus…

Pharmaceutical Care

- Responsibility for the use of medicines & for medicine-related problems
  - Rather than the supply of medicines
- Patient-centred care and outcomes
  - And nested within is a product-centred consultation
- Interprofessional collaboration
  - Rather than the pharmacist working alone
- Co-production

Final thoughts – part 1

- Health care & health services are Complex Adaptive Systems & requires adaptive processes linked to patient outcomes
- However important specialist care may be, a holistic assessment is always required
- Medicines remain the principal tool of care provision
- Responsibility for patient care is in Primary Care
- Community Pharmacy & General Practice & Patients (et al…) must be the main target of health policy
- Skill mix
  - Using all of the people required at the optimum level for value for money for appropriate care
- Health care, like health education, is co-produced
- Pharmaceutical Care is all of these things

PCNE's contribution

PCNE

- The adoption of the idea of pharmaceutical care by national & international organisations would not be enough to sustain it.
- Research would be necessary to develop & assess the tools & procedures that pharmacists would need to provide pharmaceutical care.
- No organisation for European researchers in pharmacy practice existed at the time PCNE was founded.
- PCNE's work would not compete with but rather complement that carried out nationally & at the European level by other organisations.
- Still no other organisation with similar aims, and, there never has been in the USA.

Research

- Multicentre, multinational collaborative research in pharmacy was pioneered by PCNE.
- PCNE identified & has consistently worked to refine the tools for detecting drug-related problems & for the provision of medicines use reviews.
- The TOM Asthma study was successful & its impact continues to be felt today
- The care of the elderly study, which did not achieve its own ambitious aims, continues to be cited every month more than a decade after its publication – a clear indication of its value.

Working

- PCNE introduced the Working Conference model
- The process of spending 12-18 hours over three days with one group of people working on one group of problems did not always produce the desired outcome, nor did the participants always become life-long friends by the end of it, but you always went home having learnt more than you expected and you were stimulated to do something when you got home.
- This process pre-dated the shift from Continuing Education with its emphasis on the didactic and passive elements to Continuing Professional Development and its focus on active learning & practice change as an outcome.

Knowledge

- Despite these achievements participants at PCNE meetings, including me, often agonised over the limited impact of pharmaceutical care & of PCNE.
- PCNE began making tools for pharmaceutical care
- and then moved to evaluating the processes of care
- and of ensuring quality
- and more recently to trying to support the implementation process
- and the measurement of outcomes.
- These were not temporary fashions but steps in the process of translating an idea into research studies and ultimately into tools & services for the delivery of pharmaceutical care
- Yet people keep coming back to PCNE meetings & membership has grown, so either we are all not quite as intelligent as we think, or we are optimists & are intuitively discerning the progress that is being made.
- I believe that it is the latter & that we need to think about the nature of research and of human knowledge in health service research to understand this pattern.

Knowledge & progress

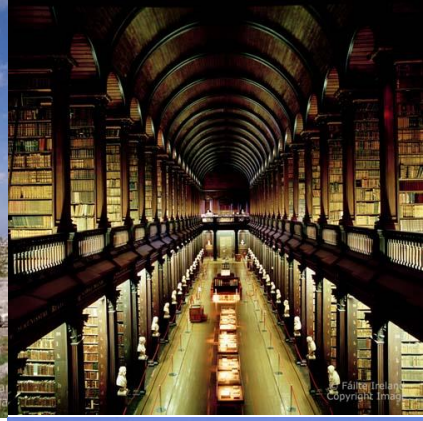
- Our starting point for change is a model of the world that is incomplete & it is located in a world that is continually changing.
- Our research produces new knowledge & perhaps change in the problem that we focussed on but it also changes our model of the world since each element is inter-related & inter-dependent…
- Complex adaptive systems
- We are in fact uncovering more and more levels of complexity in the world we live & the world that we make by our actions as researchers and practitioners.

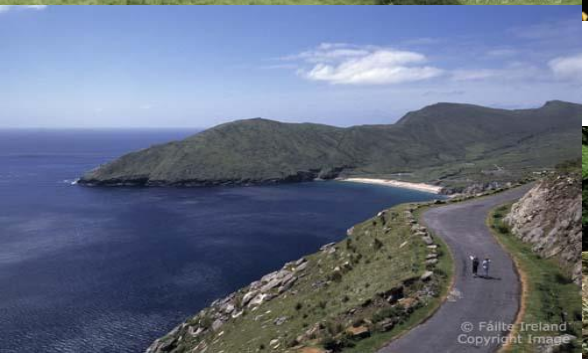
Synthesis?

- So, there isn't an end
- There isn't only one way to achieve progress
- There is always more to be done
- Always more patient care to be provided
- Always a need to be structured & systematic
- More pharmaceutical care
- If professional & personal judgements are made appropriately good quality care will be the outcome

Final thoughts

- Pharmaceutical Care is not just about changing Pharmacy its about changing Health Care because when pharmacists provide care it re-structures the provision of care by the health services.
- PCNE is not just about researching Pharmaceutical Care it is about researching Health Care as well as changing Pharmacy
- What has changed, is that pharmacy practice is not just about pharmacy, it’s about health
- It’s about care





Go Raibh maith agaibh.