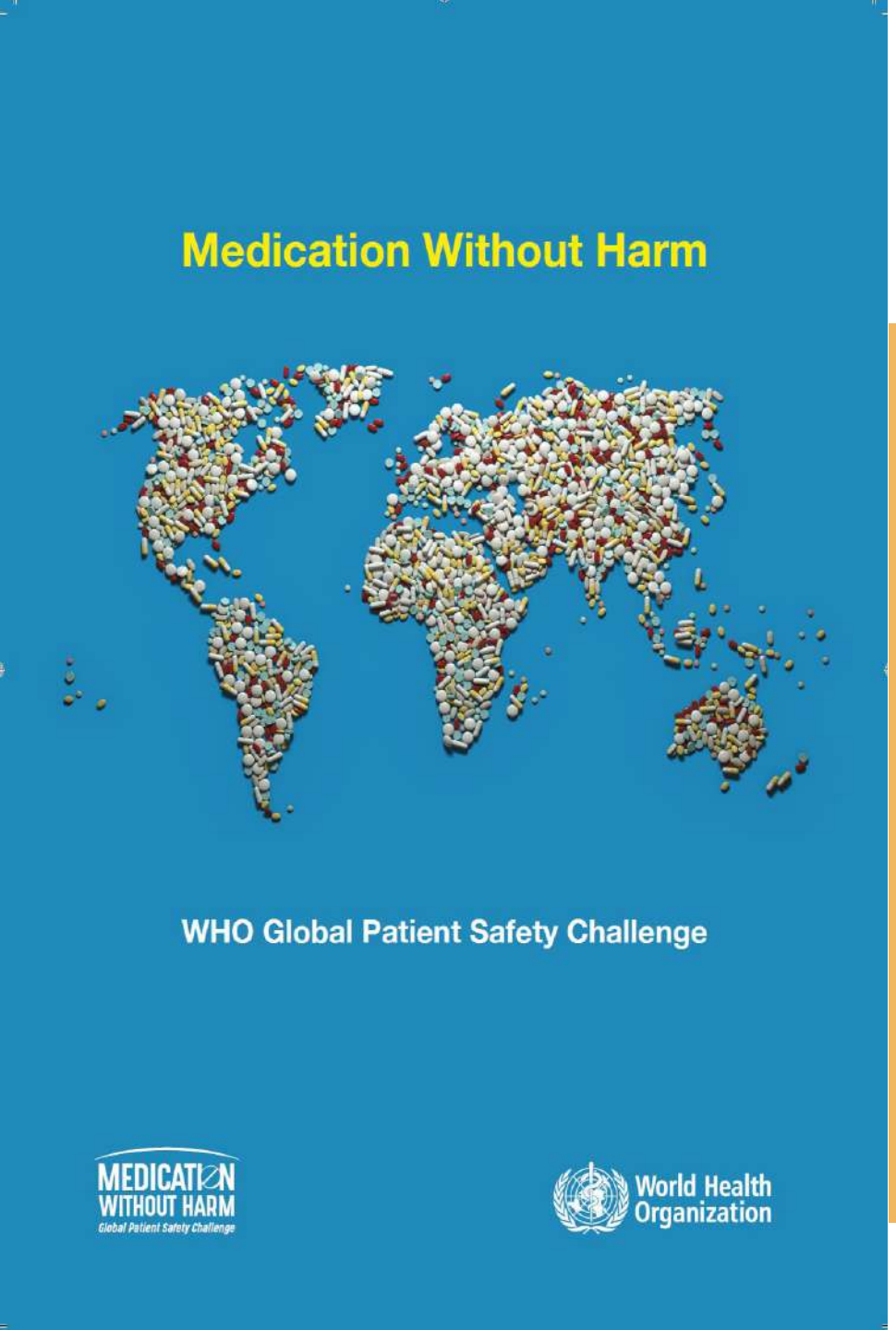

MEDICATION WITHOUT HARM
Global Patient Safety Challenge

World Health Organization

Introduction to the WHO Technical Report

"Medication Safety in Polypharmacy"

Ms Alpana Mair
Head of Prescribing and Therapeutics Division
Scottish Government
United Kingdom

12 July 2022

Dr Alpana Mair,

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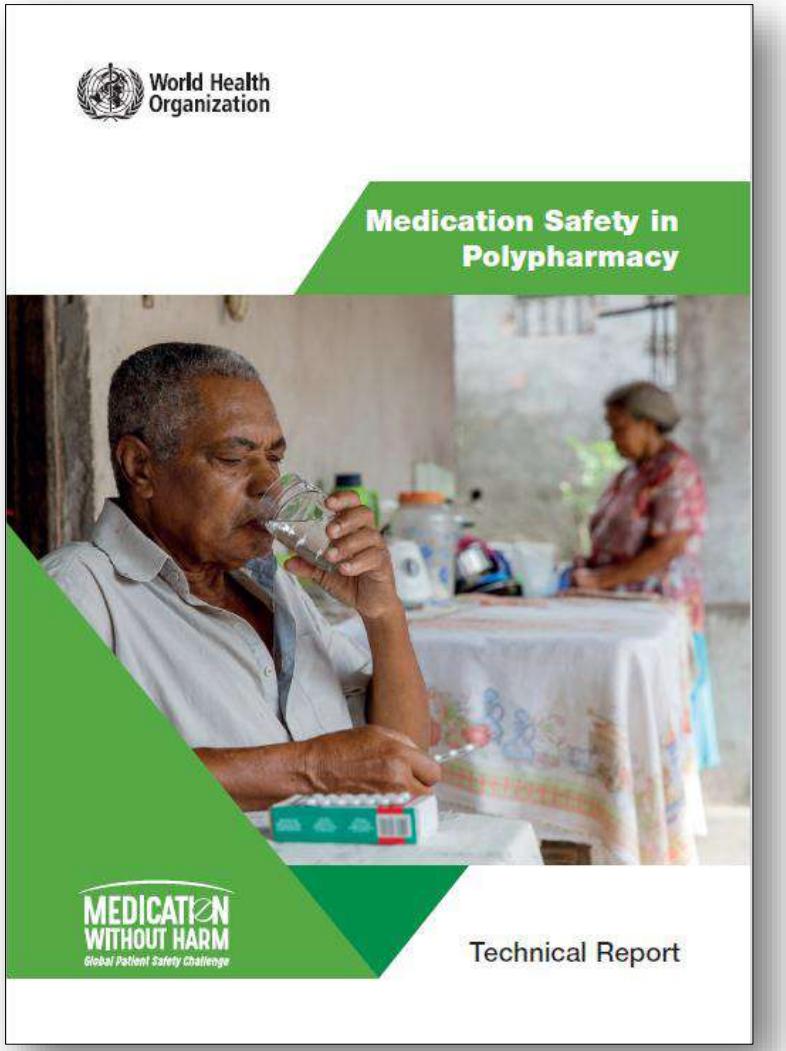
Scottish Government, UK.

Associate Professor, Edinburgh Napier University.

Project Coordinator, iSIMPATHY



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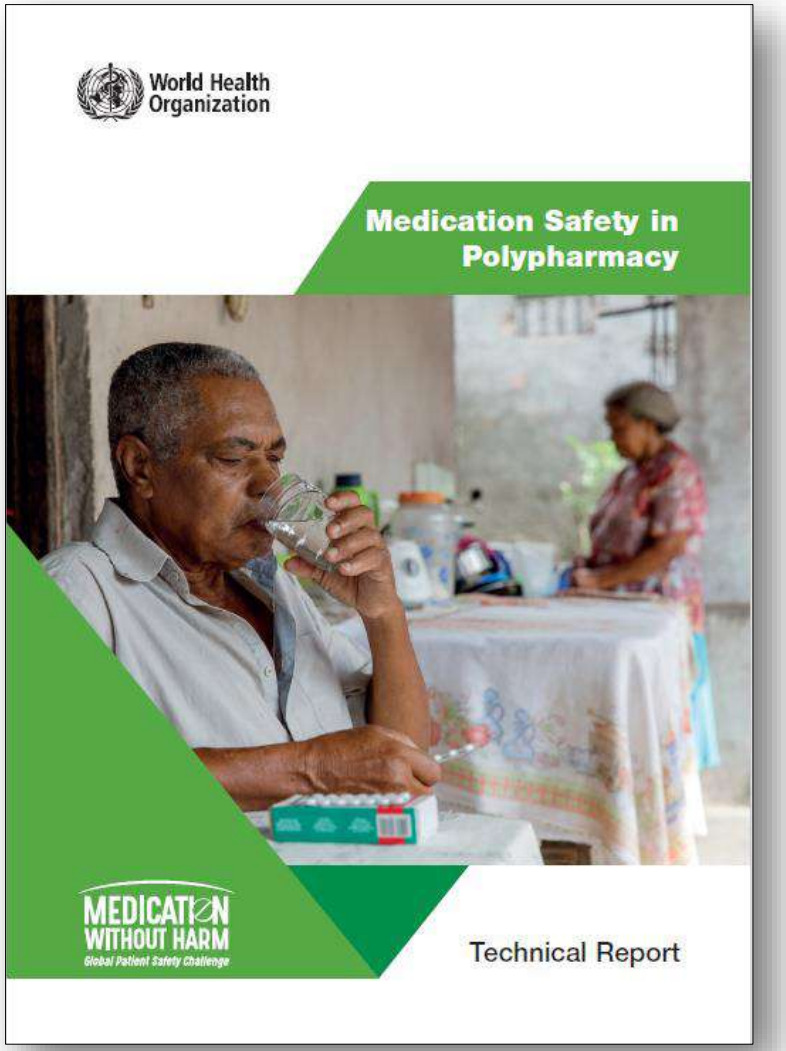
1. Introduction



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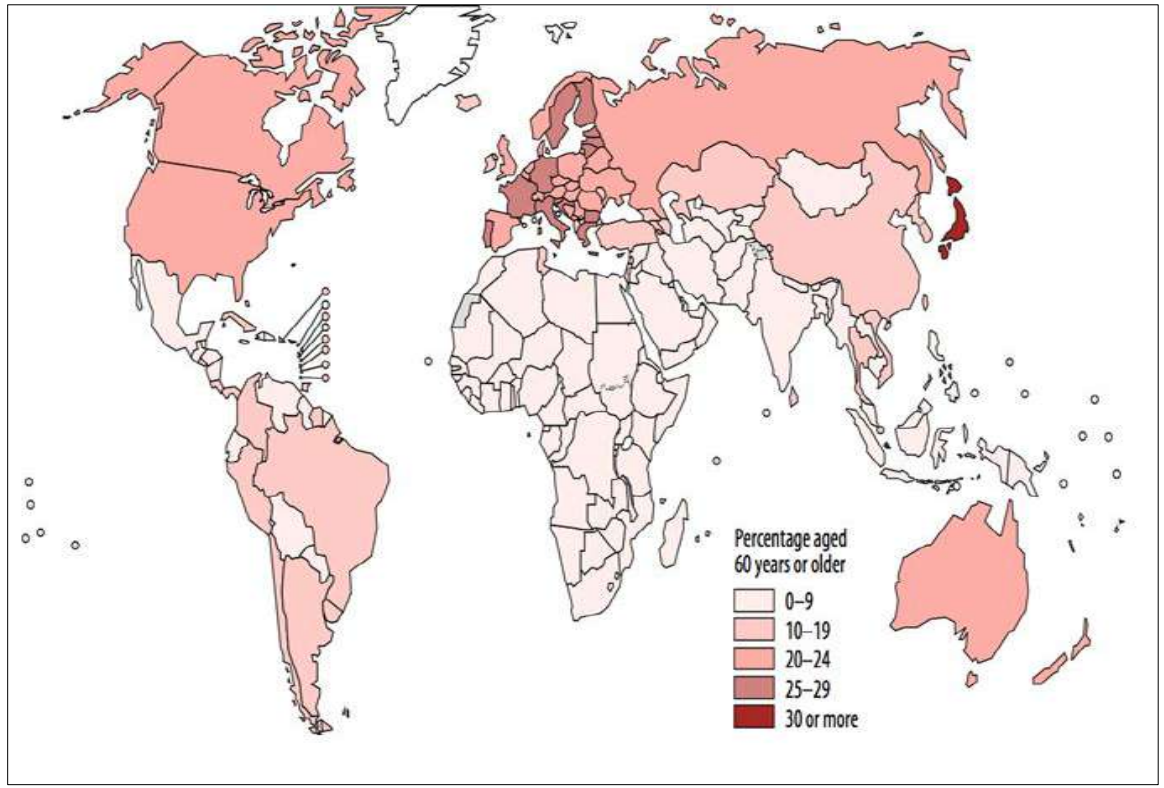
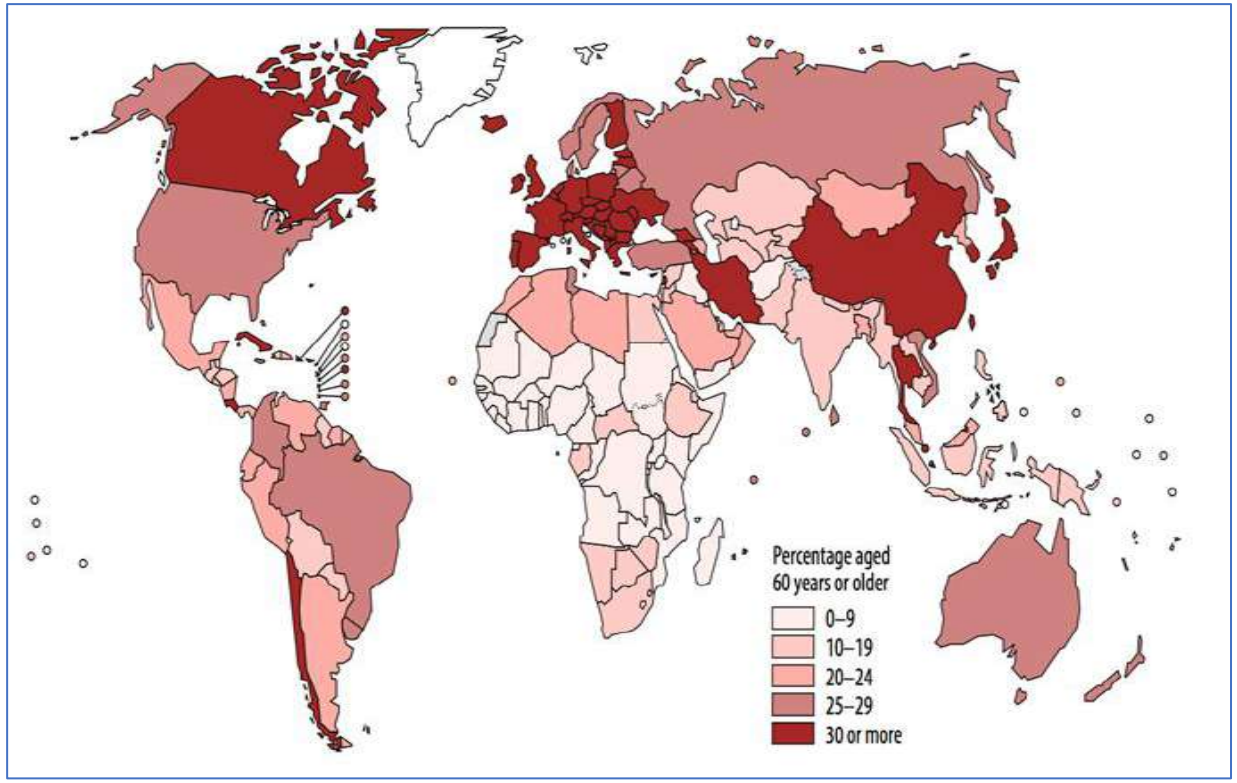
Population in 2015 and projections in 2050 (WHO)

Survival at younger age & socioeconomic development





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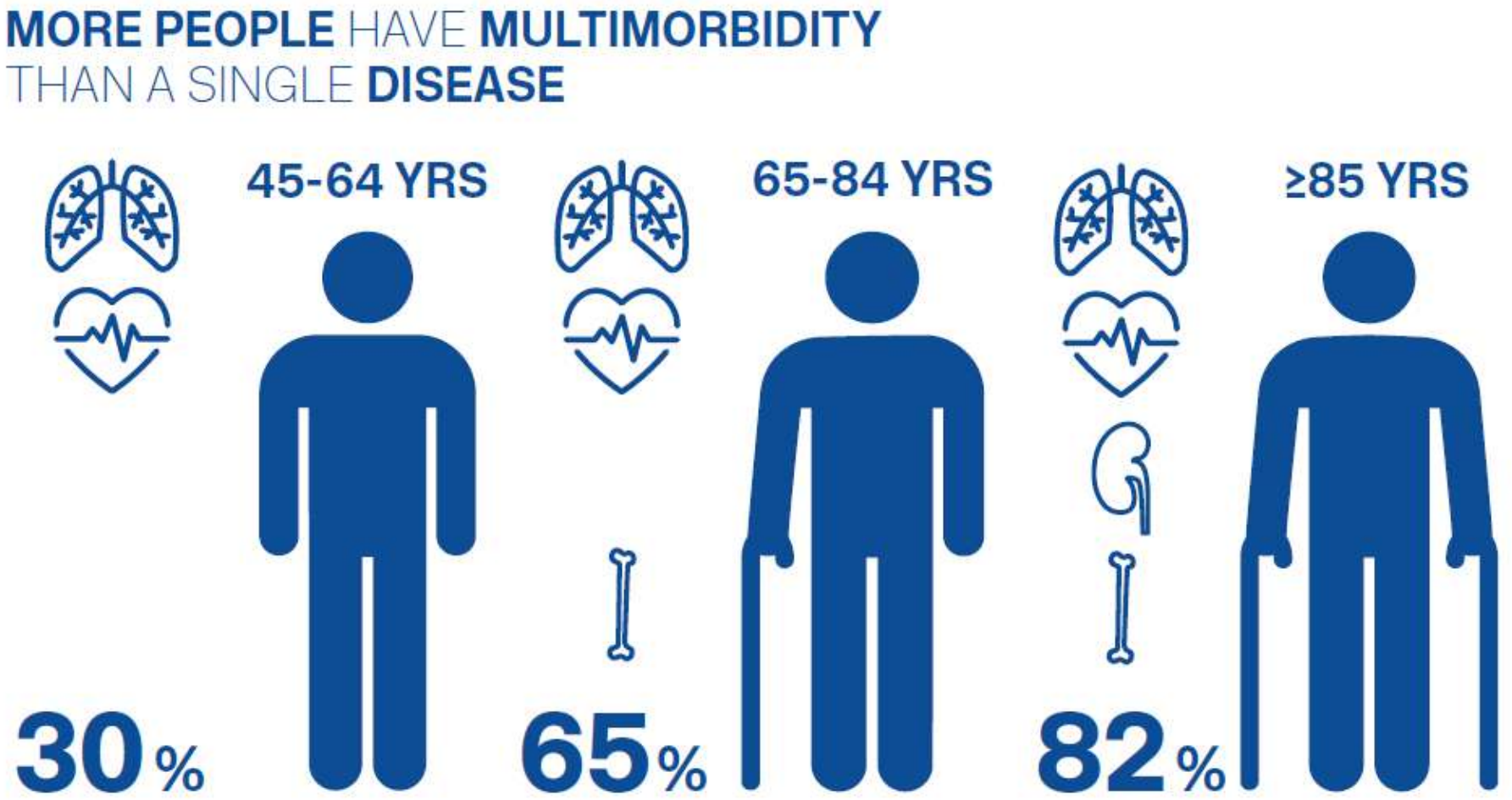
Multiple morbidity is common



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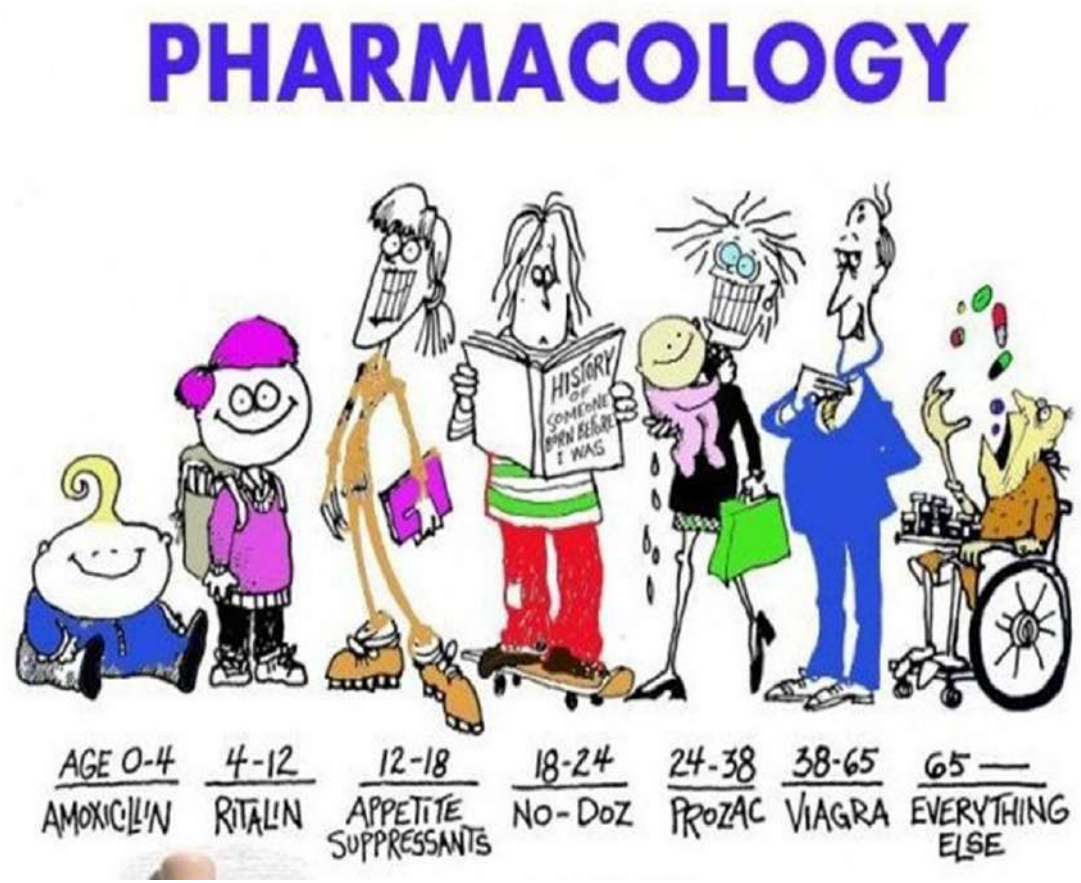
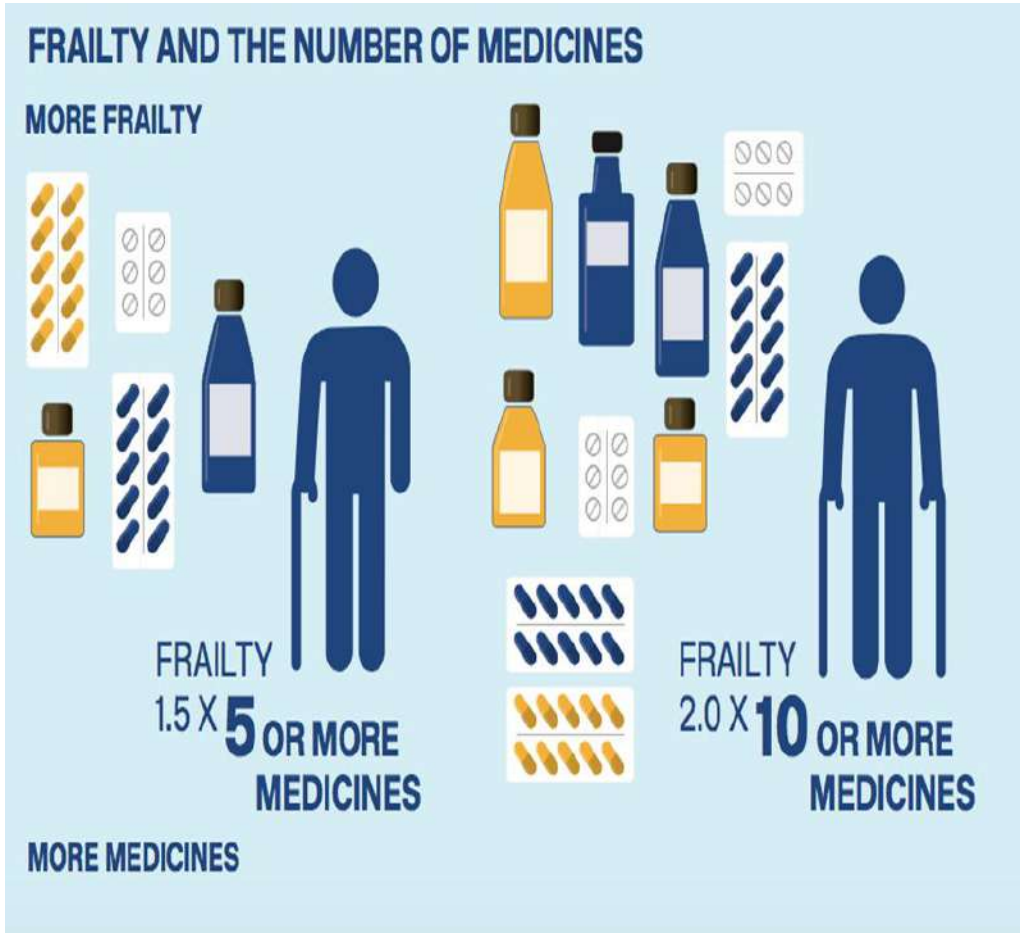
People: Impact of Frailty- renal & liver disease





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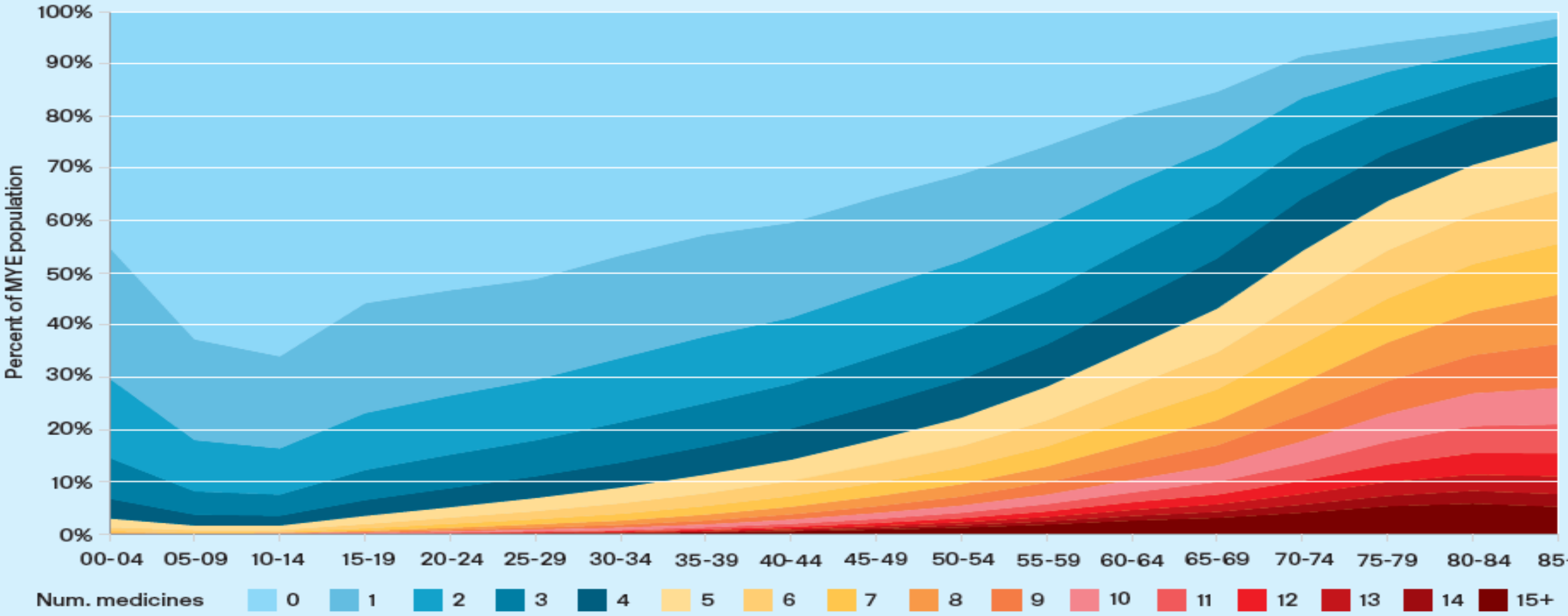
PERCENTAGE OF PEOPLE BY AGE GROUP ON MULTIPLE MEDICINES



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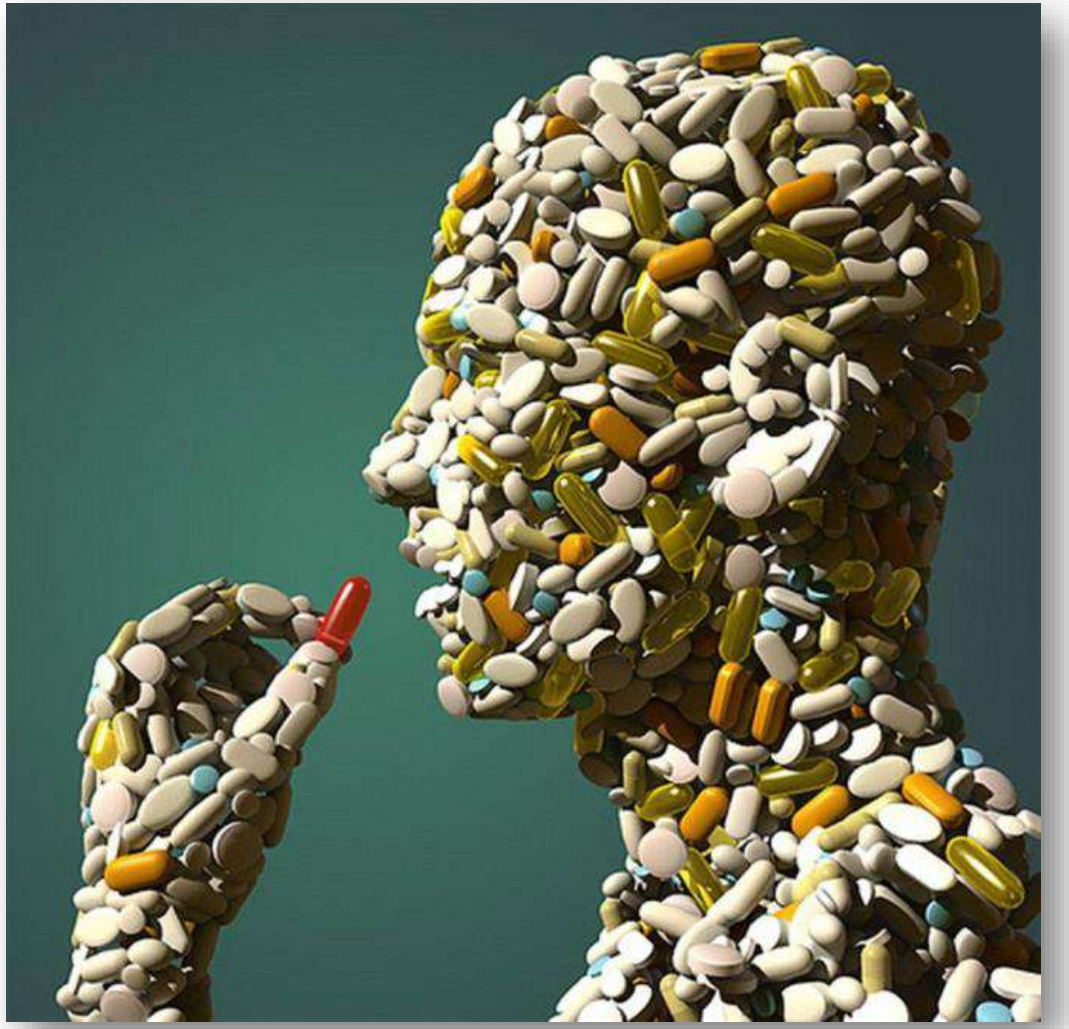

- **Appropriate polypharmacy** is present, when all drugs are prescribed for the purpose of achieving specific therapeutic objectives that have been agreed with the patient
- **Inappropriate polypharmacy** is present, when one or more drugs are prescribed that are not or no longer needed

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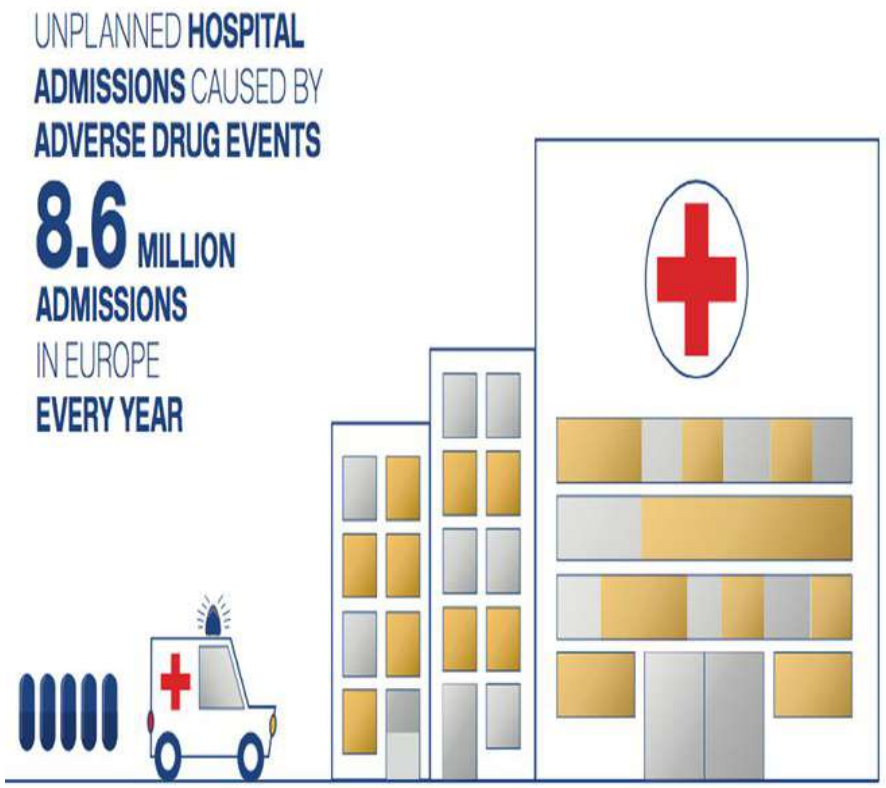
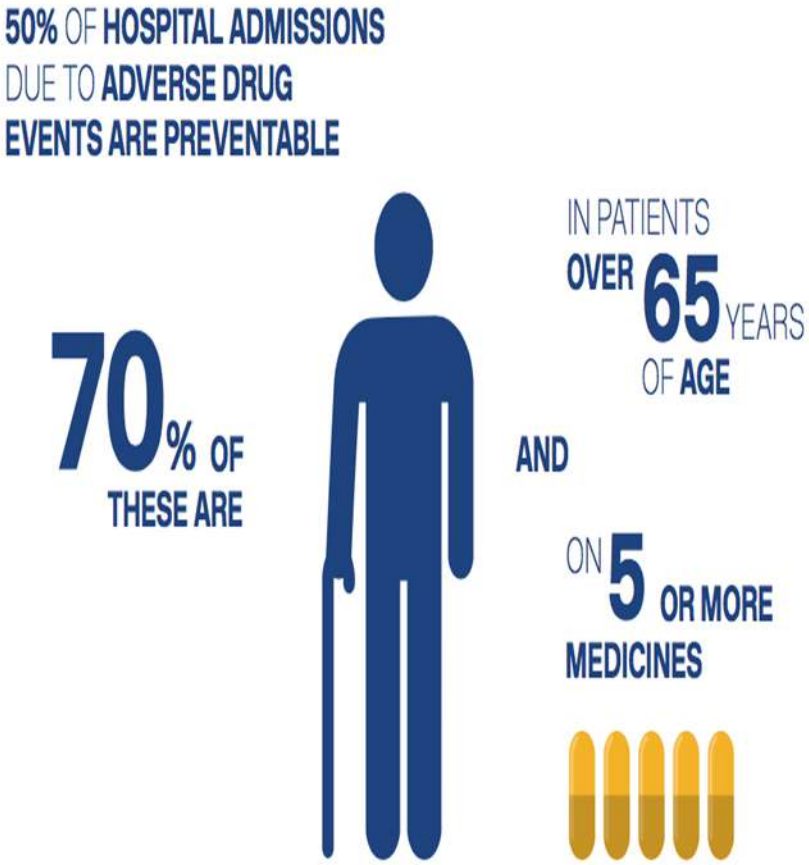
Urgency: Public health challenge: @initiation & @review





186 countries: 4% of total avoidable costs due to polypharmacy. Total of 0.3% global health expenditure could be saved = $18bn

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Adherence: Is polypill the answer?….

- 50% -80% with > 4 meds
- Non-adherence ~48% of asthma deaths, an 80% increased risk of death in diabetes and a 3.8-fold increased risk of death following a heart attack.
- Non-adherence to medicines costs the European Union €125bn pa billion

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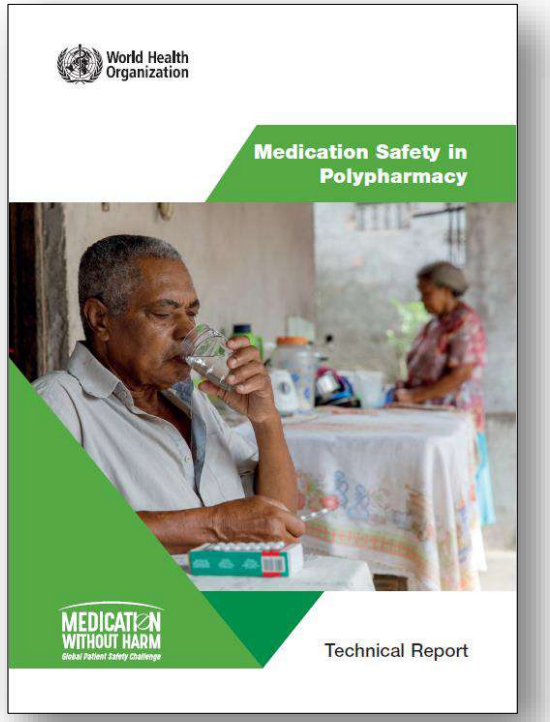
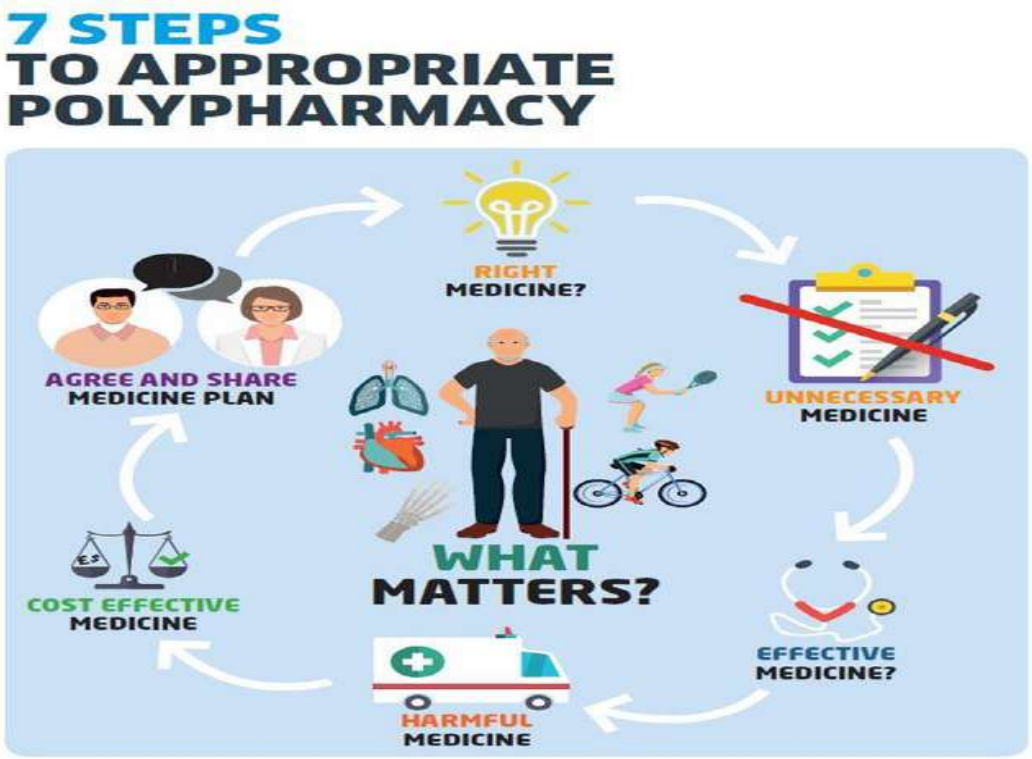
2. Medication Review in Polypharmacy





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http://www.polypharmacy.scot.nhs.uk

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"Trade offs"

Polypharmacy Clinic in rural Uganda

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Patients shared decision making : Patient advocate

Antiplatelets

Print

Antiplatelets – to prevent a second heart attack or stroke (Aspirin, Clopidogrel, Dipyridamole)

How likely are Antiplatelets to help me?

Key

This grey face represents the number of people in the survey group.

This green face represents the one person in the survey group that the medicine has helped.

Research suggests:

In a group of **94 people aged between 68-94** people with previous stroke or TIA, antiplatelets will prevent one person from this group (on average) from having another stroke or heart attack in the course of a year. (Research at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC64503/ and https://www.ncbi.nlm.nih.gov/pubmed/21576939)

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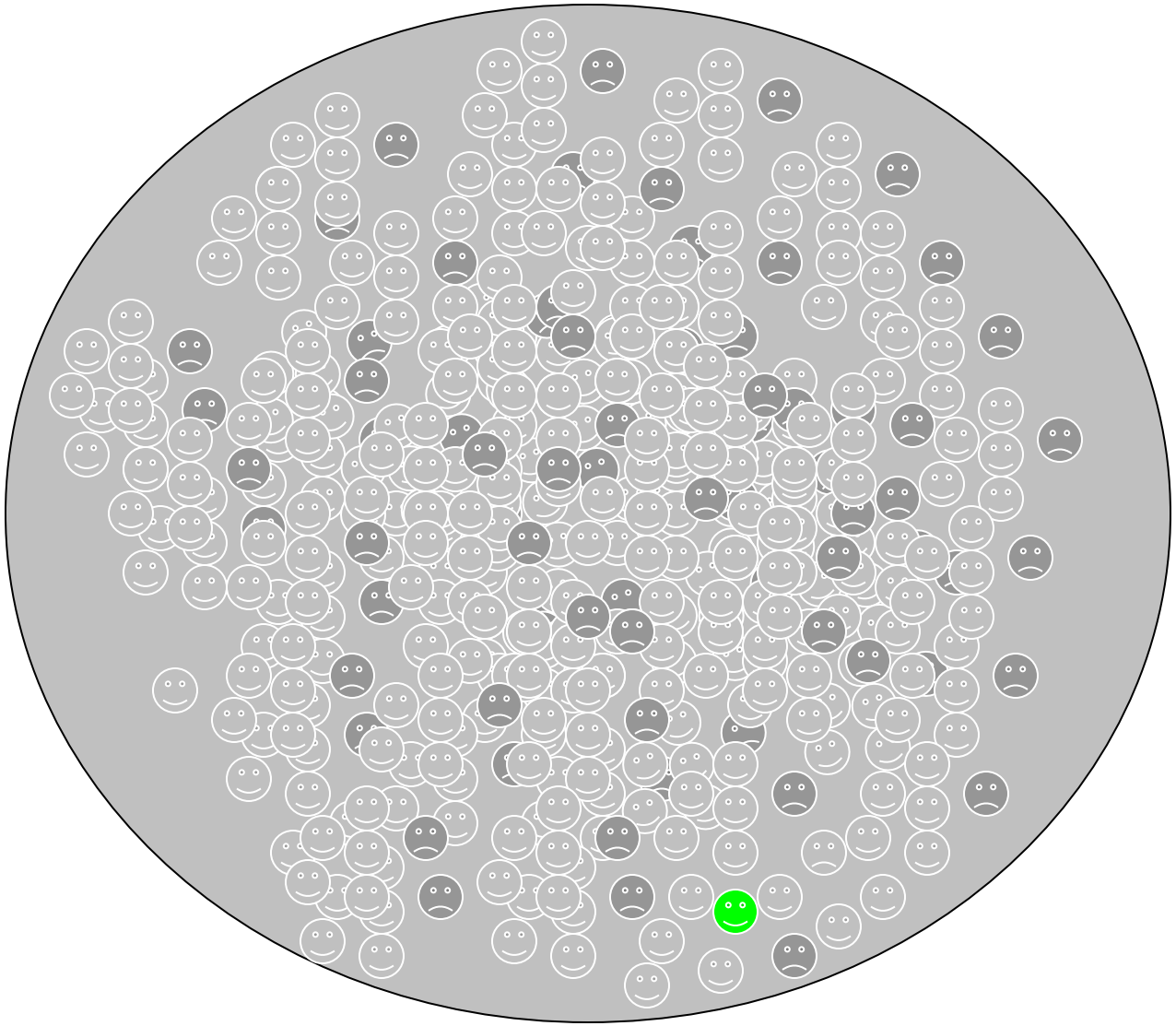

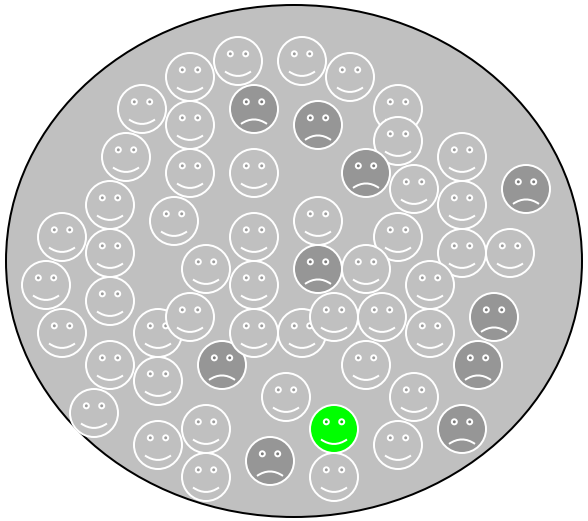

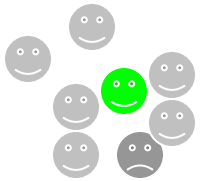

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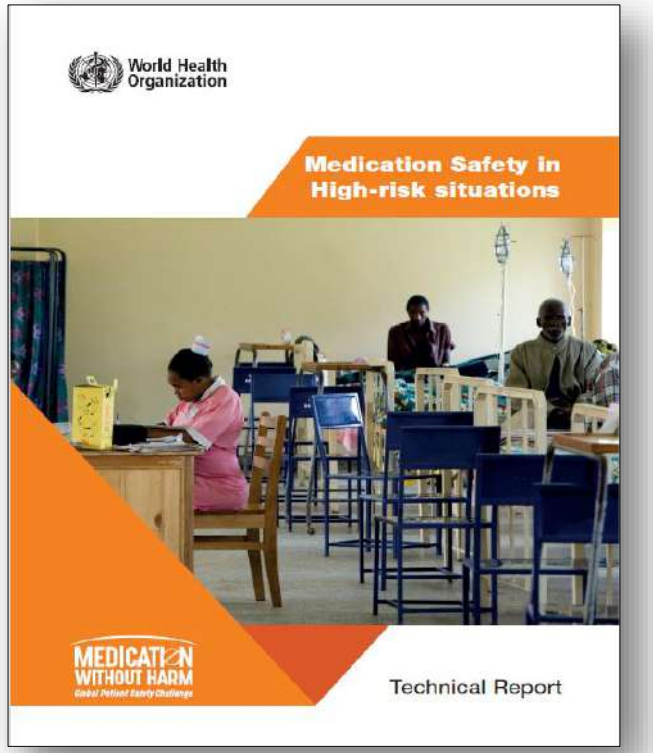
High-risk Situations



- Some high-risk (high-alert) **medications** are associated with significant harm when used in error (e.g. APINCH)

A – anti-infective

P – Potassium & other electrolytes

I – Insulin

N – Narcotics (opioids) & other sedatives

C – Chemotherapeutic agents

H – Heparin & anticoagulants

O -Other high-risk medications identified by local health facilities

High risk meds and situations in primary care:

- Mair A, Wilson M, Dreischulte, T. **Addressing the Challenge of Polypharmacy** Annu.Rev.Pharmacol.Toxicol.2020.60:33.1–33.21 https://www.annualreviews.org/doi/abs/10.1146/annurev-pharmtox-010919-023508

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High Risk medicines in Primary care

Mair A, Wilson M, Dreischulte, T. Addressing the Challenge of Polypharmacy Annu.Rev.Pharmacol.Toxicol.2020.60:33.1–33.21
https://www.annualreviews.org/doi/abs/10.1146/annurev-pharmtox-010919-023508

- ***Non-steroidal anti-inflammatory drugs and antithrombotics***
  - NSAIDs, antiplatelets, anticoagulants, corticosteroids, and selective serotonin reuptake inhibitor
- ***Antipsychotics***
  - In 2009, antipsychotics were estimated to cause approximately 1,800 deaths and 1,620 cerebrovascular events in people with dementia in UK
- ***Benzodiazepines***
- ***Antidepressants***
  - falls, cardiotoxicity & withdrawal reaction
- ***Medicines with anticholinergic side effects***
  - Linked to impaired cognition, increased risk of falls, functional decline, cardiovascular events, and mortality.
  - dose-dependent however, sensitivity to anticholinergic effects varies significantly between individuals.

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High Risk medicines

- ***Centrally acting analgesics***
  - Limitations on benefits of medicines for pain
  - Falls and potential for abuse and addiction
- ***Antihyperglycemics***
  - Type 2: Smoking cessation, adequate blood pressure control, and lipid
  - Tight glycemic control (HbA1c < 53 mmol/mol) preventing macrovascular complications may be appropriate in patients who are relatively health
  - increase the risk of hypoglycemia, which has been associated with increased mortality, cardiovascular events, falls, and accidents
- ***Medications associated with increased risk of falls***
  - 30% of community-dwelling older adults falling every year and about half of these experiencing multiple falls >80, this can rise to 50%
  - Medications are modifiable extrinsic risk factors
  - benzodiazepines, antidepressants, antipsychotics, antihypertensives, and diuretics
  - Polypharmacy: specific fall-inducing drugs or combinations of drugs

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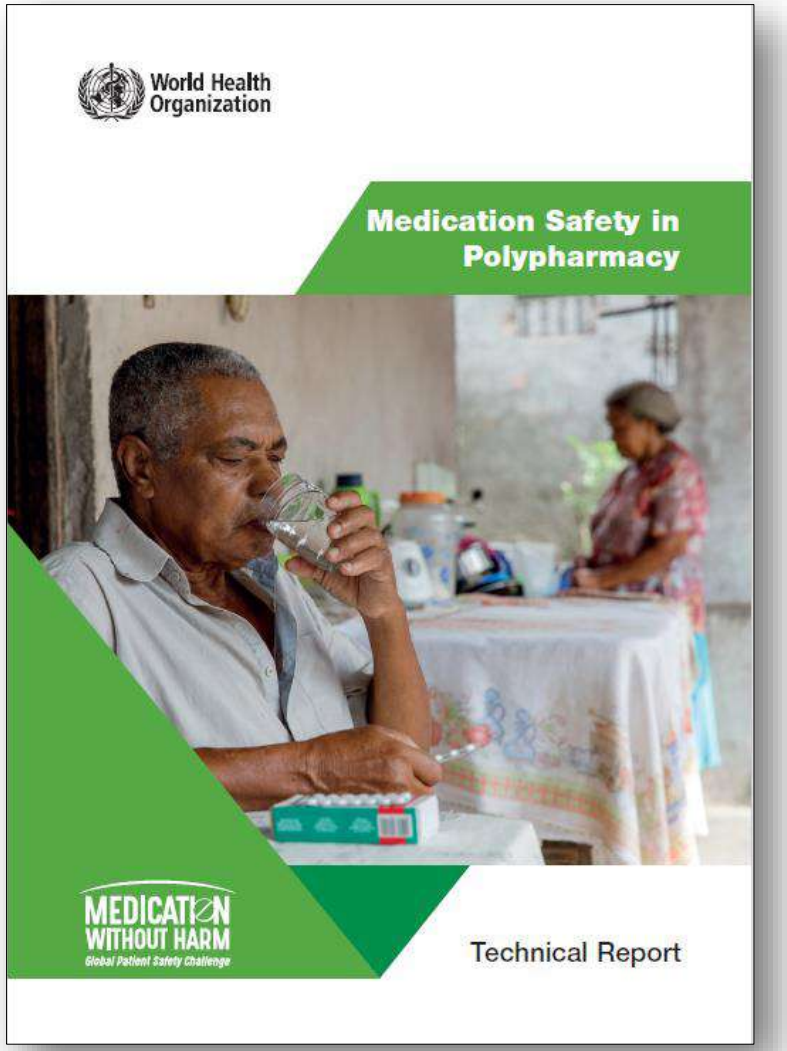
3. Implementing polypharmacy initiatives



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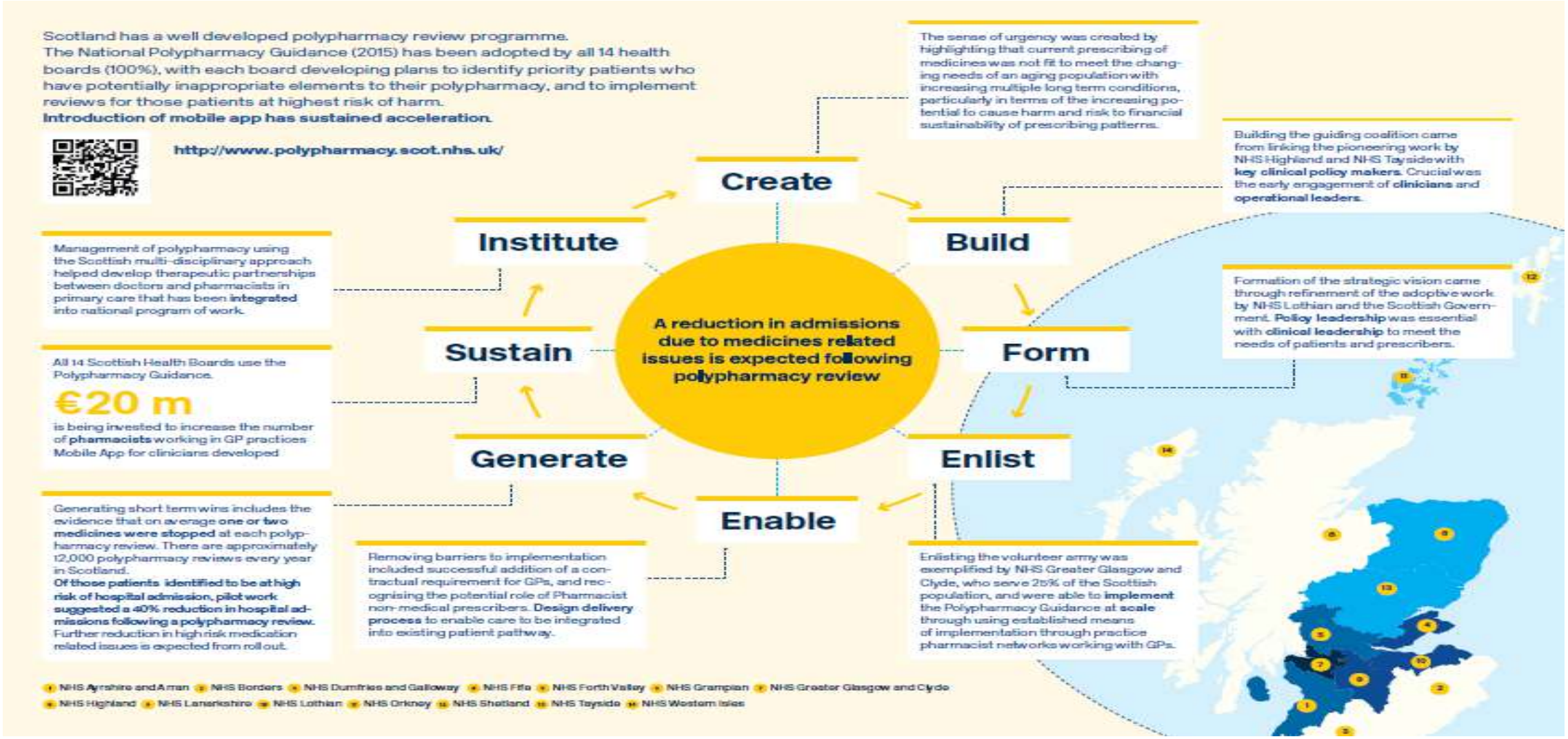
Scotland's Change Management Approach



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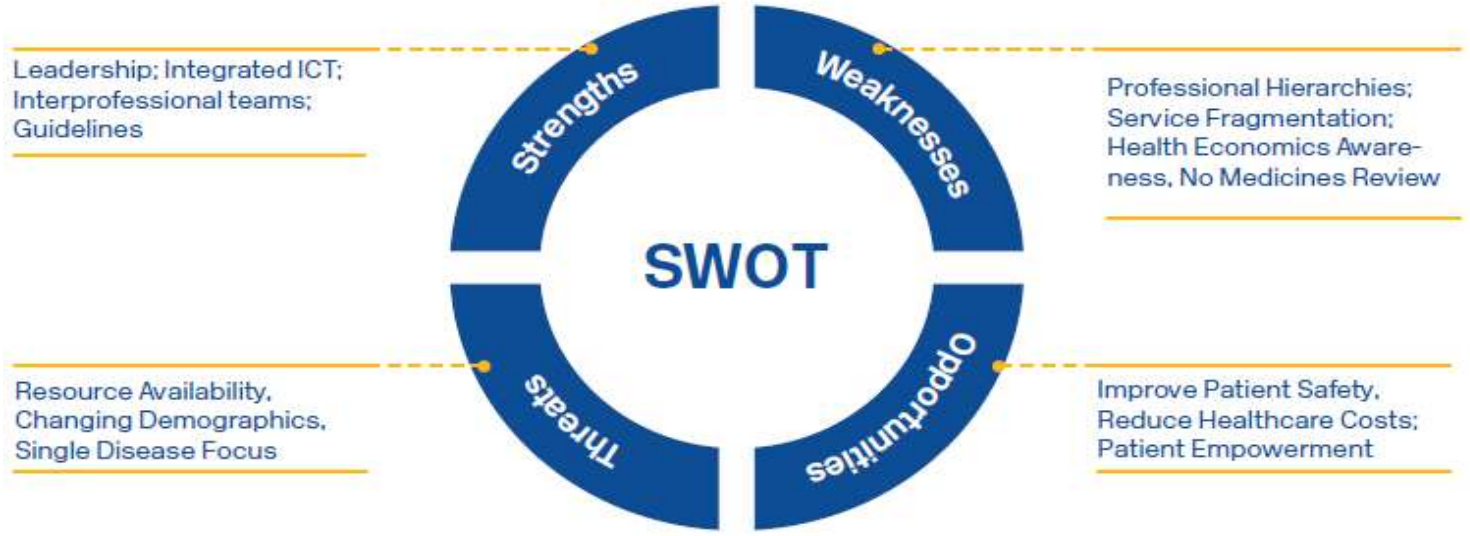
ANALYSE **YOUR INFRASTRUCTURE** FOR **POLYPHARMACY MANAGEMENT**



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4. Health Systems approach to polypharmacy

4.1 Patients and the Public

<u>Role of patients :</u>

- report all medicines taken including those brought together with
- tools designed for patients

<u>Prioritising Patients for Review:</u>

- Due to limited resources- care homes, frailty, Taking 10 or more meds

4.2 Health care Professional- Case studies for learning

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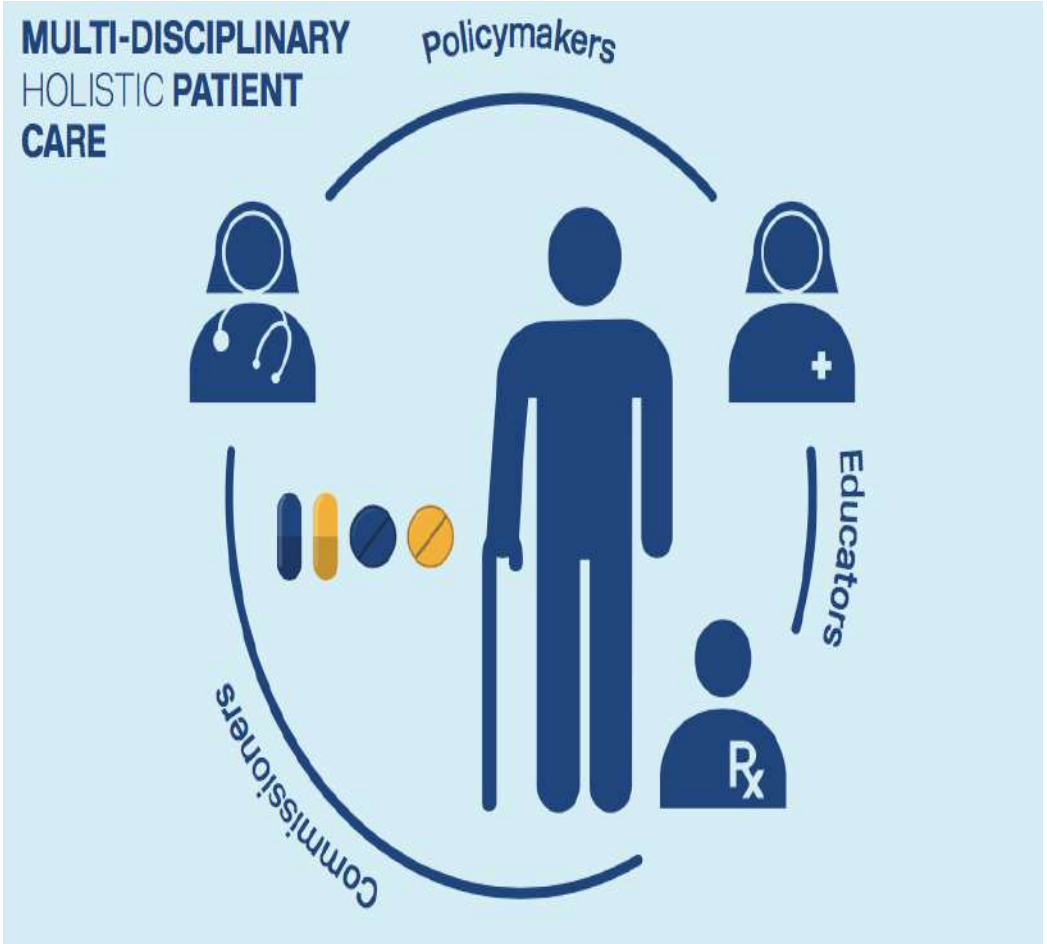
4. Health Systems approach to polypharmacy

4.3 Medicines – Drug -drug/
drug disease interactions/ decision support

4.4 Systems and Practices
Making polypharmacy reviews part of patient pathways & ensuring monitoring in place to establish cause of hospital admissions



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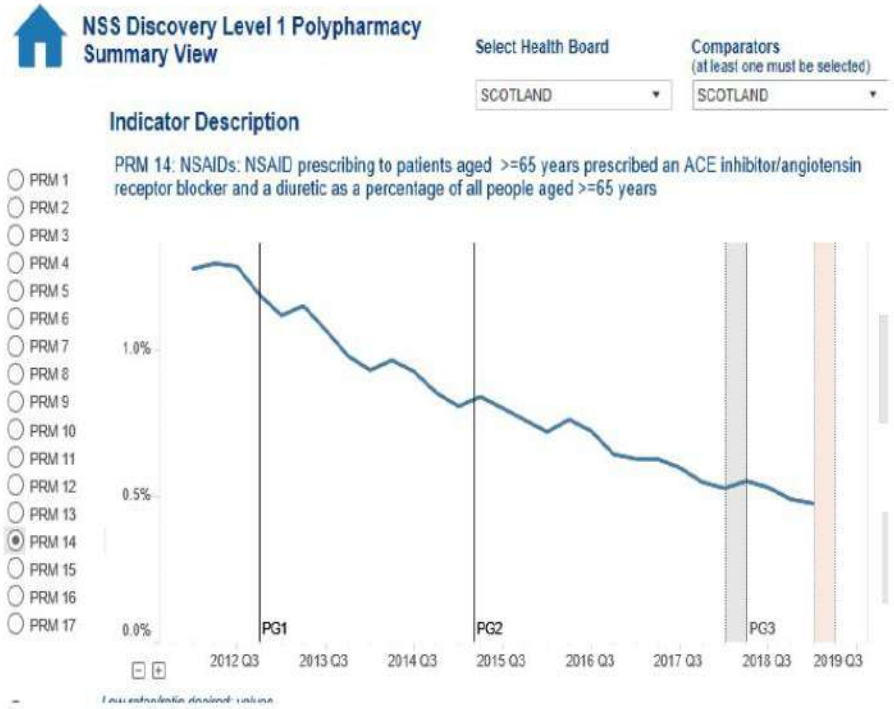
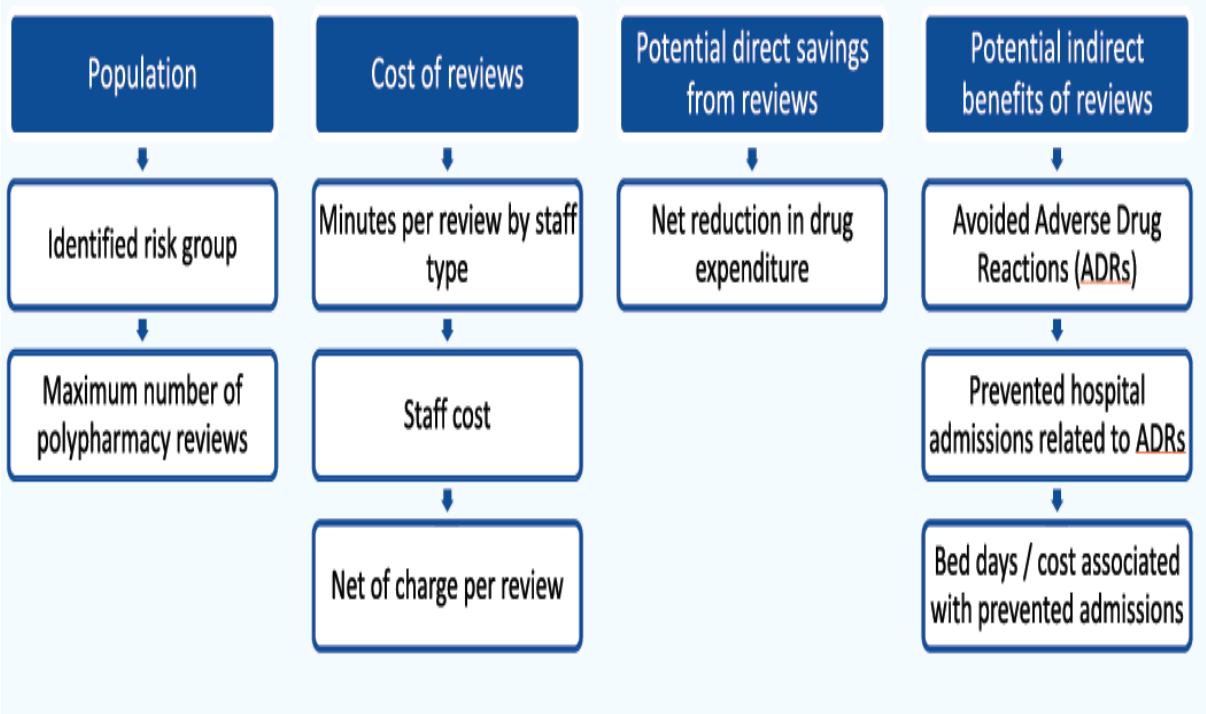
4.5 Monitoring and evaluation

Indicators



Economic Impact



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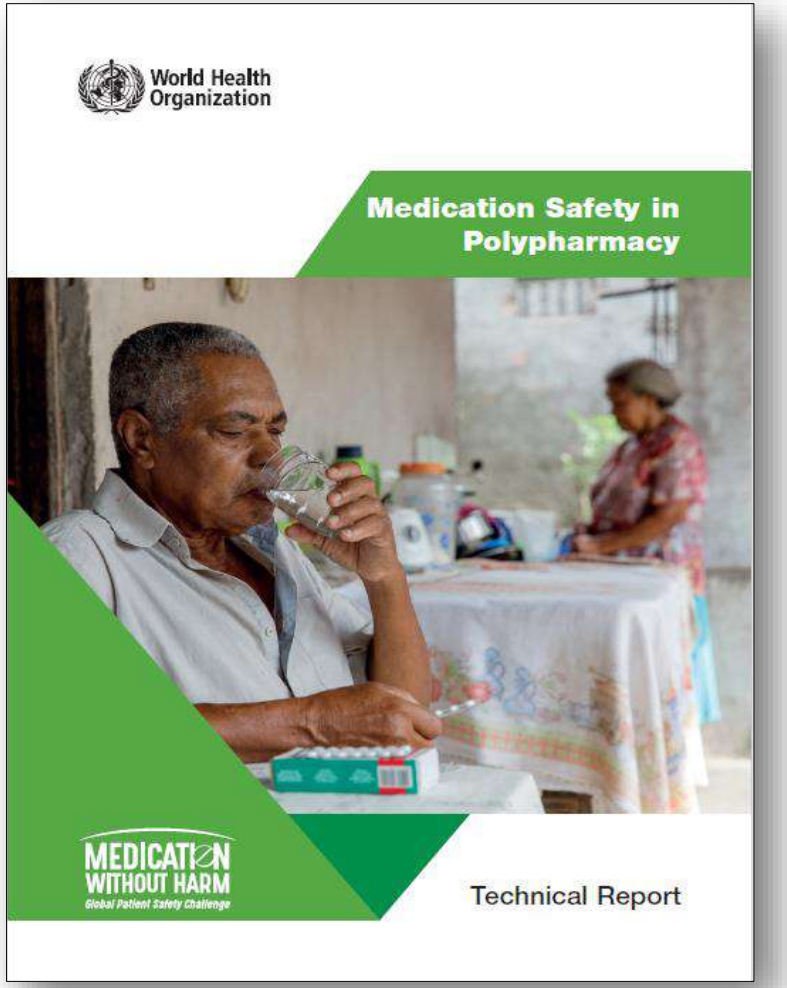
5. Points for Consideration for countries

- Policies for regular reviews & that support programmes at scale using change management
- Addressing at inappropriate polypharmacy initiation, during transitions of care
- Safety culture to enable healthcare workers to work in teams and reduce barriers
- Healthcare workers to involve patients to discuss issues for shared decision making



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5. Points for Consideration for countries

- Safety culture for person-centred approach to medication review
- Addressing lifestyle issues during reviews
- Using technology where appropriate to support shared decision making
- Using reporting systems that are available to support reporting and learning from errors

*Berwick, D. M., Nolan, T. W., & Whittington, J. (2008), "The triple aim: care, health, and cost", Health Aff.(Millwood.), vol. 27, no. 3, pp. 759-769. ** Bodenheimer, T; Sinsky, C. From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider. Ann Fam Med 2014;12:573-576. doi: 10.1370/afm.1713.*

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Implementing the findings of SIMPATHY

- 15 000 person centre reviews for appropriate polypharmacy
- Adherence
- PROMS
- Training developed for HCP
- www.isimpathy.eu

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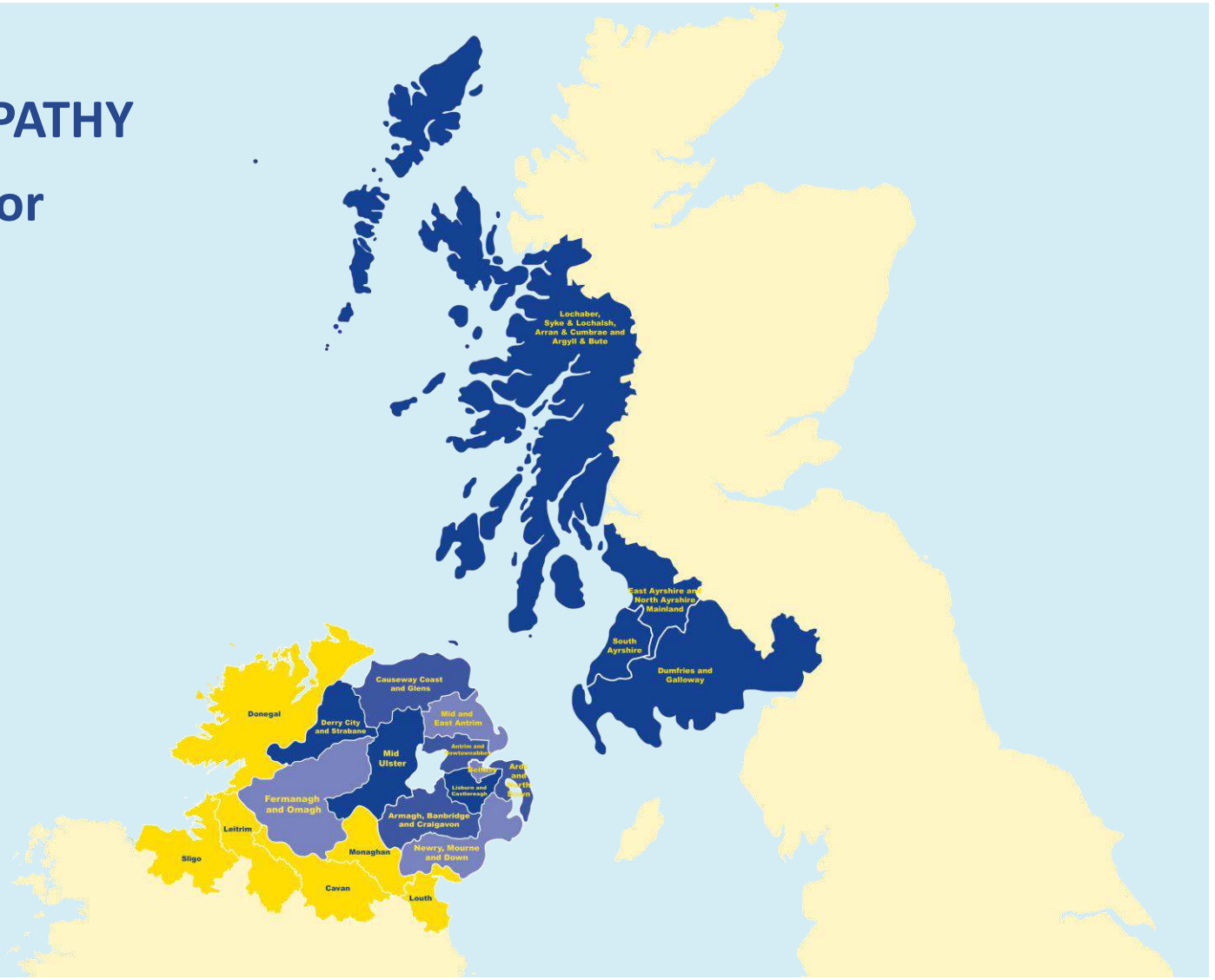

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