

Overuse in hospitals

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Choosing wisely, Lugano – September 25th 2015

Plan

- Introduction
- «Smarter Medicine» list in hospital
- Inappropriate prescriptions
- Expensive interventions with evidence of overuse
- Can we reduce inappropriate tests and treatments?
- Problem of multimorbidity and guidelines
- Conclusions

30 to 50% of the health costs are hospital treatments



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Health care costs 2012

Indicators of health care costs		
Costs of health care system as percentage of GDP		10.9%
Health care expenditure per capita and month in CHF		708
Health care costs in CHF million		67'982
Health care costs by service provider	in CHF million	as % of total
Hospitals	25'492	37.5%
Outpatient providers ¹	20'614	30.3%
Nursing and residential care facilities	11'780	17.3%
Costs of health care system by service type		
In-patient treatment	31'403	46.2%
Out-patient treatment ²	22'494	33.1%
Sale of health-related goods	7'447	11.0%

KAIM Smarter Medicine in hospital – Methods

- 1. Review of international lists** (Choosing wisely, NICE "Not to do") and selection of relevant items for general internal medicine in hospital.
- 2. Selection by 1 Faculty + 1 chief resident** to select the 10 most relevant.
- 3. Discussion of the top 10 list** with 20 chief residents and 5 Faculties
- 4. Final top 5 list**

“Smarter Medicine” in hospital: KAIM recommendations 2014

- **Don't obtain a urine culture or use AB to treat bacteriuria** in older adults unless specific urinary tract symptoms are present
- Avoid using **medications** to achieve **HbA1c < 7.5%** in patients aged ≥ 65 .
- **Don't place or leave in place urinary catheters for incontinence** or convenience or monitoring of output for non-critically ill patients
- **Don't use benzodiazepines or other sedative-hypnotics in older adults** as first choice for insomnia, agitation or delirium
- **Avoid transfusions of red blood cells for arbitrary hemoglobin or hematocrit thresholds** in the absence of symptoms of active coronary disease, heart failure or stroke
 - **UCSF 2015**: large success to decrease use of RBC!

C Rieben, S Streit & N Rodondi. *Primary Care* 2014

Prevalence rates of inappropriate prescriptions (STOPP & START criteria)

- **Primary Care¹:**
 - Potentially inappropriate medicines (STOPP): 21%
 - Potentially prescribing omissions (START): 23%
- **Secondary Care^{2,3}:**
 - Potentially inappropriate medicines (STOPP): 35%
 - Potentially prescribing omissions (START): 58%
- **Nursing Home Care^{4,5}:**
 - Potentially inappropriate medicines (STOPP): 57%
 - Potentially prescribing omissions (START): 58%

¹ Ryan C et al. *Br J Clin Pharmacol* 2009; ² Gallagher P & O'Mahony D, *Age Ageing* 2008

³ Barry PJ et al., *Age Ageing* 2007; ⁴ Ryan C et al, *Ir J Med Sc* 2009 ; ⁵ O'Sullivan D et al., *Eur Ger Med* 2010

Most common avoidable ADEs that cause hospital admission

- Injurious falls or fractures :
 - Benzodiazepines or sedative hypnotics
 - Antipsychotics
 - Opiates
- Orthostatic hypotension and treatment of hypotension
- Electrolyte disturbance and diuretics
- Acute kidney injury and diuretics/nephrotoxic drugs
- Gastritis / Peptic Ulcer and NSAIDs
- Symptomatic bradycardia and beta blockers

Howard R et al., *Br J Clin Pharmacol* 2007

Expensive interventions with evidence of overuse (Prof. A. Perrier) ¹

- Vertebroplasty for osteoporotic vertebral fractures
- Closure of foramen oval (FOP)
- Left atrial appendage closure for atrial fibrillation
- Spinal surgery in the case of arthrosis
- Coronary revascularisation in patients without chest pain or acute coronary syndrome:
 - 80% of stent implementations in the US
 - 34% of stent implementations in Switzerland for chronic CHD without stress test ²

¹ Dia from Prof. A. Perrier; ² Senn O et al., *Plos One* 2015

Vertebroplasty

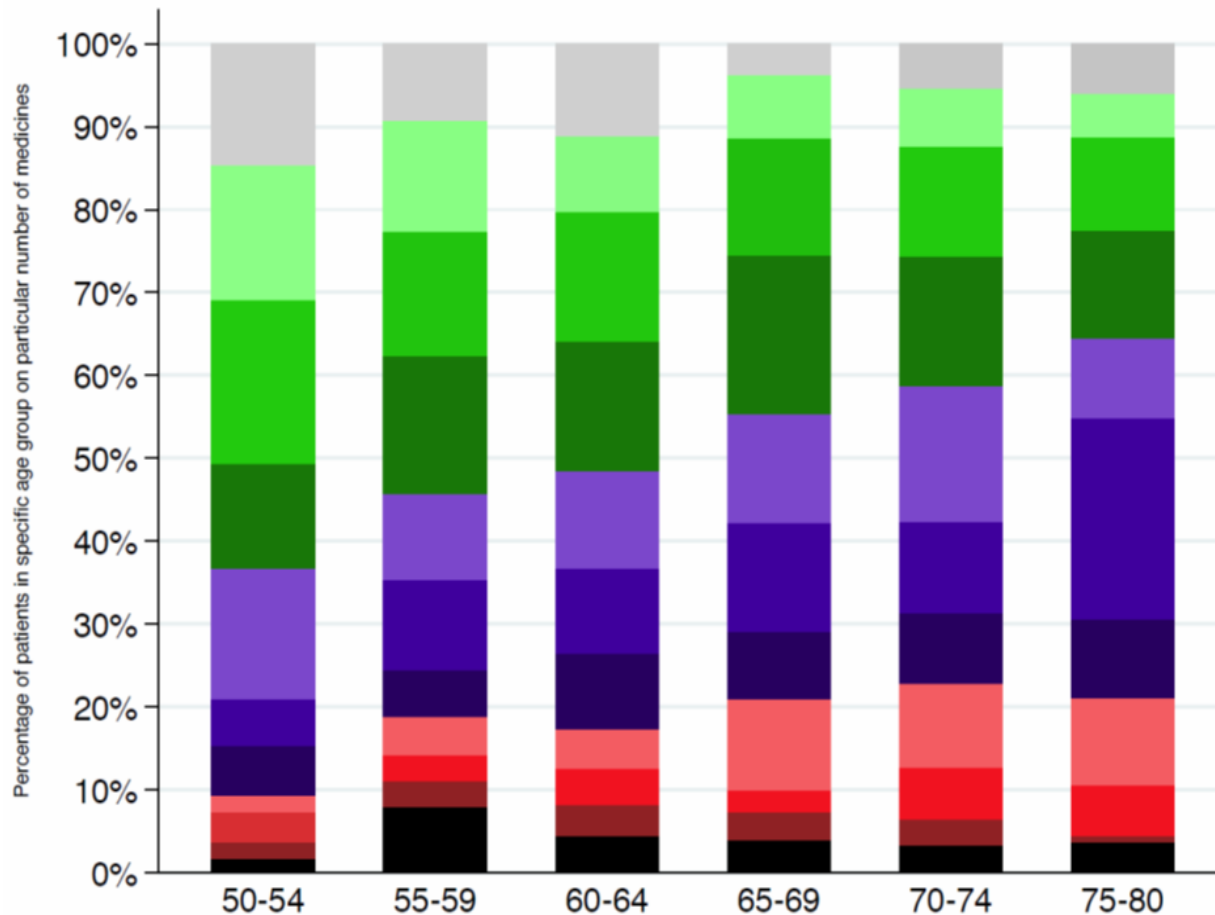
- Despite 2 RCTs with sham procedure (“sham”)^{1,2}, little or no decrease in vertebroplasty after these publications ³
- What about Switzerland?
 - Ongoing study in Bern on overused of invasive interventions:
 - First results show large increase over the years in Switzerland...

¹ Buchbinder R et al., *N Engl J Med* 2009; ² Kallmes DF et al., *N Engl J Med* 2009

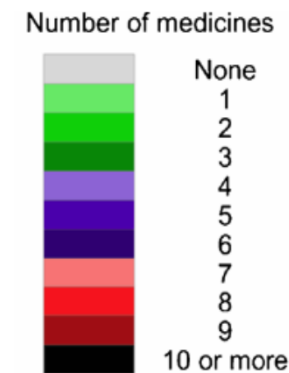
³ Luetmer MT et al., *Am J Neuroradiol* 2011

Should we and can we reduce inappropriate tests and treatments?

Polypharmacy & age in Switzerland (n=1002)¹



In 10 nursing homes (Jura, CH)²:
 number of medication per patient: between
 - 2 to 27/day
 - **average 12.8/day**



¹ Ms in preparation ; ² Brulhart MI, et al. *Int J Clin Pharm* 2011

One limitation for the application of guidelines¹

- Very few patients with comorbidities included:
 - Randomized studies published these 15 last years²
 - 63% have excluded multimorbid patients
 - Only 2% have explicitly included those
 - 50% of the population has 2 or more diseases
- **Funding needed for randomized studies to develop guidelines for multimorbid patients**

¹ Rodondi N & Héritier F, *Rev Med Suisse* 2014; ² Jadad AR et al., *JAMA* 2011;306:2670-2

Does reduction of polypharmacy improve outcomes in multimorbid elderly?

OPERAM: OPTimising thERapy to prevent Avoidable hospital admissions in the Multimorbid elderly



- EU Horizon 2020: CHF 8 million (EU + SBFI)
- Coordination: Uni of Bern, Prof. N. Rodondi
- Great interest for «Choosing Wisely» initiatives at the national political level and at the EU

Conclusions

- Generalists: major role in reducing overuse
- Swiss Specialists should develop «Top 5» lists:
→ > 60 specialty societies in the US
- Most available evidence does not apply to the majority of the population !
- Collaboration between academic and family generalists for:
 - patient-centred guidelines
 - new trials among the multimorbid elderly, including trials of stopping preventive medication
- Public funding needed for trials to reduce overtreatment and improve quality of care

Rodondi N, *FMS* 2013; Rodondi N & Héritier F, *Rev Med Suisse* 2014

Thank you for your attention

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