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Applying research into emergency nursing – examples from Iceland

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COMPASSION • PROFESSIONALISM • SAFETY • PROGRESS

Outline

- The Research Institute in Emergency Care
- Research projects
  - Examples
- Implementing study results
  - Changing practice
  - The future

Landspitali – The National University Hospital of Iceland

- The Icelandic population 330.000 *(Jan. 2015)*
  - 211.000 in the capital area

- One academic (teaching) hospital
  - 680 hospital beds
  - 5700 employees

- General ED: injuries and emergency care
- Pediatric ED: illnesses
- Cardiac ED
- Psychiatric ED

- 101.000 emergency visits per year / About 300 per day

- About 100 nurses in 75,2 positions at the General ED
- The Landspitali Emergency Nursing Academic Council (LENAC)

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The Research Institute in Emergency Care

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- Multiprofessional center of emergency care research.
- Promotes and coordinates research projects.
- Promoting preventions.
- Promote education and teaching.
- Cooperation with research units and other parts.
- A venue for research projects.
- Annual professional conference.

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Examples of research projects

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Epidemiology – e-journals, registers

- Implementing the service of clinical pharmacists in the ED – medication errors
- Epidemiology of childhood fatal injuries 1980-2012
- Traffic injuries and deaths in Iceland
- Ottawa ankle-rule
- Self-harm and suicides in aspects of the financial crisis
- Elderly in the ED
- Foreign tourists needing health-care
- Nursing competencies

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Suicide attempts and self-harm during a dramatic national economic transition: a population-based study in Iceland

Hildur G. Ásgeirsdóttir[1], Tinna L. Ásgeirsdóttir[2], Ullakarin Nyberg[3], Thordis K. Thorsteinsdottir[4,5], Brynjólfur Mogensen[4,6], Páll Matthíasson[6,7], Sigrún H. Lund[1], Unnur A. Valdimarsdóttir[1,8,9], Arna Hauksdóttir[1]

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Assessment and security protocol for individuals with suicidal ideation at the University Hospital of Iceland

Anna María Þórðardóttir, Hrönn Stefánsdóttir, Hulda Hrönn Björgúlfsdóttir, Kristín Rósa Ármannsdóttir

In the spring of 2014 a new protocol was implemented at the Emergency Department (ED) at the University Hospital of Iceland with the aim to assess and define patient safety in case of suicidal ideation or suicide attempts.

At admission at the Emergency Department the Triage nurse uses the following questions among others as a guideline to assess an individual with suicidal ideation:

- Have you ever felt that life was not worth living?
- Have you ever had thoughts about wanting to die?
- Have you ever had thoughts about self-harm?
- Are you thoughts about commiting suicide now?
- Do you have a suicidal plan?
- Have you tried to harm yourself? If so, how often and when was the last time?

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Foreign tourists´ visits to Emergency Department Landspitali University Hospital, 2001-2014

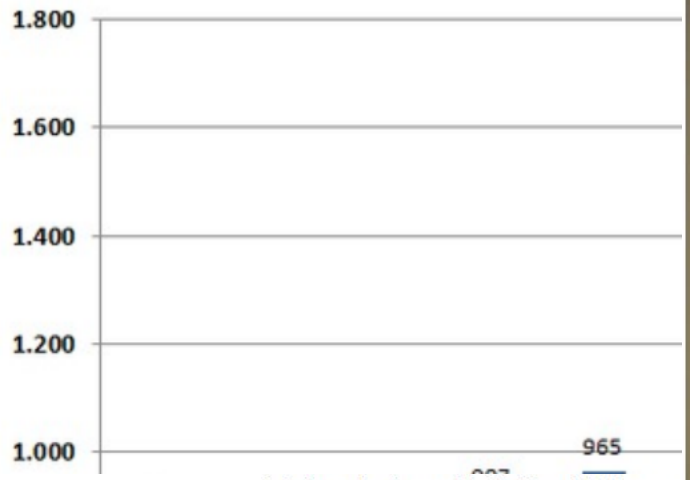
Gudbjorg Palsdottir[1,3],
[1]Emergency Services, Landspitali University H
University of Iceland (UI); [3]Universit

Introduction

The number of foreign tourists in Iceland increased m
facilities may impact the outcomes of illness and inju
to Landspitali University Hospital (LUH) Emergency

Innlent | mbl | 6.3.2016 | 19:48 | Uppfært 21:19

14.303 ferðamenn komið á bráðamóttöku



Helga Þórey Friðriksdóttir og Dagný Lóa Sighvatsdóttir kynna niðurstöður sínar.
mbl.is/Golli

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Elderly in the ED

- Gender differences in visits
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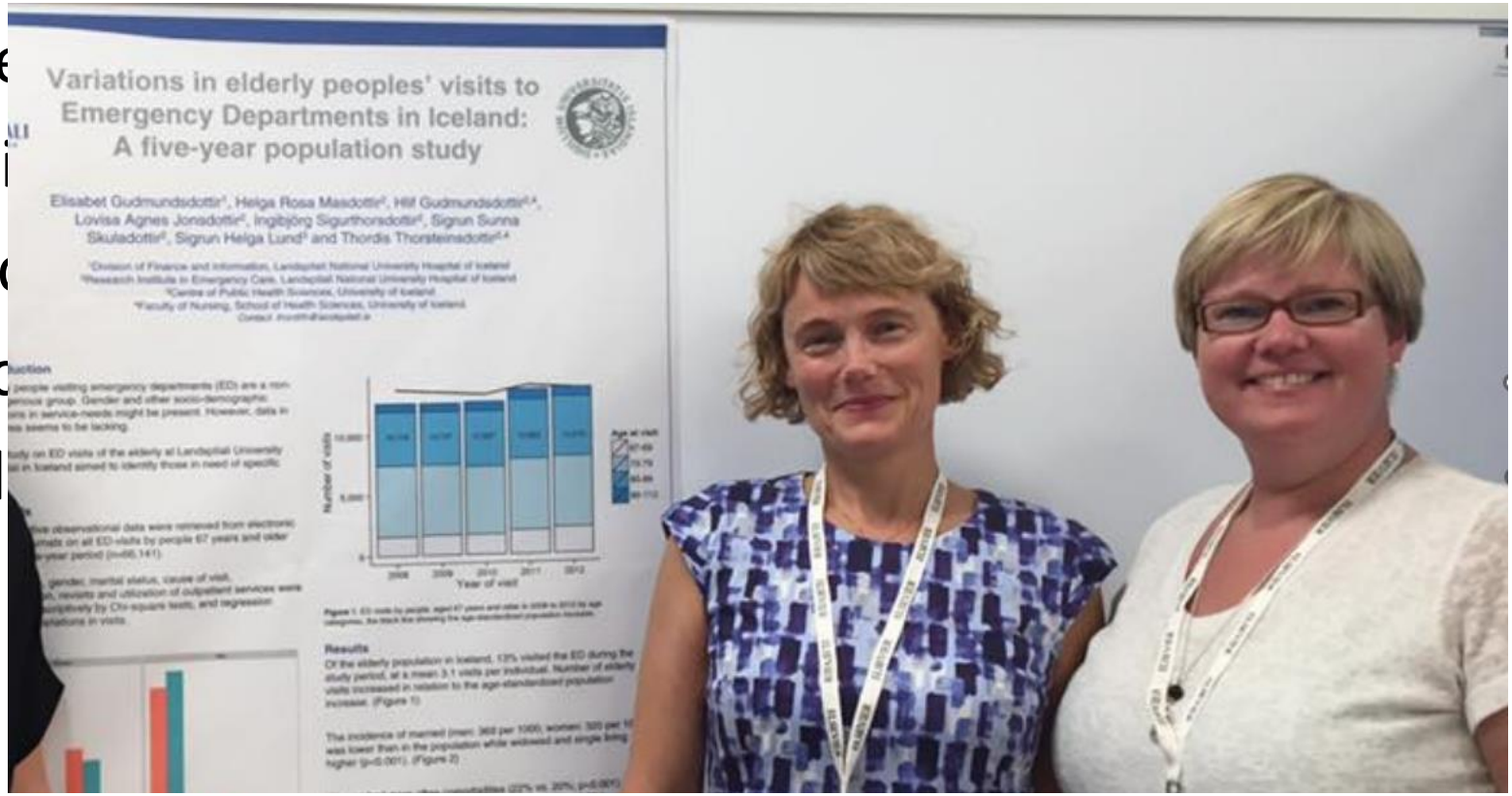
- El



Elderly at the ED

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1. To study if the number of visits and revisits changed between 2008-12.
2. To look at visits in aspects of gender, marital status, age and cause of visit.
3. To find out if socio-demographic background, cause of visit or diagnosis were associated with patients' admission, referral to outpatient clinics or discharges home without referrals.

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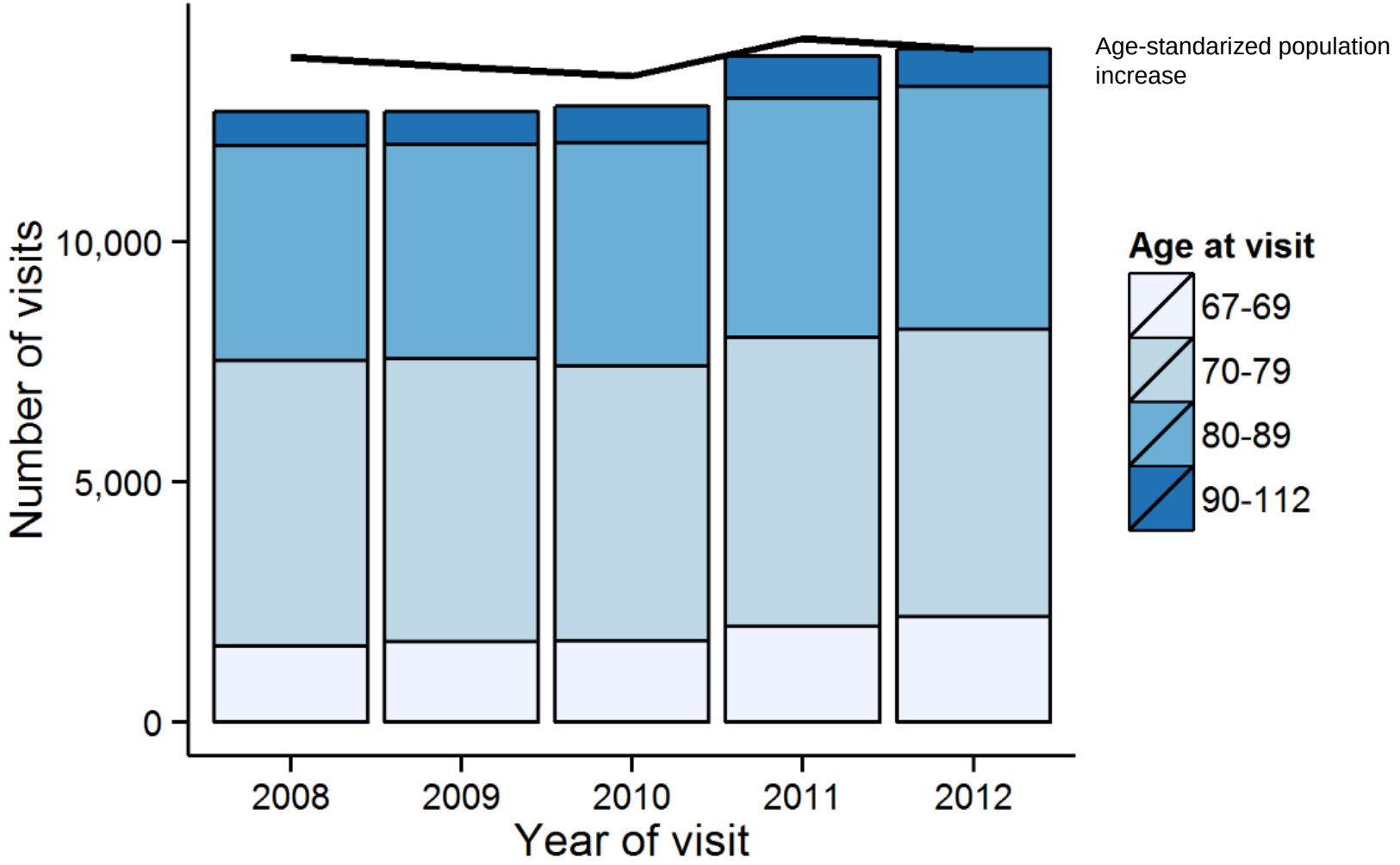
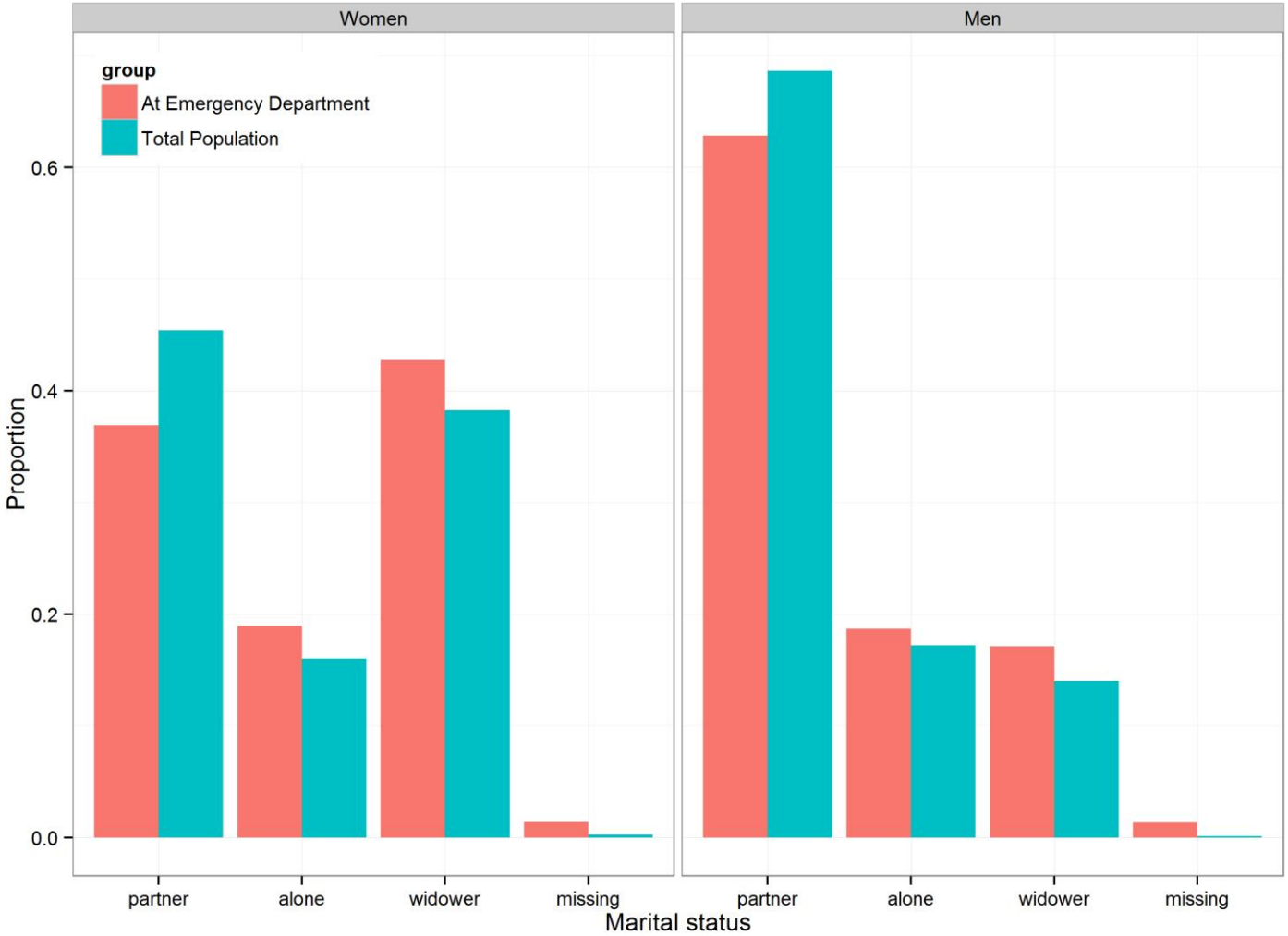
Methods

- Retrospective observational study
- All visits by people older than 67 years
- January 1st 2008 to December 31st 2012
- Electronic medical journals from the ED at Landspitali (LUH)
- Outcomes
  - Admission
  - Revisit within 21, 30 and 90 days from last visit
  - Discharge home without referrals/revisits
  - Discharge with referrals
- Statistical analysis applied according to hypothesis

Total of 66.136 visits of 67 years and older during 2008-2012



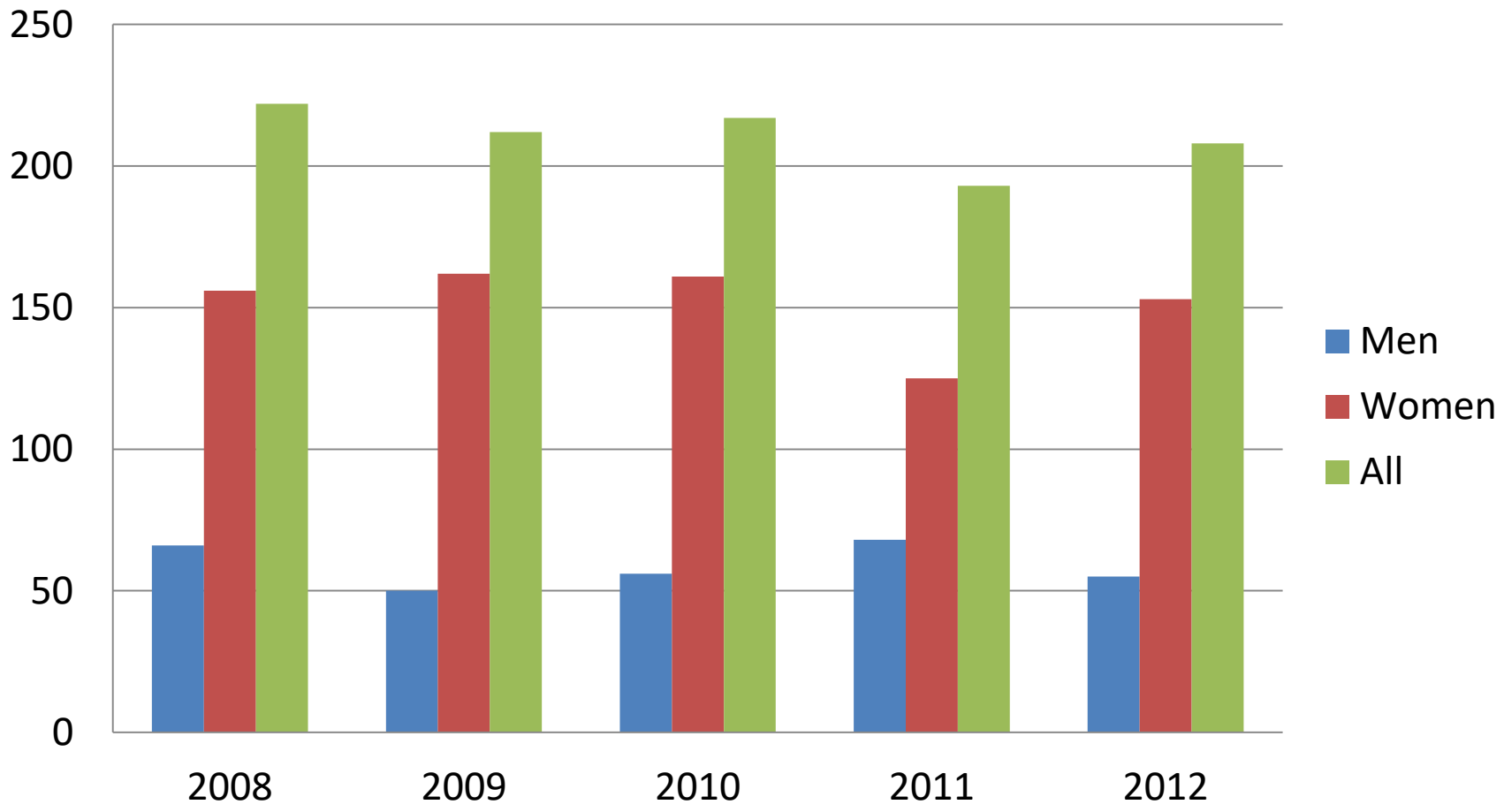
Relationship status of elderly visting the ED compared to the general population



Predictors for revisits to the emergency department (ED) (Cox regression: Hazard ratios)

	ED-revisit within 21 days	ED-revisit within 30 days	ED-revisit within 90 days	ED-revisit without time limit
	Hazard ratio (95% CI)	*Hazard ratio (95% CI)*	*Hazard ratio (95% CI)*	*Hazard ratio (95% CI)*
Gender (male)	**1.52** (1.40-1.65)	**1.16** (1.12-1.20)	**1.07** (1.02-1.12)	**1.06** (1.04-1.08)
Age 70-79	**0.72** (0.65-0.81)	Non-significant	**1.21** (1.12-1.30)	**1.33** (1.28-1.37)
Age 80-89	**0.48** (0.42-0.54)	**0.94** (0.89-0.99)	**1.32** (1.22-1.43)	**1.42** (1.37-1.47)
Age 90-112	**0.37** (0.29-0.46)	**0.81** (0.74-0.89)	**1.46** (1.30-1.64)	**1.39** (1.32-1.46)
Marital status (alone)	**0.68** (0.61-0.76)	Non-significant	**1.11** (1.05-1.18)	**1.06** (1.03-1.09)
Marital status (widower)	**0.76** (0.69-0.84)	Non-significant	Non-significant	**1.04** (1.01-1.06)

Hip fractures (n=1053) divided by gender and years



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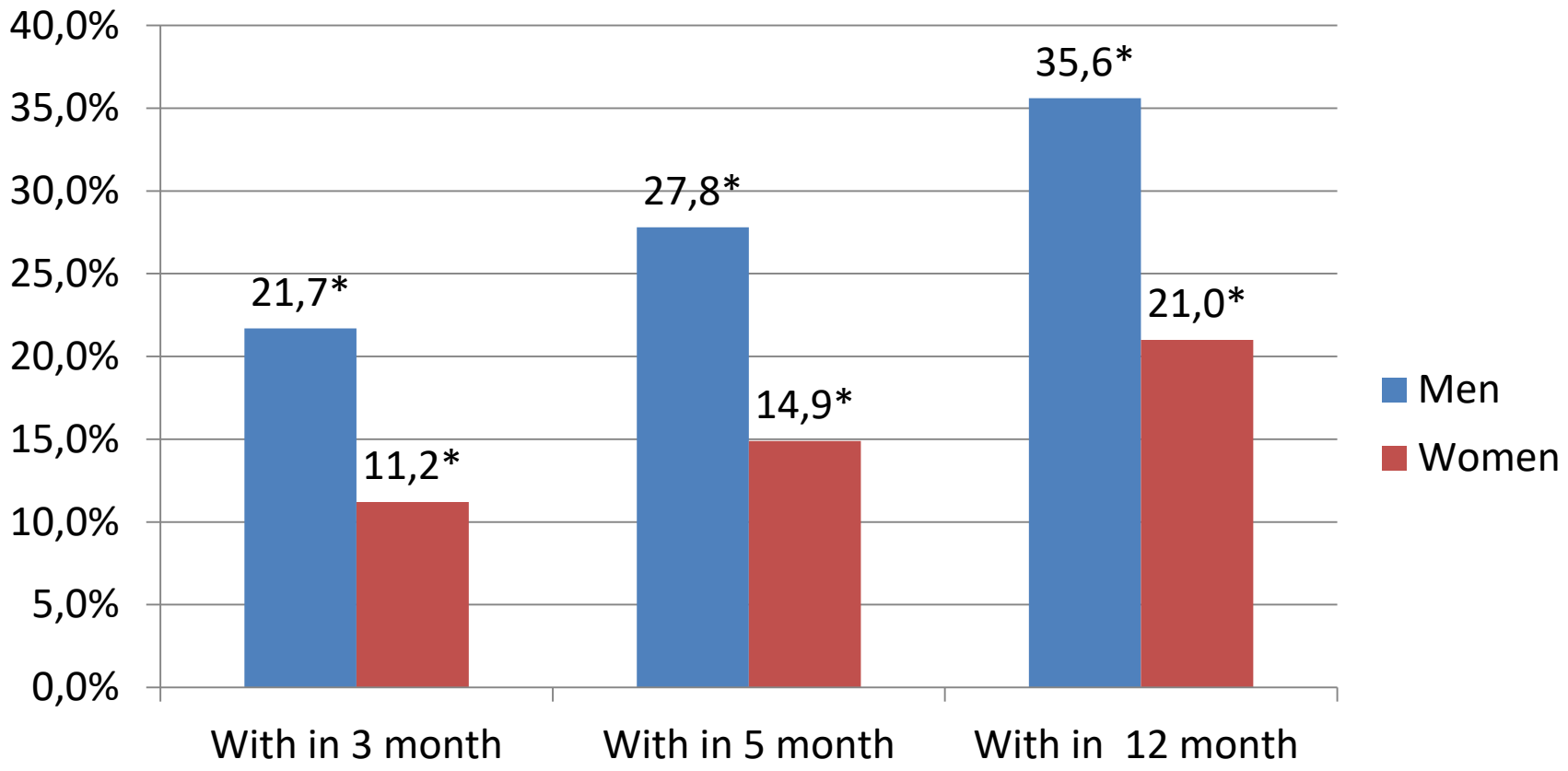
Cumulative mortality rate [%]



***P<0,05**

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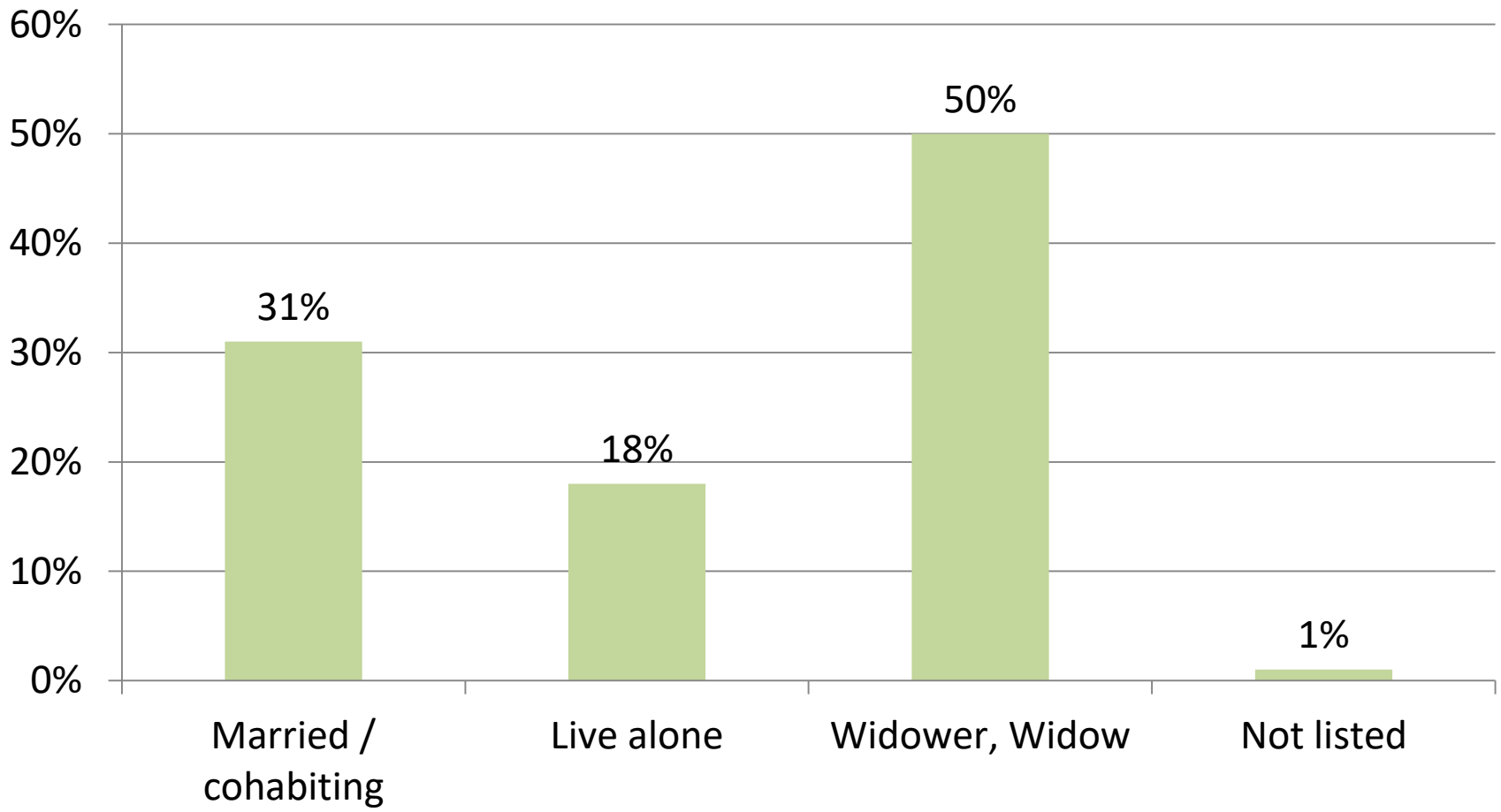
Marital status of fracture patients



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Revists of elderly to the ED

Visits to ED last 30 days

44%

Hospital stay within last 90 days

65%

Revisits to ED 27%
n=18154

Admitted to the hospital
42%

Discharged home

55%

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Age categories and gender of revisits 67 years and older at the ED 2008-2012. (n=18.154)

Age categories***	Revisits men (%)	Revisits women (%)	Total (%)
Age 67-69	14,5	10,3	12,3
Age 70-74	22,3	20,1	21,2
Age 75-79	23,4	23,9	23,7
Age 80-84	23,1	22,1	22,6
Age 85-89	12,2	16,9	14,7
Age 90-94	3,7	5,7	4,7
95 and older	0,7	1,0	0,9

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*** p<0,001 Chi-square test.

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Arrival time and gender of revisits

Arrival time***	Revisits men (%)	Revisits women (%)	Total
00:00-07:59	12,0	8,8	10,3
08:00-15:59	58,4	59,3	58,9
16:00-23:59	29,6	31,9	30,8

*** p<0,001 Chi-square test.

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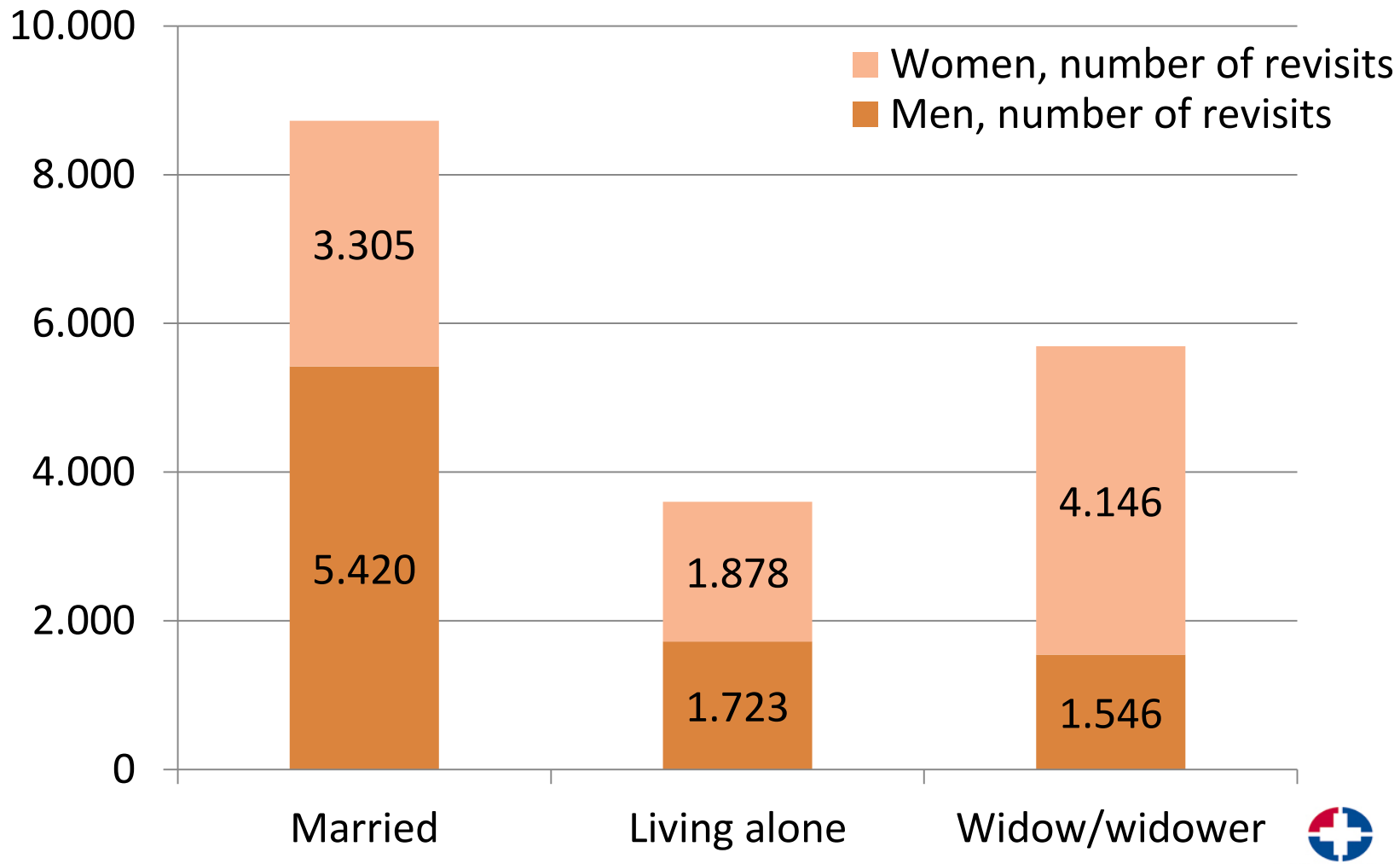
Marital status adults, 67 years and older, at revisits at the ED



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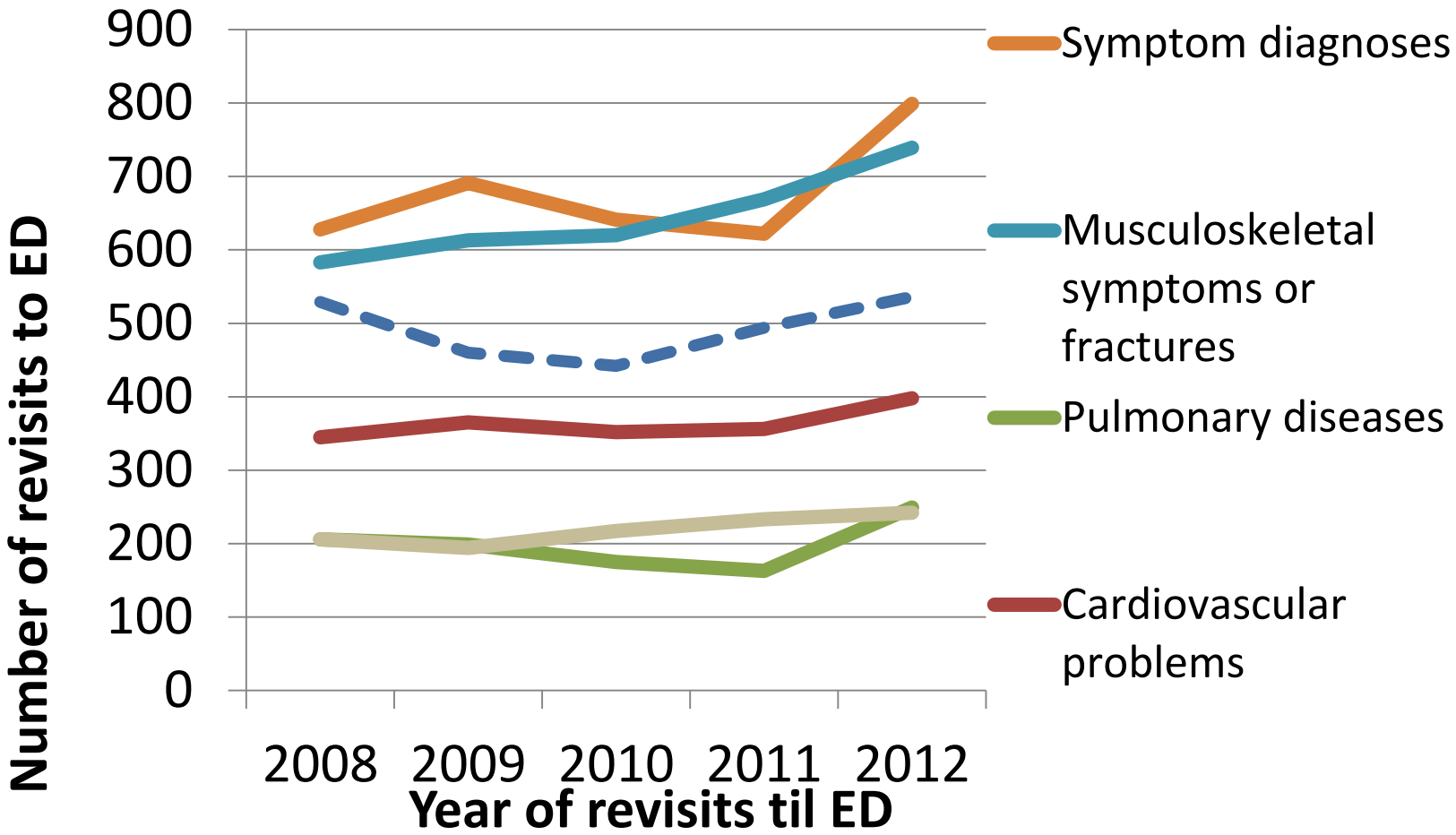
The most common causes of revisits by ICD-10 diagnosis



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Referrals ratio and predictors for referrals to nurse-led clinics after ED revisit 2011-2012

	Odds ratio 95% CI
Woman	2,11 (1,24-3,58)
Living alone, Widow/Widower	2,45 (1,48-4,05)
Capital area of Reykjavik	3,19 (1,17-8,66)
Age	1,03 (1,01-1,06)
Symptom diagnosis	2,04 (1,36-3,06)
Musculoskeletal problems	1,56 (1,01-2,41)
Pulmonary diseases	4,17 (2,53-6,88)
Cardiovascular problems	1,80(1,07-3,03)

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Implementing research results – elderly at the ED

- Men
  - Single living
  - Younger
  - Fewer diagnoses
  - Cardiovascular diseases
  - Admitted
  - Earlier revisits
  - No referral to NLC
  - Shorter hospital stay
  - Higher mortality after hip-fracture
- Women
  - Married
  - Older
  - Multiple diagnoses
  - Musculoskeletal problems
  - Discharged home
  - Referrals to NLC
  - Longer hospital stay
  - Lower mortality after hip-fracture

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What are we doing now!

- Hip-fracture protocol
- Implementing delirium screening tools (DOS, CAM)
- Screening and assessment tool (Inter-RAI)
  - to identify and address the needs of high risk older adults
  - ED Screener – all seniors 75 years and older
  - ED Contact Assessment –positive on the ED-screener

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What are we doing now!

- Geriatric Emergency Management Nurse (GEM)
- Staff education in caring for older adults and an elder-friendly culture
- Collaboration with the Canadian Foundation for Healthcare Improvement and Canadian Frailty Network
  - support, education and collection of data

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The future…

… is bright