

Responsibility and possibilities –

Elements for inspiration in the role of regions, municipalities, hospitals, general practice, local areas, and the individual elderly.

– in the prevention of injury among elderly.



Annus Medicus 2005 **Sigurður Guðmundsson**, MD, PhD
Directorate of Health Medical Director of Health
Statements

The admission of patients in hospital corridors has been an eternal problem in the largest hospitals in Reykjavik for a number of decades.

Nevertheless, there are ample opportunities for further improvement of the Icelandic health care services. The greatest assignments waiting to be addressed are in the fields of mental disorders, aging and increased obesity.

accommodation for the elderly in non-urban communities whereas the supply is insufficient in the

capital and surrounding communities. Some nursing homes are completely unsatisfactory because they



The Icelandic National Health Plan to the year 2010

Elderly

2. Strengthen and increase cooperation and coordination of senior citizen services, and nursing and retirement home team work.
 3. Coordinated evaluation of the needs of senior citizens at every level will be utilised as a means of further development.
- 3.c Reduced prevalence of breaking coxal and basal
- (Baseline: In 1990 - 1992 the prevalence of
- Females 50 years and older 327.2; Males 50 y

Elements for inspiration

- Knowledge
- Size of problem
- How many and procedures
- Collaboration
- Documentation

Interventions for preventing falls in elderly people

Gillespie LD, Gillespie WJ, Robertson MC, Lamb SE,
Cumming RG, Rowe BH

- 1997: “Health care purchasers contemplating fall prevention programmes **should consider health screening of at risk elderly people**, followed by interventions which are **targeted at both intrinsic and environmental risk factors** of individual patients”
- 2001 – og 2003: Interventions to prevent falls that are likely to be effective are now available; less is known about their effectiveness in preventing fall-related injuries.

Gillespie LD, Gillespie WJ, Robertson MC, Lamb SE, Cumming RG, Rowe BH. Interventions for preventing falls in elderly people (Cochrane Review). In: The Cochrane Library, Issue 4, 2003. Oxford: Update Software.



Interventions likely to be beneficial:

- **Multidisciplinary, multifactorial, health/environmental risk factor screening/intervention programmes in the community both for older people:**
 - unselected population (RR 0.73, 95% CI 0.63-0.85).
 - History of falling/known risk factors (RR 0.86, 95% CI 0.76-0.98)
 - In residential care facilities (Incidence rate ratio 0.60, 95% CI 0.50-0.73)
- **A programme of muscle strengthening and balance retraining, individually prescribed at home by a trained health professional (RR 0.80, (95% CI 0.66-0.98)**
- **Home hazard assessment and modification professionally prescribed for older people with a history of falling (RR 0.66, 95% CI 0.54-0.81)**
- **Other: A 15 week Tai Chi group exercise intervention (Risk ratio 0.51, 95% CI 0.36-0.73). Sinus Caroticus**



Shepperd S, Parkes J, McClaran J, Phillips C. Discharge planning from hospital to home. *Cochrane Database of Systematic Reviews* 2004, Issue 1. Art. No.: CD000313.
DOI:

Authors' conclusions

The impact of discharge planning on readmission rates, hospital length of stay, health outcomes and cost is uncertain. This reflects a lack of power as the degree to which we could pool data was restricted by the different reported measures of outcome. It is possible that even a small reduction in length of stay, or readmission rate, could have an impact on the timeliness of subsequent admissions in a system where there is an shortage of acute hospital beds.

Stevens JA, Corso PS, Finkelstein EA, Miller TR.
The costs of fatal and non-fatal falls among older
adults. *Inj Prev*. 2006 Oct;12(5):290-5.

- Fractures accounted for just 35% of non-fatal injuries but 61% of costs.
- Non-fatal injury costs,
 - 63% hospitalizations,
 - 21% emergency department visits
 - 16% treatment in outpatient settings.

Økonomisk dækningsgrad og gennemsnitlige omkostninger ved hospitalsbehandlet tilskadekomst

ORIGINAL MEDDELELSE

*Jens M. Lauritsen, cand.oecon. Kristian Kidholm,
Ole Skov & cand.oecon. Lasse Nørgård*

versitetshospital i 1992 indgår skadestuehenvendelser (n = 29.516) for alle aldre samt en tværsnitsundersøgelse om tilskadekomst (n = 1.074) for 15-67-årige. Omkostningerne er fremskrevet til 2002 niveau baseret efter cost of illness prin-

Costs for treatment of home- and leisuretime injuries among persons of age 68+ ca 400 mio IS KR pr year

(2002 figures)

Population approx 250.000

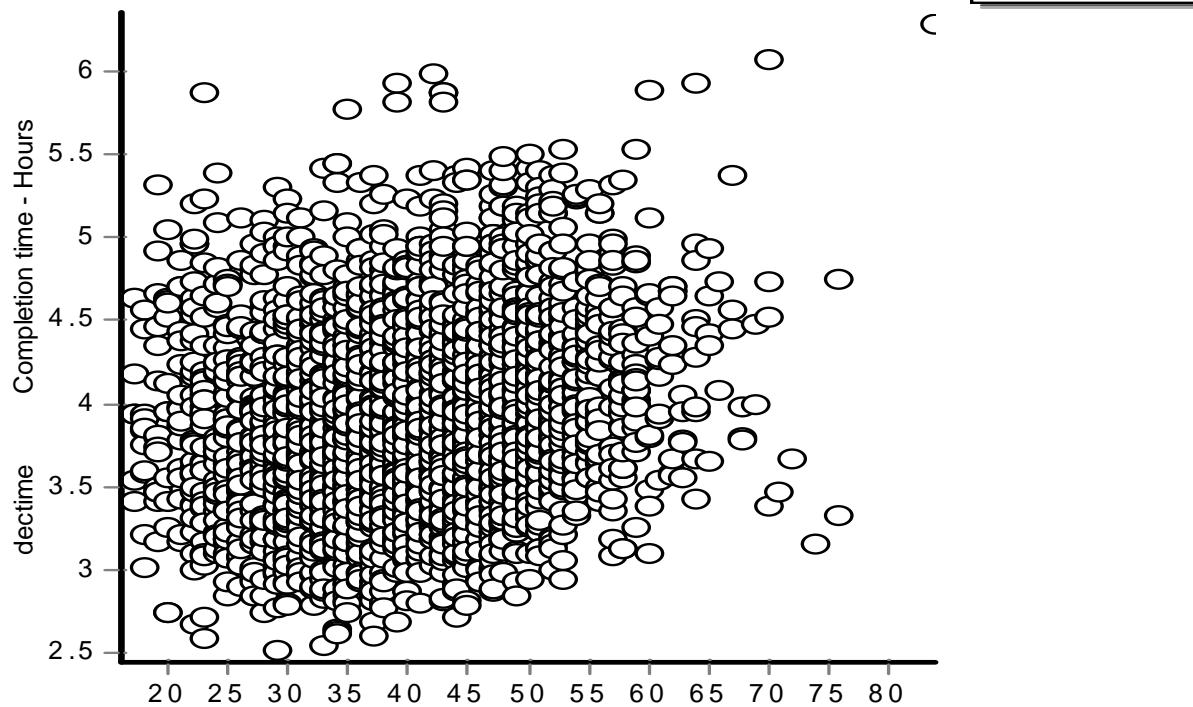
Based on danish study - Odense.

Lauritsen et al. Ufl. 2002; 164: 5107-5112



Reality: elderly people is not a unified "concept" !!

Age and time to complete a marathon



EpiData Analysis Graph



<http://www.phs.ki.se/csp/>



Department of Public Health Sciences

Division of
Social Medicine

WHO Collaborating Centre on Community Safety Promotion

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**WHO Collaborating Centre on
Community Safety Promotion**



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Safe Community Criteria

Indicators for International Safe Communities

A Manual for

Economic Evaluation in
Safe Community Practice





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Falls

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JOURNAL ARTICLE

The costs of fatal and non-fatal falls among older adults.

Stevens JA, Corso PS, Finkelstein EA, Miller TR. *Inj Prev* 2006; 12(5): 290-5.

Correspondence: unavailable

Affiliation: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, GA, USA.

DOI: [10.1136/ip.2005.011015](#) [What is this?](#)

(Copyright © 2006, BMJ Publishing Group)

OBJECTIVE: To estimate the incidence and direct medical costs for fatal and non-fatal fall injuries among US adults aged ≥ 65 years in 2000, for three treatment settings stratified by age, sex, body region, and type of injury. **METHODS:** Incidence data came from the 2000 National Vital Statistics System, 2001 National Electronic Injury Surveillance System-All Injury Program, 2000 Health Care Utilization Program National Inpatient Sample, and 1999 Medical Expenditure Panel Survey. Costs for fatal falls came from Incidence and economic burden of injuries in the United States; costs for non-fatal falls were based on claims from the 1998 and 1999 Medicare fee-for-service 5% Standard Analytical Files. A case crossover approach was used to compare the monthly costs before and after the fall. **RESULTS:** In 2000, there were almost 10 300 fatal and 2.6 million medically treated non-fatal fall related injuries. Direct medical costs totaled \$0.2 billion dollars for fatal and \$19 billion dollars for non-fatal injuries. Of the non-fatal injury costs, 63% (\$12 billion) were for hospitalizations, 21% (\$4 billion) were for emergency department visits, and 16% (\$3 billion) were for treatment in outpatient settings. Medical expenditures for women, who comprised 58% of the older adult population, were 2-3 times higher than for men for all

Demands in local areas

- To work with the safe community model:
- - political will
- - activity in local areas
- coupling to the cultural setting
 - elderly gymnastics
 - promoting an active role of each person



Optimal decision strategy

INTRODUKTION TIL MINI-MTV
– et ledelses- og beslutningsstøtte-
værktøj til sygehusvæsenet

2005

Health technology assessments are needed

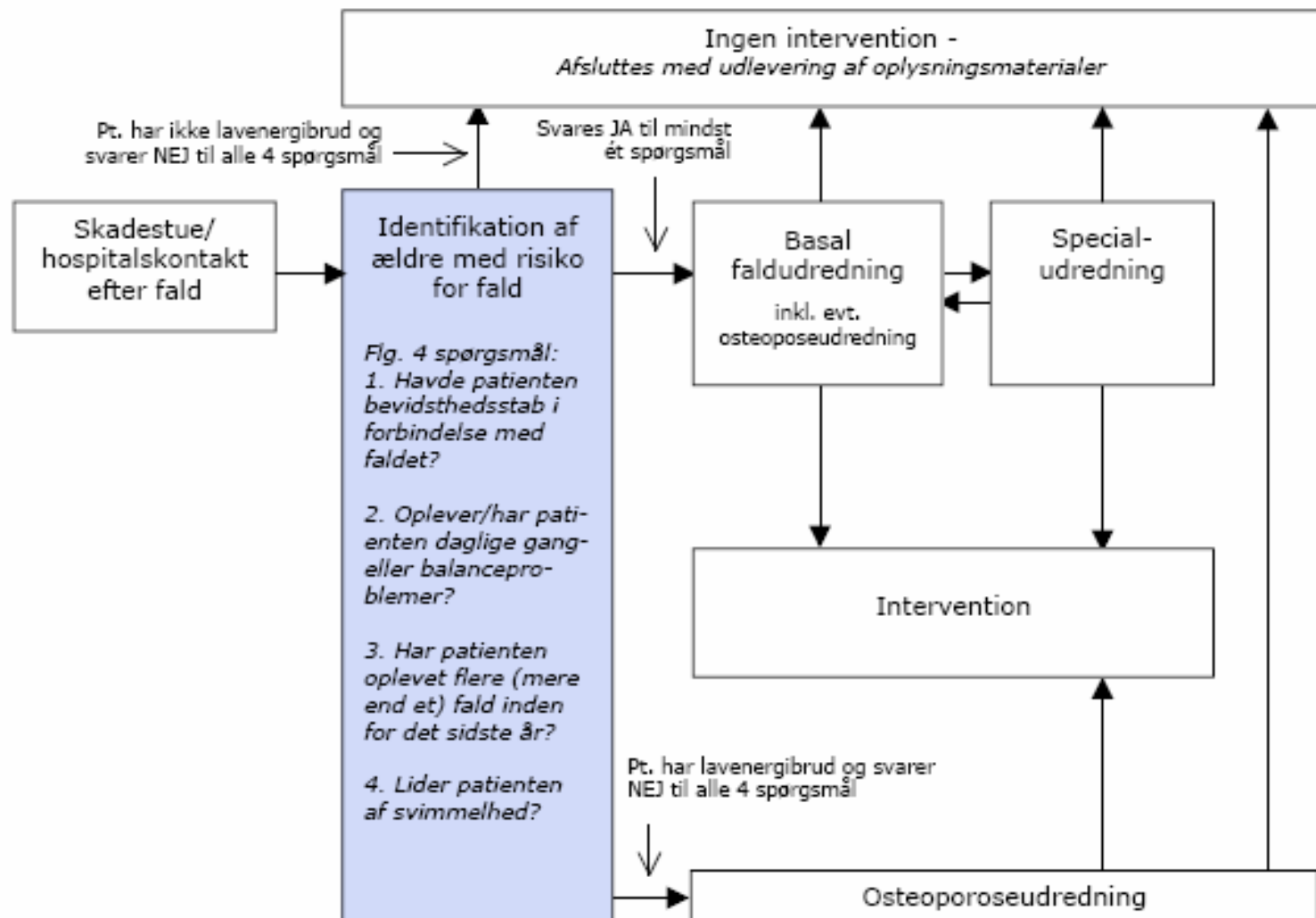
-Four aspects: technology, patient, organisation, economy



Success demands knowledge

- We must understand the elements of the overall structure
- We must have clear concepts
- We must have a clear role for each of the participants.

Suggestion for a strategy of falls



Figur 5.1: Identifikation af ældre med forøget risiko for fald



Local experiment with this formulation:

Fald:

e8. Har du været på hospitalet eller skadestuen de sidste 12 mdr. pga. et fald ?

Ja Nej Ved ikke

Hvis ja antal gange _____

e9. Hvor ofte er du faldet de sidste 3 måneder?

- Dagligt eller næsten dagligt**
 1 - 2 gange om ugen
 Sjældnere
 Aldrig Hvis "aldrig", gå videre til spørgsmål e11.

e10.

Havde du bevidsthedstab, da du faldt?

Ja Nej Ved ikke

e11. Hvor ofte har du gang- eller balanceproblemer?

- Dagligt eller næsten dagligt**
 1 - 2 gang om ugen
 Sjældnere
 Aldrig

e12. Hvor ofte er du generet af svimmelhed?

- Dagligt eller næsten dagligt**
 1 -2 gange om ugen
 Sjældnere
 Aldrig

- Lauritsen et. al – in progress



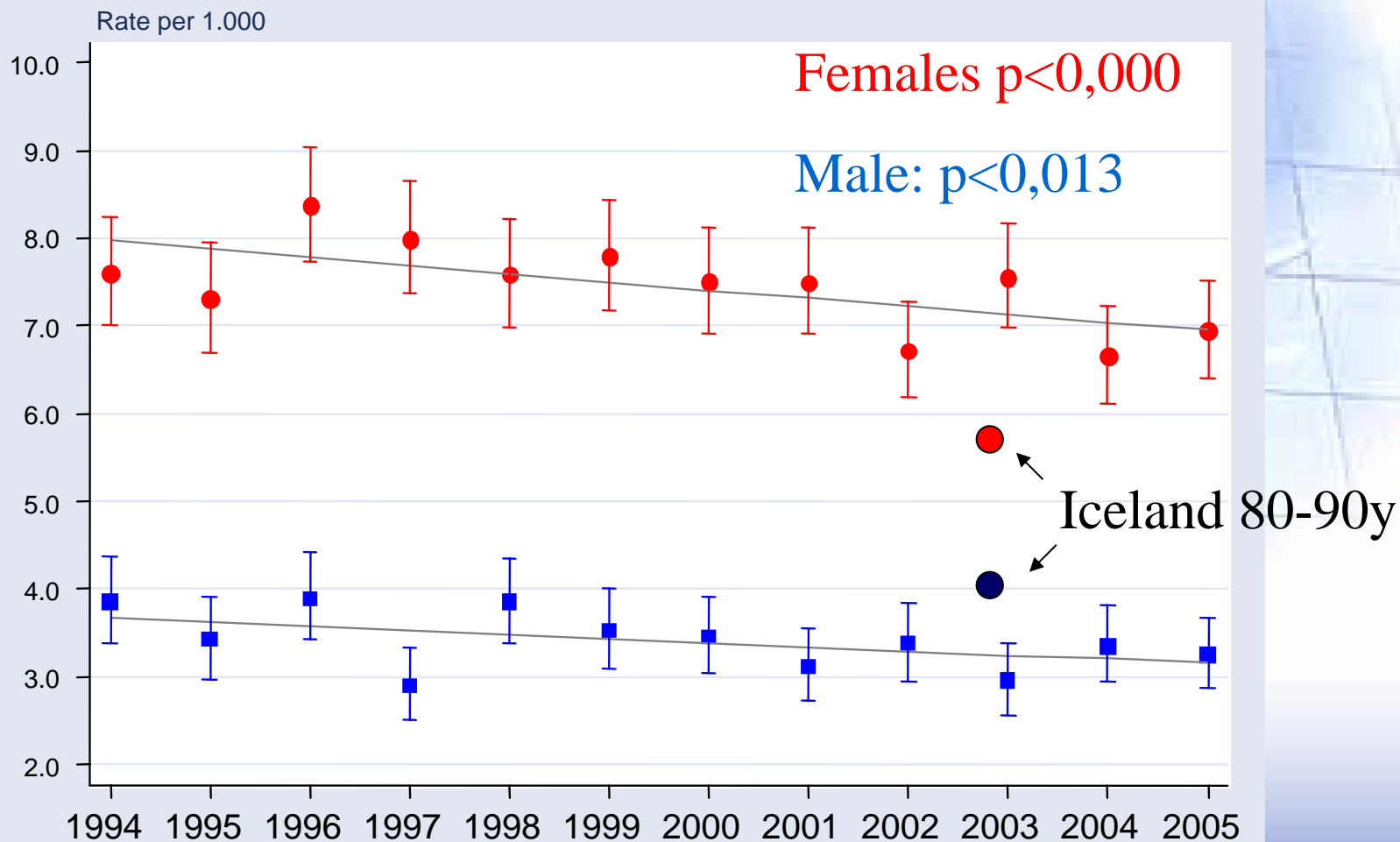
Good news: Incidence of hip fractures (1)

1: Nymark, Lauritsen et al. Acta Orthop. 2006 Feb;77(1):109-13.

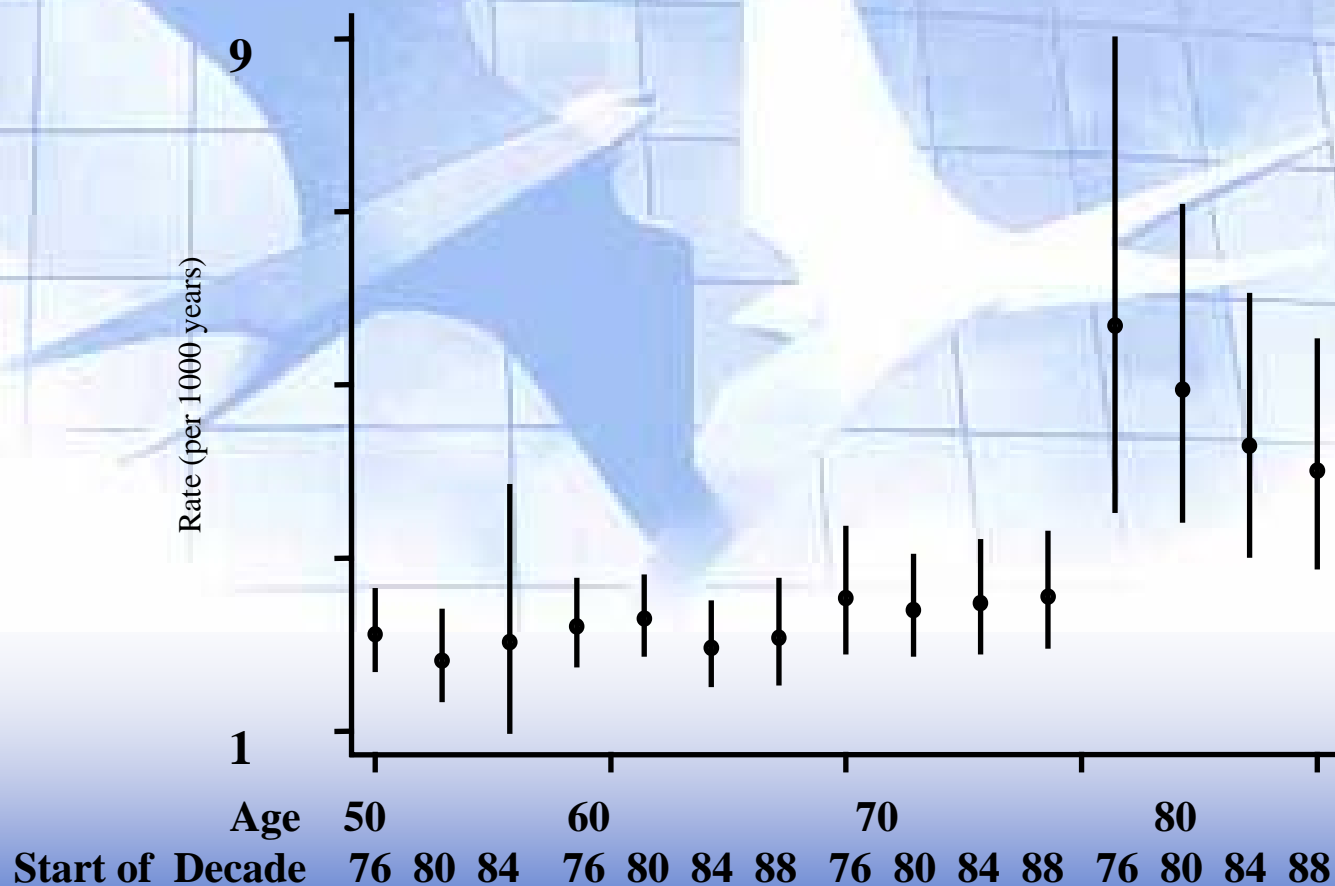
- Significant decrease in incidence among women and men from mid 90'es to 2005.
- In addition also a decrease in the actual numbers of patients.



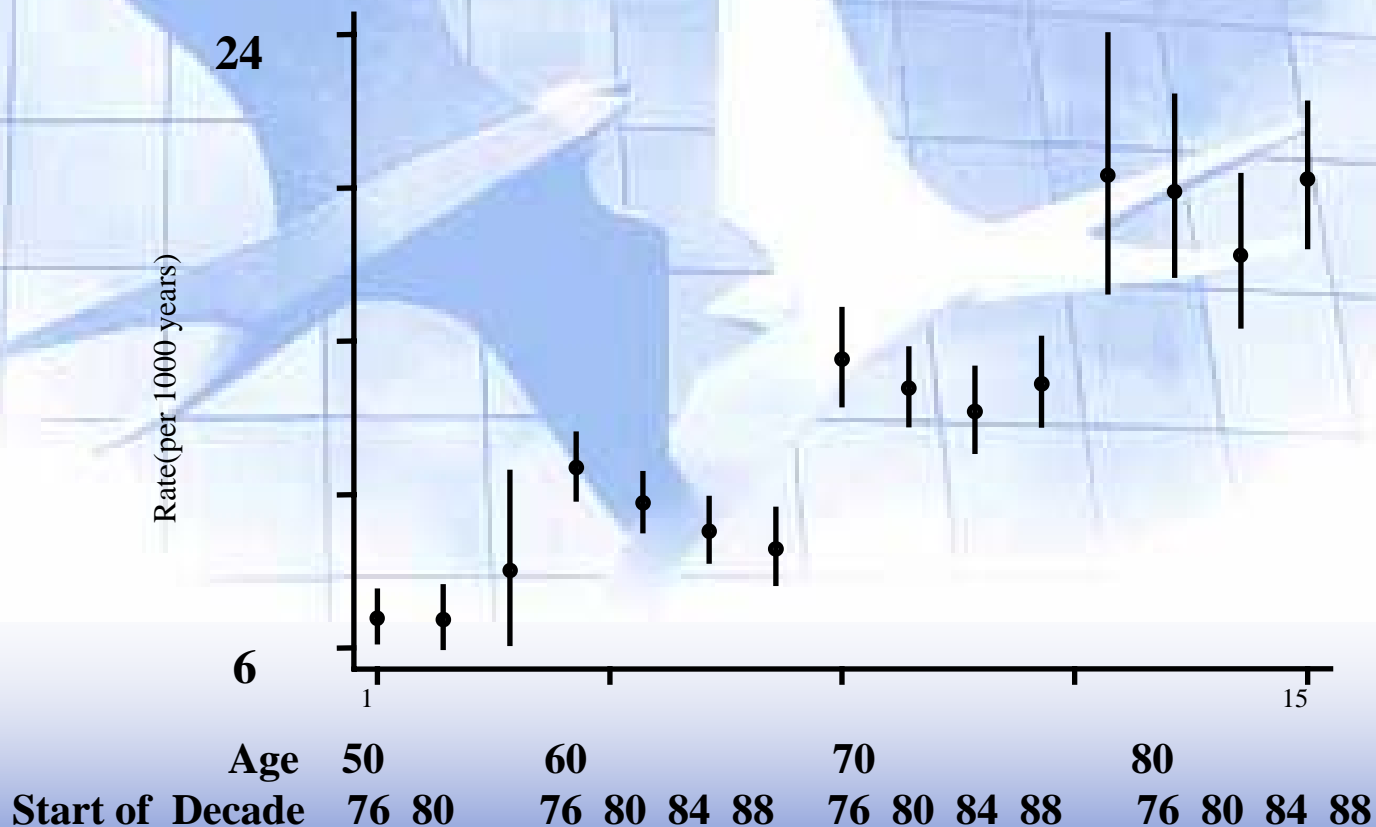
Udvikling i incidens - hoftefraktur



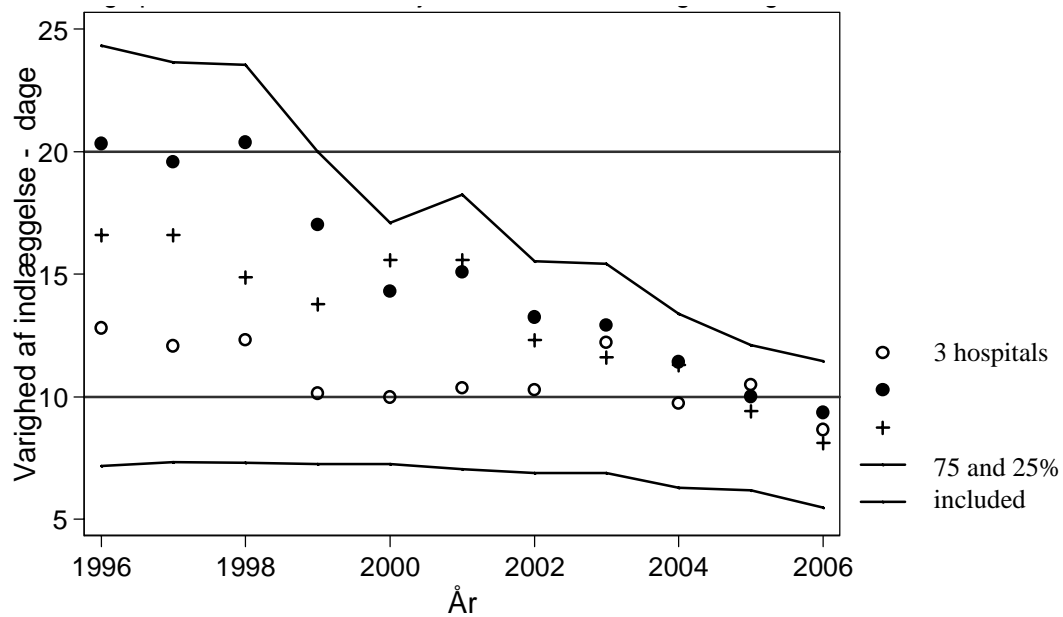
Male incidence rate of upper extremity fracture pr 1000 years. Odense, Denmark 1976-93



Female incidence rate of upper extremity fracture pr 1000 years. Odense, Denmark 1976-93



Good news – 2, hospitals



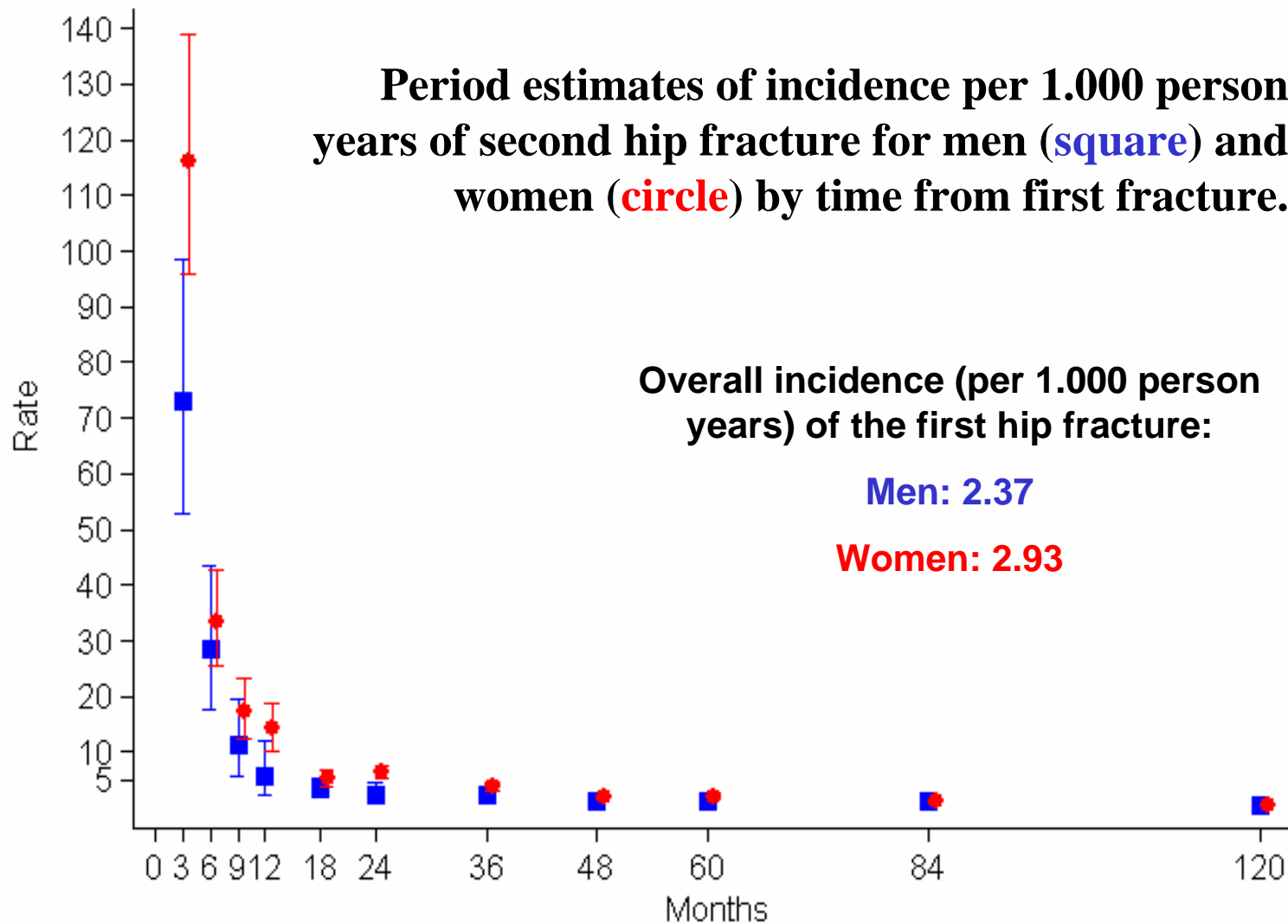
Where to do action ? - following first hip fracture ?

- Only 9% have a second hip fracture (whereas 10% die within 30 days)
- Second fractures occurs within a short time
- Therefore prevention should focus on first fracture and immediate enhancement of every day situation when a fracture occurs.

(2) Nymark, Lauritsen et. Al. Osteoporos Int. 2006 Sep;17(9):1353-7.



Period estimates of incidence per 1.000 person years of second hip fracture for men (square) and women (circle) by time from first fracture.

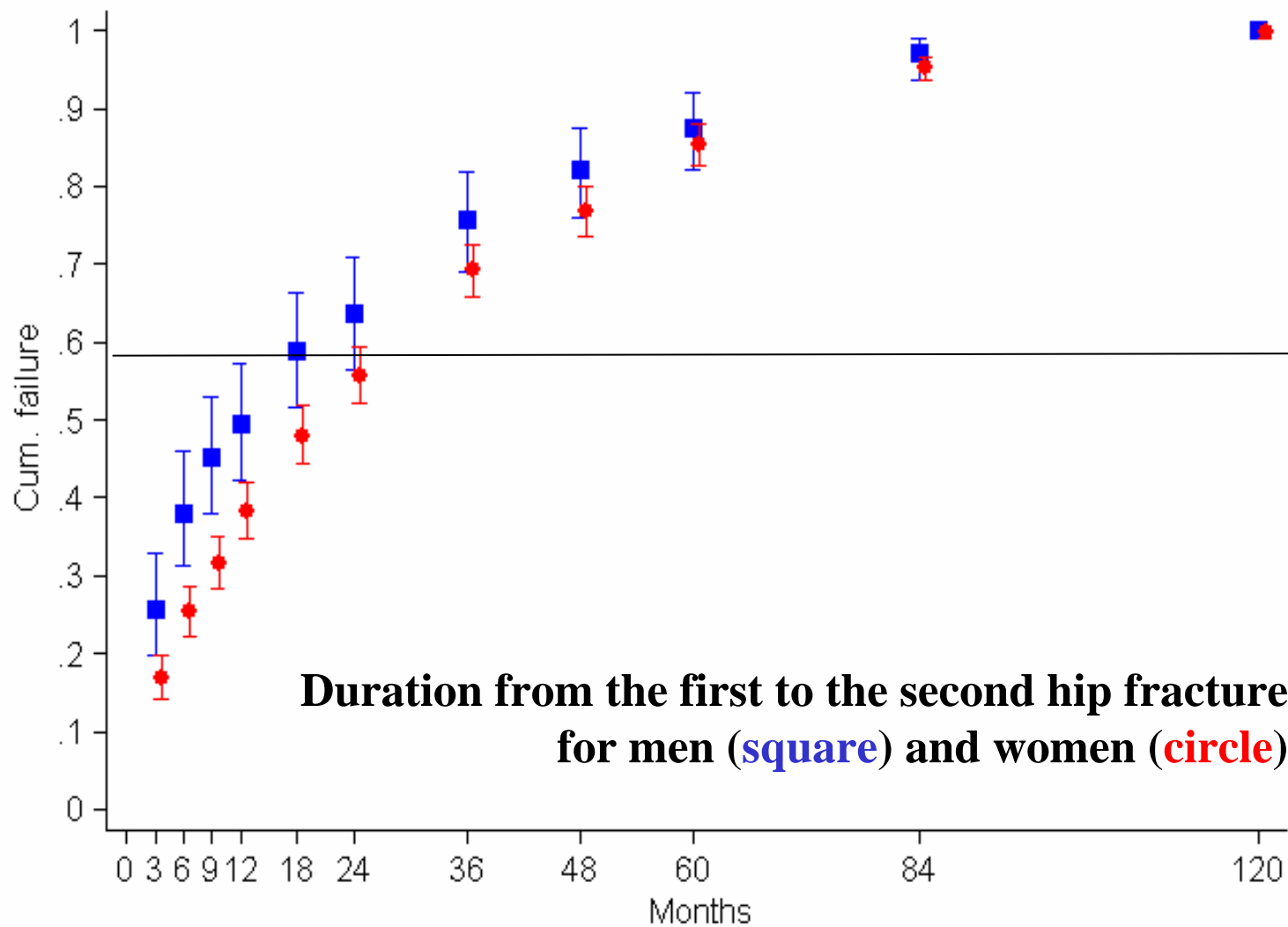


Overall incidence (per 1.000 person years) of the first hip fracture:

Men: 2.37

Women: 2.93





Patient male 84 years

- 08 march fall – hip fracture right side
- 13 july falling again, text in ED paper:

Anamnese: Marts 04 hø. collum femoris fraktur, behandlet med hemialloplastik. Efterfølgende faldet x flere, senest i går.

Indlægges d 21.7 efter endnu et faldtraume, seneste faldtraume den 13.7

21st july falling again – admitted:



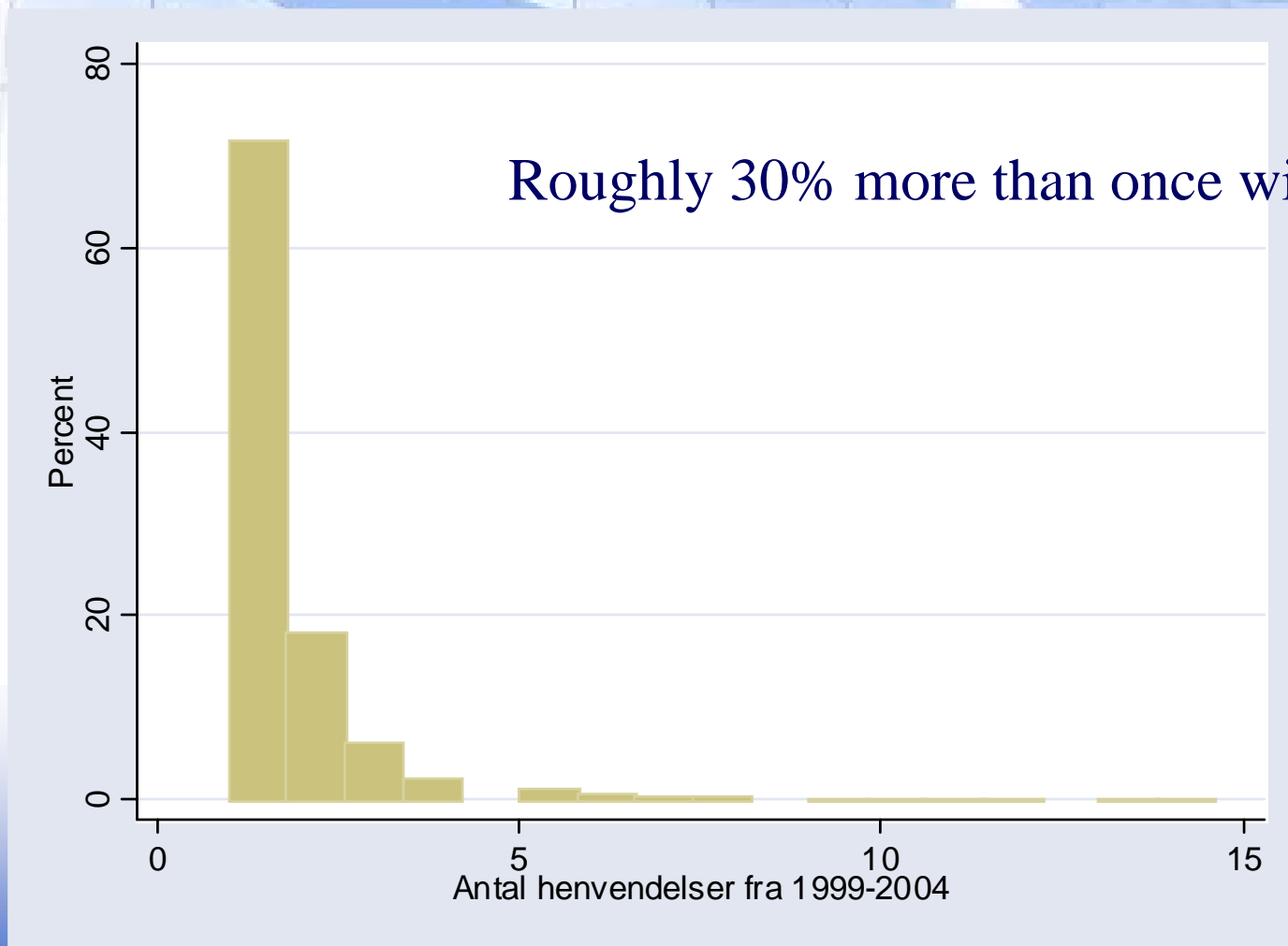
What is the volume of falling ?

	65-74		75-84		85+	
• Total	6619	(100)	8706	(100)	6520	(100)
• Stumble	3983	<u>(60.2)</u>	6273	<u>(72.1)</u>	5236	<u>(80.3)</u>
• slide	717	<u>(10.8)</u>	613	<u>(7.0)</u>	292	<u>(4.5)</u>
• fall<1m	1091	<u>(16.5)</u>	1149	<u>(13.2)</u>	711	<u>(10.9)</u>
• Stairs	601	(9.1)	573	(6.6)	252	(3.9)
• Other	227	(3.5)	98	(1.2)	29	(0.5)
• Iceland (2003 statistics): approx 1200 age 65+ (about the same number as Fyn)						

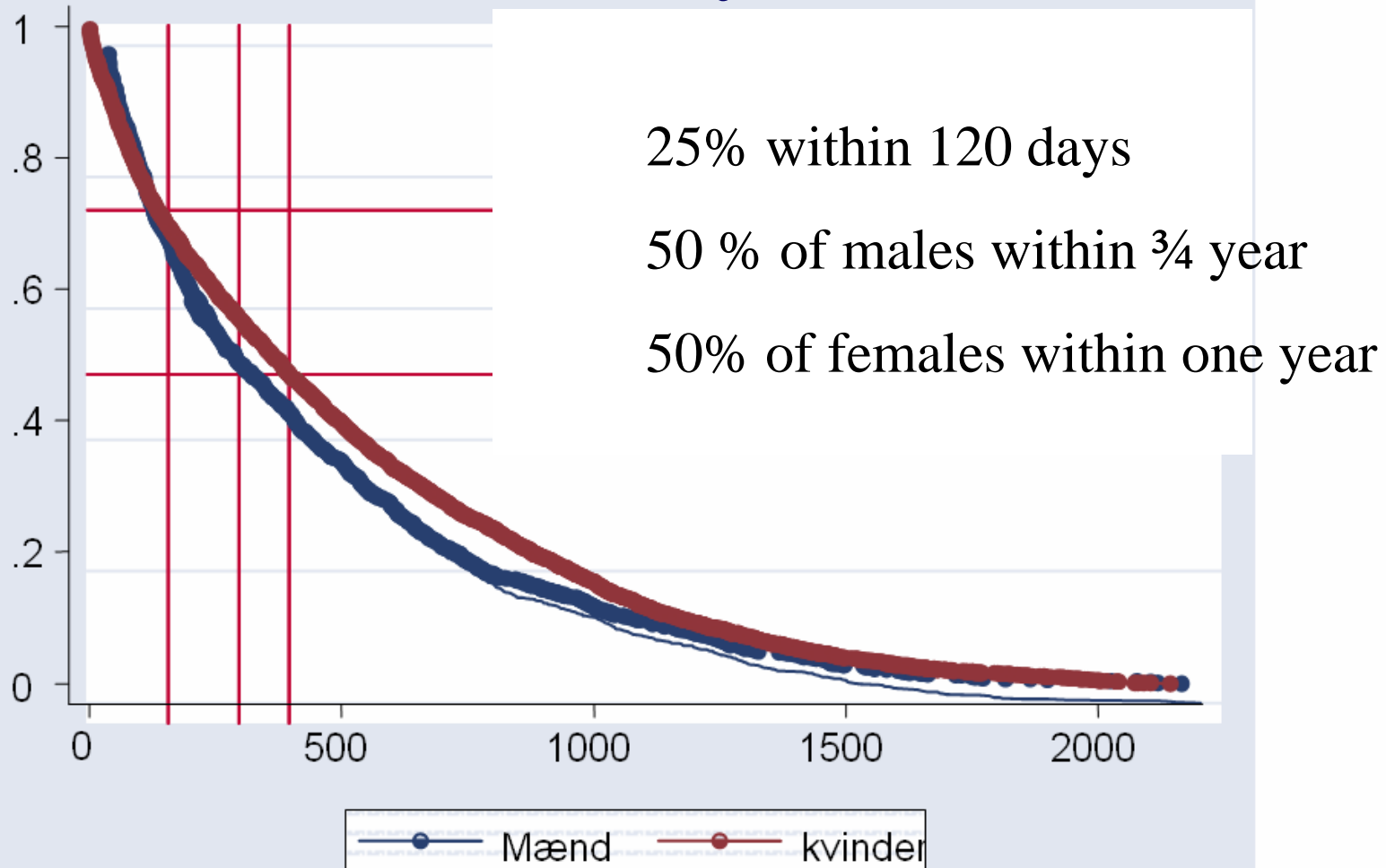
ED dept. Fyn, Denmark 5 years 1999-2003 0.5 mio pop.



How often do they come



When were they here last time ?



How many would you see per day in the ED ? (per 250.000 total pop.)

age	65-74	75-84	85+
• Total	1.85	2.35	1.78

A new screening procedure is introduced in the ED.

Estimated time 30 min per patient:

• Pr dag:	0.9 h.	1.17h.	0.9h.
• Per år:	328 h.	425h.	318h.

Total: 1071 hours ~ ca 0.75 person



Measurement model for level of function

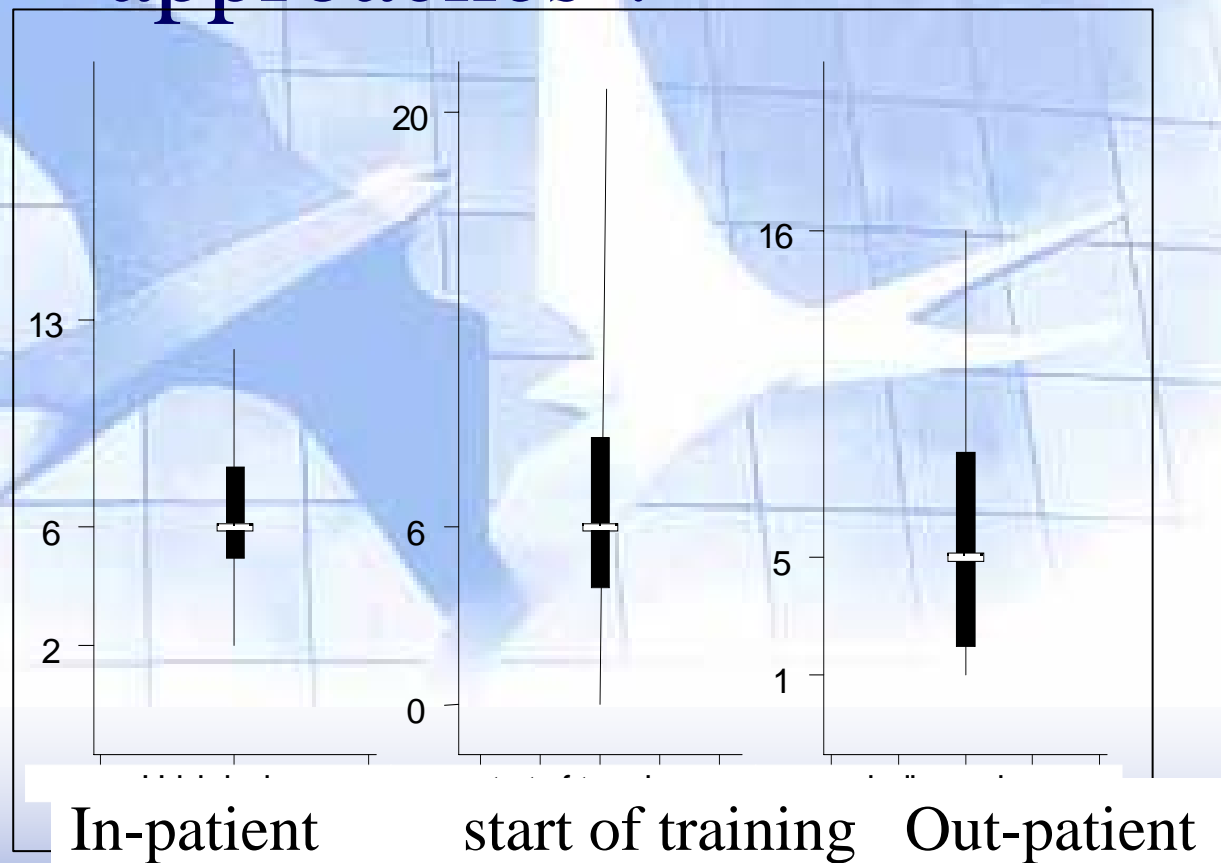
- Self assessment (Euroqol EQ-5d)
- Combined professional evaluation (Barthel-20)
- Standardised functional tests:
Timed Up&Go, Tandem Test, Repeated chair stands

How long time for systematic approaches ?

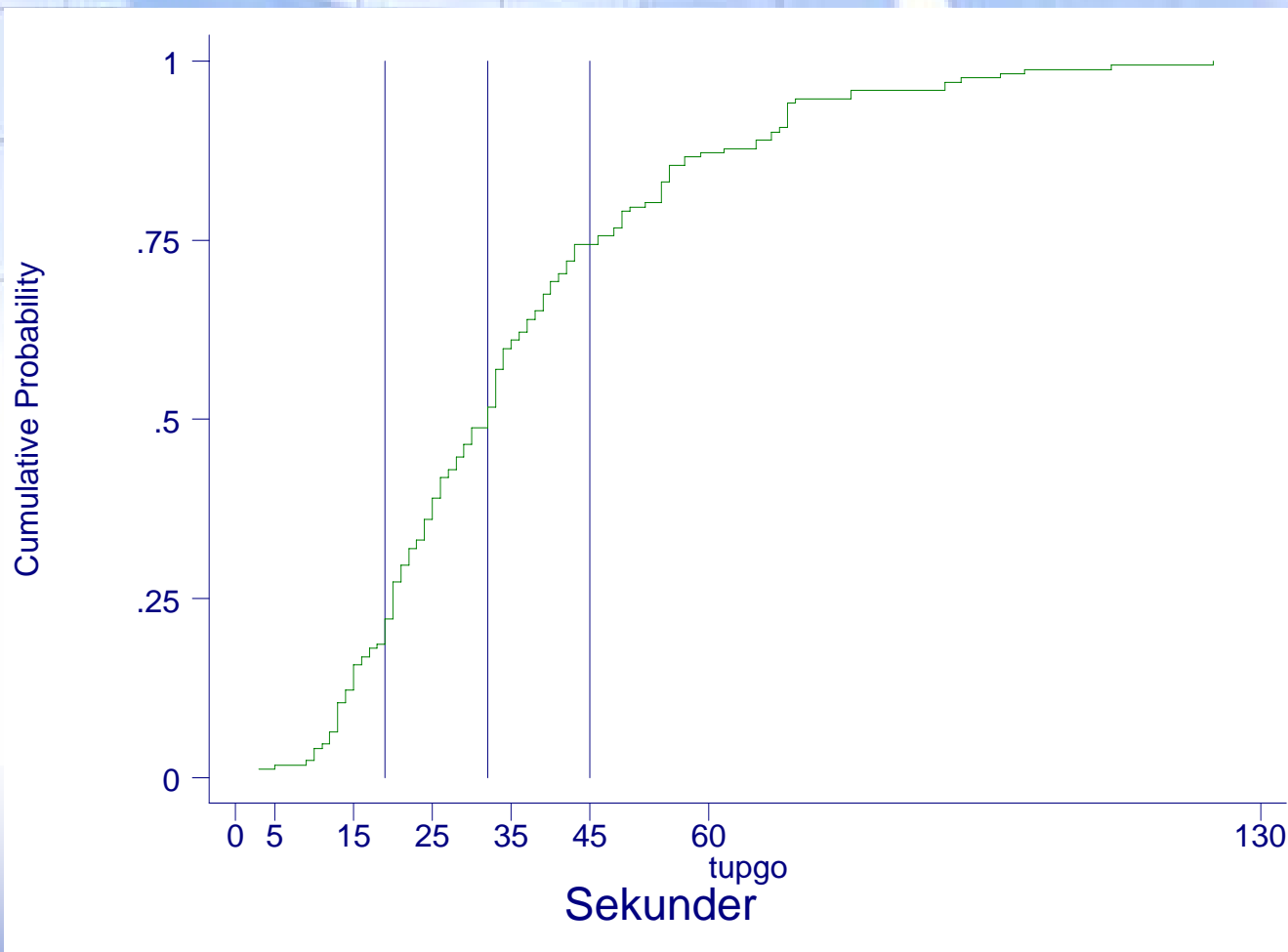
21 questions

Tandem
balance

Timed
Up&Go



Scalability for showing changes



Barthel-20 shows development during hospital stay

Independant before fracture

Highly dependent

before

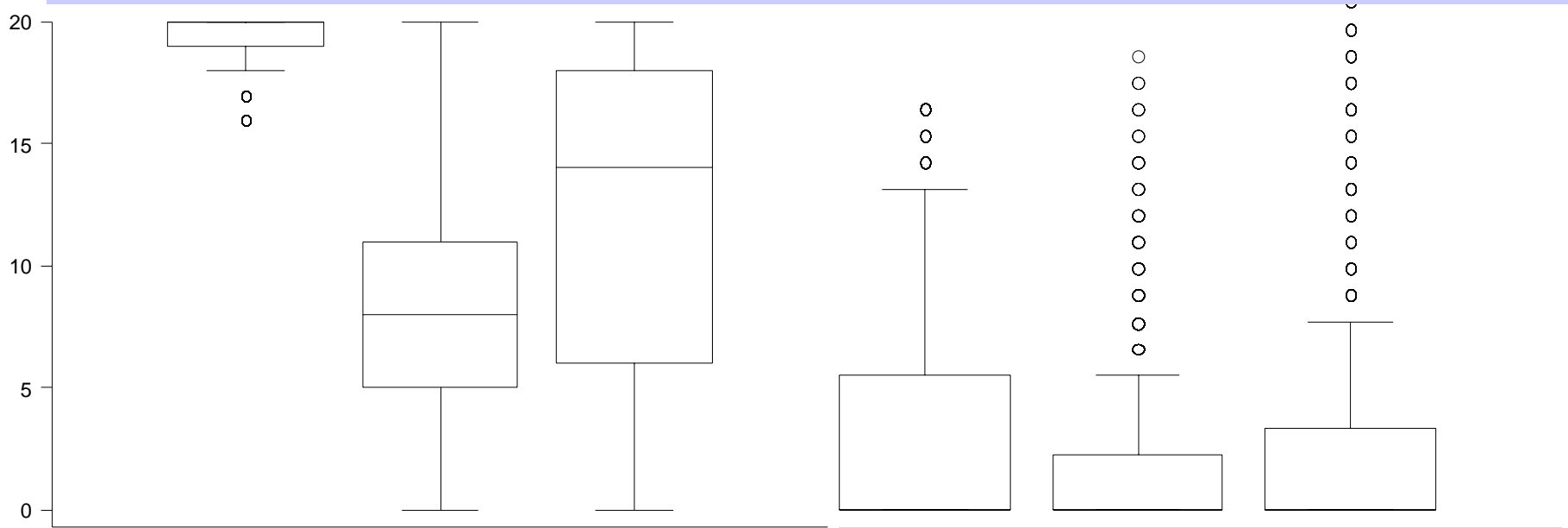
day 2

out-patient

before

day 2

out-patient

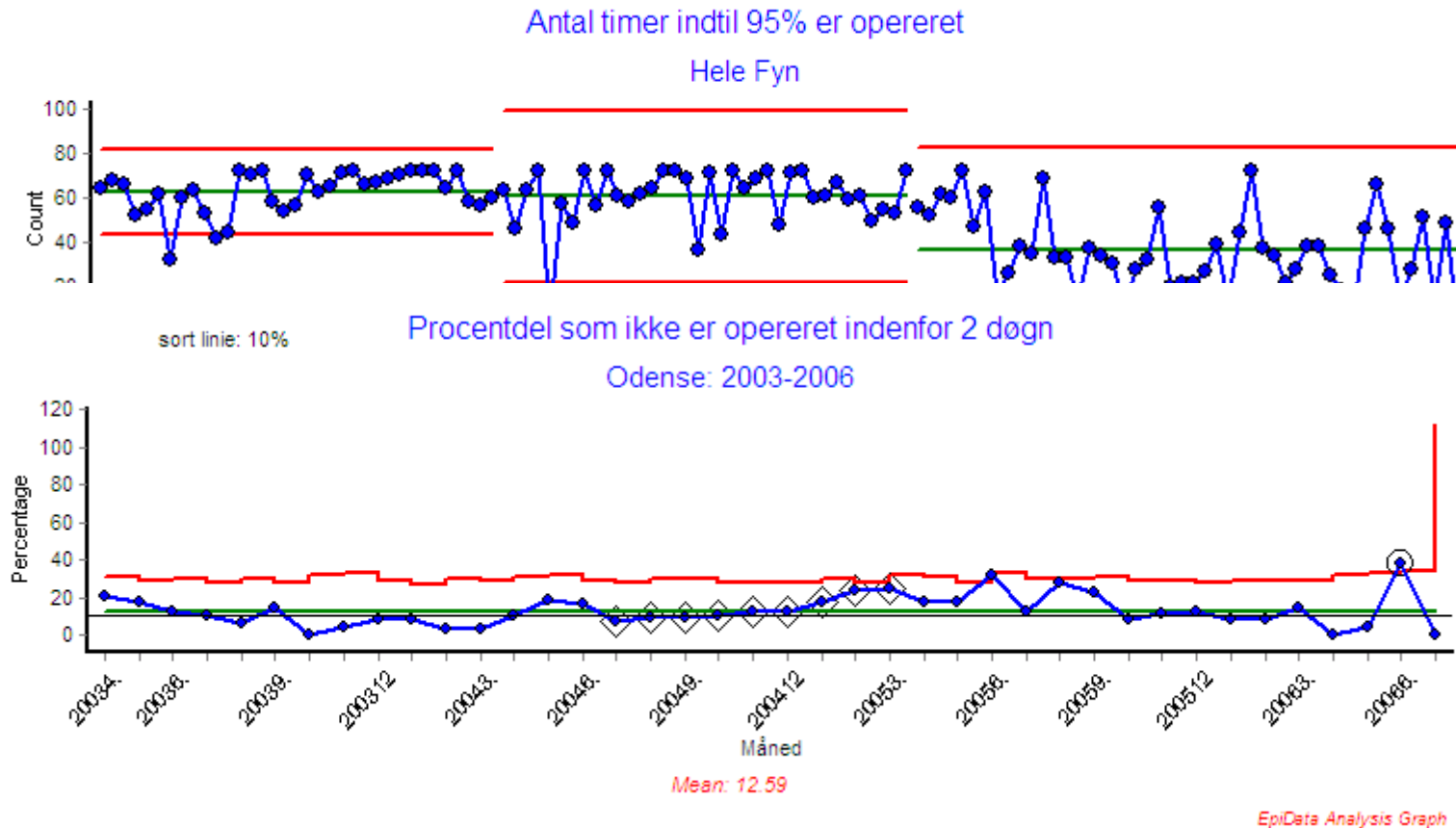


hip fracture pt. n= 1138

n=1527



Visualise process and quality



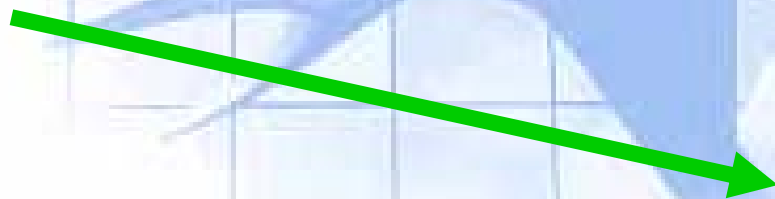
Putting it all together

- How can we combine the techniques and decisions ?

Transitions and focus

Body level

ICF –
classification



time 1

time 2

Activity and
participation



ICF - “ny” terminologi

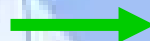
Before

Disease

Symptom

Disability

Handicap



ICF

Health Condition

Bodily Function
and Anatomy

Activity

Participation

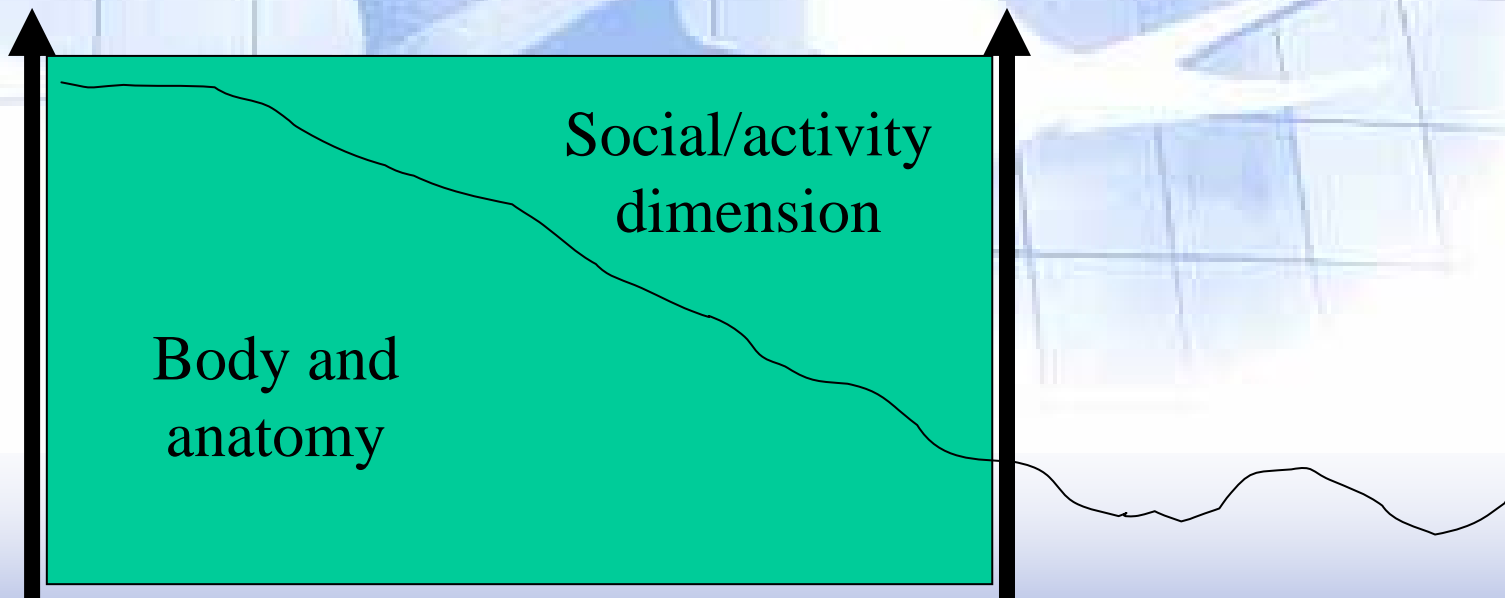


Changing focus in a combined clinical pathway

Hospital
Municipality
Person

hospital
Municipality
Person

Municipality
Person



”Snitflader”

Transition roles must be clear

Hospital

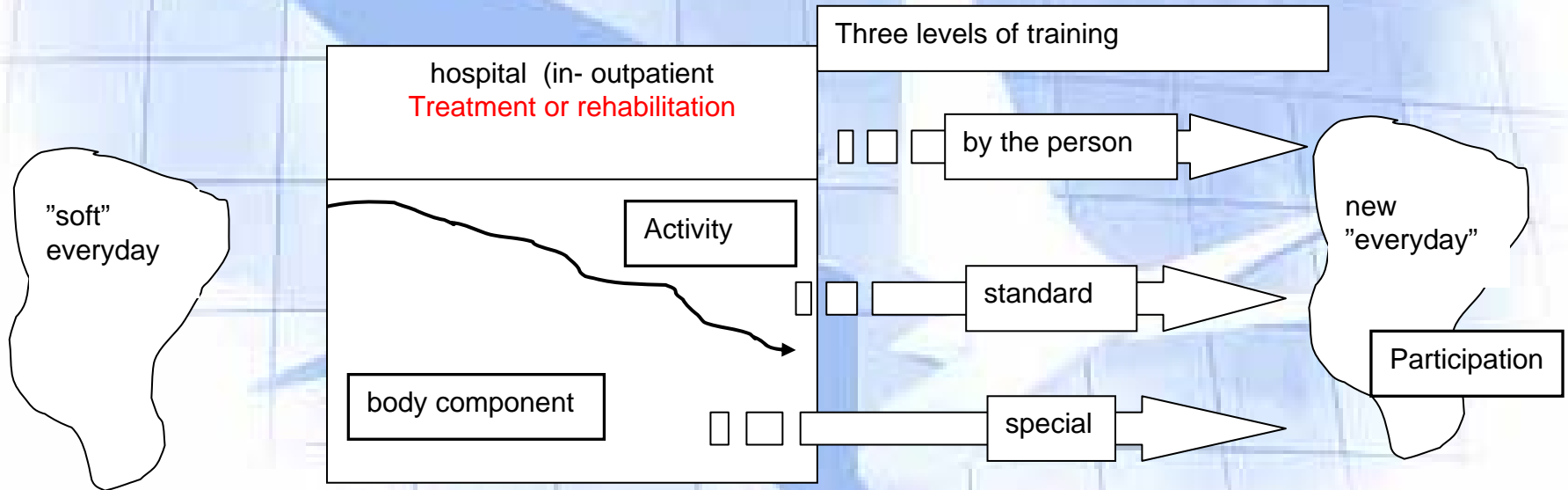
Share
responsibilities

Local Area

Injury Analysis Group



Who is responsible



In the whole sequence the patient has the responsibility for his/her own participation and activity
- including the everyday life aspects



Training is not expensive

- Agreed sharing hospital - municipality
- - example : Hip Fracture patient at leaving hosp.: walk with bon a pied
Plan: walking with “rollator”
- Achieved level: walking outside with 1 stick, indoor no stick

Price: 7500 ISK
(four homevisits)



Large debate in Denmark

Who should decide level of training and rehabilitation – doctors at hospital or municipality ?

§ 141. Kommunalbestyrelsen tilbyder vederlagsfri genoptræning til personer, der efter udskrivning fra sygehus, har **et lægefagligt begrundet behov** for genoptræning, jf. § 85 om genoptræningsplaner.

Priority setting - example

<u>Barthel</u> <u>FØR</u>		<u>Barthel ved udskrivelsen</u>											<u>Funktionstest ved udskrivelsen</u>		
nr	Sum før brud	spisning	badning	personlig toilette	af- og påklædning	forflytning	mobilitet	trappegang	toiletbesøg	blærekontrol	rektumkontrol	Sum	tandem	Timed Up&Go	oprejning fra stol
1	16	2	0	0	1	2	2	0	2	1	2	12	10	79	3
2	20	2	0	1	1	3	3	2	2	2	2	18	19	21	7
3	15	2	0	0	1	2	3	1	1	2	2	14	8	81	2
4	20	2	1	1	1	2	1	0	2	2	2	14	10	101	1
5	18	2	1	1	1	3	3	1	2	2	2	18	5	50	3
6	20	2	1	1	2	3	3	2	2	2	2	20	30	20	10

Who to contact first if you have two places available for group training in two days ?





Fyns Amt - WHO
Safe Community

Leveråd

Træning og anden indsats til faldtruede ældre
- forebyggelse af ældres fald

Forebygge faldulykker
Tværfagligt samarbejde

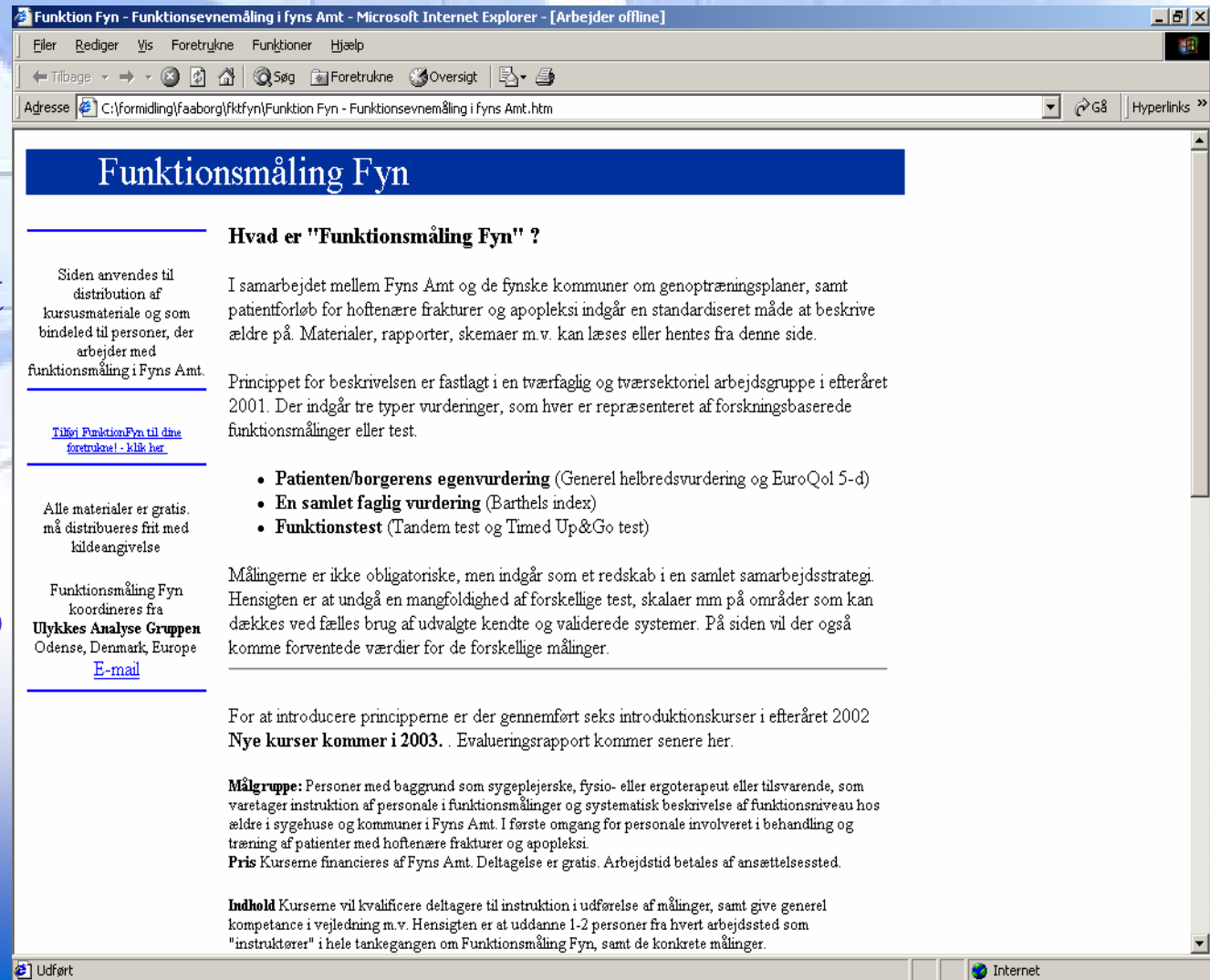
Manuals
must be
created

Analysis Group



We inform at www.funktionfyn.dk

People move
often
no secretariat
job and task
changes
impossible to
keep track of
400 people



Funktion Fyn - Funktionsevne måling i fyns Amt - Microsoft Internet Explorer - [Arbejder offline]

Filer Rediger Vis Foretrukne Funktioner Hjælp

← Tilbage → ↻ Søg ↻ Foretrukne ↻ Oversigt ↻

Adresse C:\formidling\faaborg\fkfyn\Funktion Fyn - Funktionsevne måling i fyns Amt.htm Gå Hyperlinks

Funktionsmåling Fyn

Hvad er "Funktionsmåling Fyn" ?

Siden anvendes til distribution af kursusmateriale og som bindeled til personer, der arbejder med funktionsmåling i Fyns Amt.

[Tilføj FunktionFyn til dine foretrukne! - klik her.](#)

Alle materialer er gratis. må distribueres frit med kildeangivelse

Funktionsmåling Fyn koordineres fra **Ulykkes Analyse Gruppen** Odense, Denmark, Europe
[E-mail](#)

I samarbejdet mellem Fyns Amt og de fynske kommuner om genoptræningsplaner, samt patientforløb for hoftefrakturer og apopleksi indgår en standardiseret måde at beskrive ældre på. Materialer, rapporter, skemaer m.v. kan læses eller hentes fra denne side.

Princippet for beskrivelsen er fastlagt i en tværfaglig og tværsektoriel arbejdsgruppe i efteråret 2001. Der indgår tre typer vurderinger, som hver er repræsenteret af forskningsbaserede funktionsmålinger eller test.

- **Patienten/borgerens egenvurdering** (Generel helbreds-vurdering og EuroQol 5-d)
- **En samlet faglig vurdering** (Barthels index)
- **Funktionstest** (Tandem test og Timed Up&Go test)

Målingerne er ikke obligatoriske, men indgår som et redskab i en samlet samarbejdsstrategi. Hensigten er at undgå en mangfoldighed af forskellige test, skalaer mm på områder som kan dækkes ved fælles brug af udvalgte kendte og validerede systemer. På siden vil der også komme forventede værdier for de forskellige målinger.

For at introducere principperne er der gennemført seks introduktionskurser i efteråret 2002 **Nye kurser kommer i 2003.** . Evalueringsrapport kommer senere her.

Målgruppe: Personer med baggrund som sygeplejerske, fysio- eller ergoterapeut eller tilsvarende, som varetager instruktion af personale i funktionsmålinger og systematisk beskrivelse af funktionsniveau og ældre i sygehuse og kommuner i Fyns Amt. I første omgang for personale involveret i behandling og træning af patienter med hoftefrakturer og apopleksi.

Pris Kurserne finansieres af Fyns Amt. Deltagelse er gratis. Arbejdstid betales af ansættelsessted.

Indhold Kurserne vil kvalificere deltagere til instruktion i udførelse af målinger, samt give generel kompetence i vejledning m.v. Hensigten er at uddanne 1-2 personer fra hvert arbejdssted som "instruktører" i hele tankegangen om Funktionsmåling Fyn, samt de konkrete målinger.

Udført Internet

Conclusion

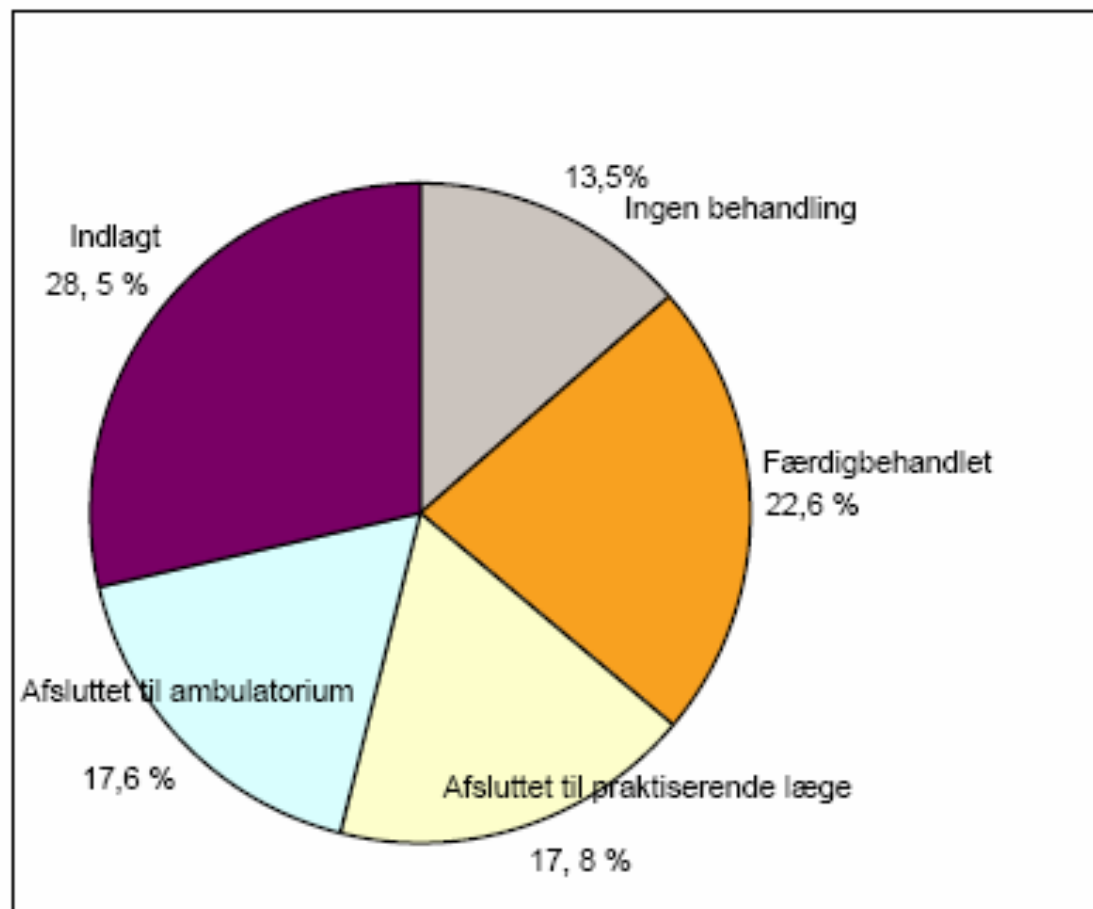
- Number of elderly falling is very large
- There is good evidence for intervention
- A collaborative model must be made
- No Health Technology Assessments made .
- The task is to find the proper mix:
 - the professionals, the local area, the person, the family
- **Everyone should participate in a regional model:**
The person, general practice, Emergency
Departments, Medical Specialities, politicians in
local areas.





Tak





Figur 3.1: Ældres afslutningsmåde efter faldkontakt til skadesstue

(Kilde, Ulykkesregistret, Statens Institut for Folkesundhed. Beregnet ud fra summering af alle faldrelaterede skadestuekontakter for de +65-årige i perioden 1998-2003).

Risk group for hip fracture in elderly women identified by primary care questionnaire--clinical implications.

Ups J Med Sci. 2006;111(2):179-87.

- **1: Albertsson D, Gause-Nilsson I, Mellstrom D, Eggertsen R. Risk group for hip fracture in elderly women identified by primary care questionnaire--clinical implications.** Ups J Med Sci. 2006;111(2):179-87. Department of Primary Health Care, Gothenburg University, Sweden. daniel.albertsson@ltkronoberg.se
 - **BACKGROUND:** Every fourth Swedish woman suffers hip fracture during life-time. Several methods for fall and fracture prevention are known. In this study we identify women at high hip fracture risk in a primary care population, describing their needs for possible fracture prevention as well. **METHODS:** Cross-sectional questionnaire study for self-assessment by randomly chosen elderly women (n=100) over 70 years of age in a Primary health Care district at 1998. Questionnaire was designed from previous validated study. Follow-up study after three years performed at 2001. **RESULTS:** Response rate was 92% (n=92, mean age 78) and 90% (n=83) answered the main 40 questions. 30% had at least two of four major risk factors for hip fracture; age over 80 years, body weight below 60 kg, recent fall and previous fragility fracture. The recall ability for at least two of these four risk factors was 93% in follow-up study after three years (relative risk = 8.0 with 95% confidence interval 3.5 to 18). 34% of the women had experienced any fracture since the age of 50. Only 22% of the women with previous fragility fracture had any pharmacological treatment for osteoporosis. 26% had falls in the preceding 12 months, mainly at home. Needs for fracture prevention were found in 34% (27 women). **CONCLUSIONS:** Age, weight, recent falls or previous fragility fracture were common and important clinical risk factors for hip fracture with good recall ability after three years. By using this questionnaire in a Primary health Care district we identified women at high fracture risk. Needs for fracture prevention were observed for one third.



Også andre spørgsmål kan afklares

Hoftebeskytter – hvor længe skal der instrueres?

