

Taking care of hospital physicians: development and feasibility testing of a job-specific workers' health surveillance

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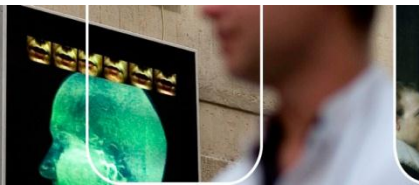
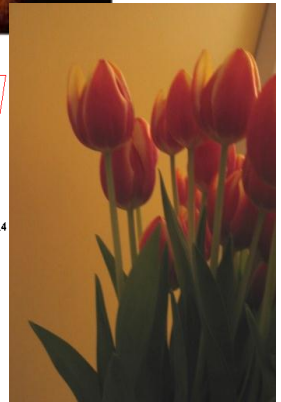
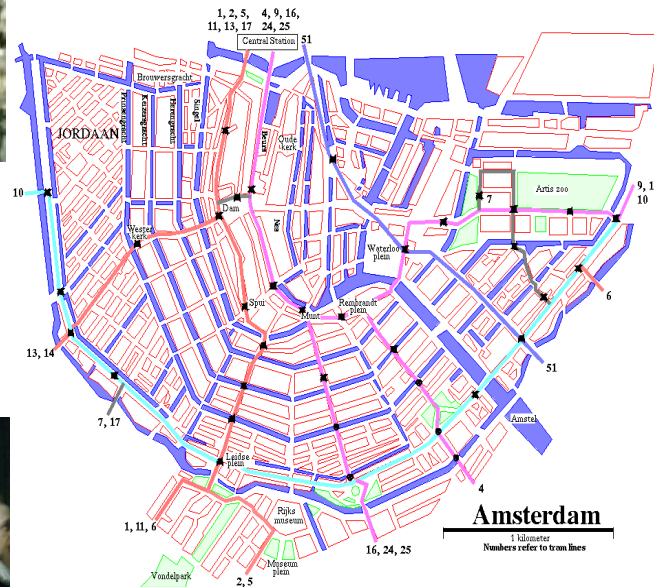
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From Amsterdam...the Netherlands



When High Demands jobs are at stake:
we improve medical selection and occupational medical
guidance during employment



Technical and ethical guidelines for Workers' Health Surveillance

- WHS is preventive occupational health strategy

Preventive medical examinations in workers serve amongst others, to:

- detect pre-clinical and clinical abnormalities at a point when intervention is beneficial to individuals' health
 - prevent further deterioration in workers' health
 - reinforce safe methods of work and health maintenance
 - Assess fitness for a particular type of work
-
- Be sure to select appropriate tests: acceptable for the worker
 - Discard tests that cannot meet requirements with respect to their relevance and test properties
 - Be sure the content is relevant to the nature of the occupational risks



Background

- Dutch guideline for occupational physicians
(2005, now in revision)
 - signalling and monitor of work-related health complaints
 - signalling and monitor of decreased work-ability / work-functioning
 - provide individual feedback to worker with appropriate advice / intervention / guidance by Occ Phys

Aim: to increase work functioning and optimize work-ability



Aim

...to develop a job-specific workers' health surveillance (WHS) for Dutch hospital physicians, by detecting:

- Physical exposure in the job
- Psychological and psychosocial exposure in the job
- Most prevalent job-relevant health effects of workers in job
- Health effects of workers reducing work functioning

... and to test it's feasibility in an academic hospital



Method total project (2008-2012) (1)

- International literature search (1998-2010)
 - Physical, psychological, chemical, biological and radiation exposure data gathered in hospital physicians
- Hierarchical Task Analyses: systematic observation tasks, activities during work of Hospital Physicians
 - Physical job demands (duration, frequency, intensity) on 132 working days
 - %HRR (n=60)
- Questionnaire study among all 958 hospital physicians of 1 out of 8 acad.hosp.
 - Physical complaints, Psychological complaints, Psychosocial exposures, Physical exposures, work-ability aspects
 - Subgroups: F/M, med.res./MS, 4 age groups, type of MS



Method total project (2008-2012) (2)

With the information from job demands and health of workers:

- Comparing results with occupational exposure, ergonomic norms, occupational health norms, and guide for high-demands definition

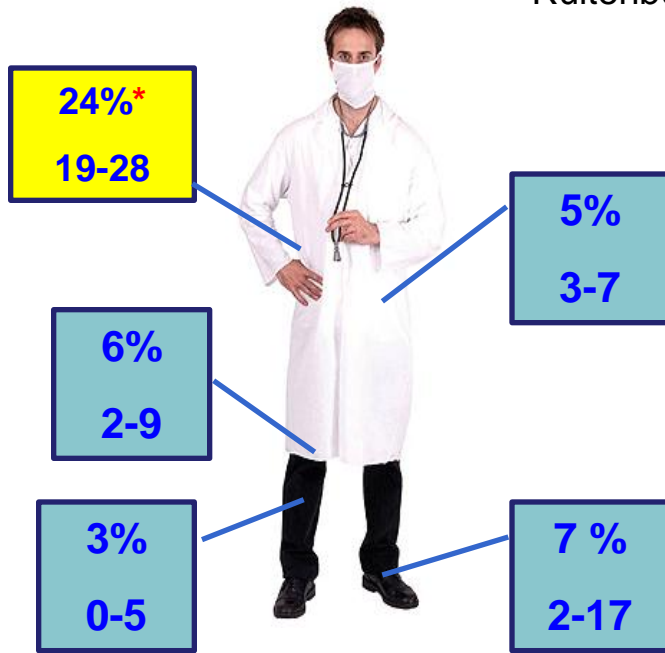
*** = high prevalence or high demands compared to other workers

- Choose job-specific aspects for the content of the WHS
- Search for screeners and instruments to use in WHS
- Search for appropriate interventions/advices
- The protocol to be used by occupational health service
(in NL: occupational physicians is 4-years post-med.education)



Example MSDs: Longlasting/repetitive musculoskeletal complaints in last 6 months (prev(range))

Ruitenbunrg, Plat, Frings-Dresen & Sluiter, 2012

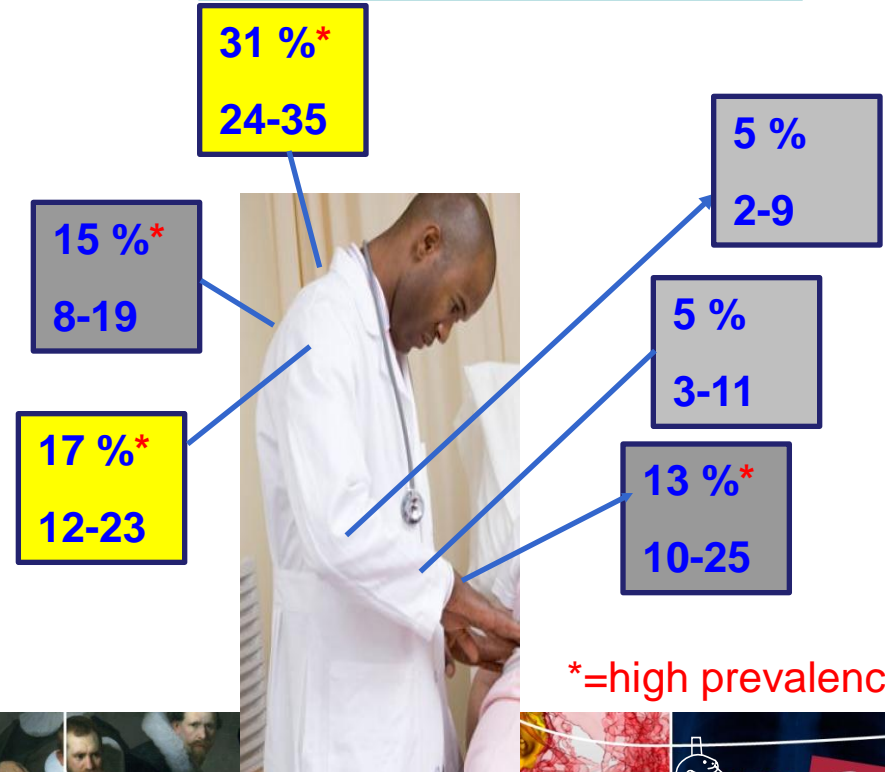


Work-induced:

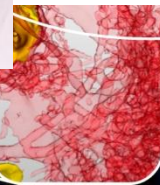
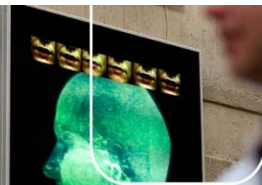
Low back: 42%
Hip: 5%
Knee: 17%
Lower-leg: 25%
Ankle/foot: 25%

Work-induced:

Cervical spine: 71%
Thoracic spine: 73%
Shoulder: 60%
Elbow-wrist-hand: > 50%



***=high prevalence**



Example: psychological health hospital physicians,

Physicians have to be alert, stay awake, being able to make good judgements....	Prevalence	Range	F / M	Sr / Med Res	Age	Type of med spec
Posttraum.stress*	15 %	5 – 19	F	=	=	Surgeon
High stress screener*	15 %	10 – 19	F	MR	=	Interns
Burnout screener	6 %	2 – 10	F	=	Old	=
Work-related fatigue* Need for recovery after work	39 %	35 – 48	F	MR	Young	Interns
Depression screener*	29 %	25 – 34	=	=	=	=
Anxiety screener*	24 %	16 – 30	F	MR	=	Interns

* = high prevalence

Ruitenburch, Plat, Frings-Dresen & Sluiter, 2012



Example problems with work functioning/workability:

Mental or physical state was several times in the last month reason for having
problems with dealing with their work demands or experiencing a decreased
work functioning

Problems with work because of own mental or physical state	Prevalence total	Range Subgroups
Physical state is reason*	19 %	14 – 22
Mental state is reason*	29 %	20 – 38

* = high prevalence for job requirement



WHS content (1)

Physical state and abilities/requirements:

- Musculoskeletal disorders (low back, neck, shoulder, wrist/hand) and related disabilities during work
- Vision (acuity) screener and test
- Hearing (speech) screener and test
- Lung- or airway problems signals after job exposure
- Presence of any infectious diseases
- Work-related skin abnormalities screener and test
- Recent exposure check to blood, faeces or saliva
- Current work-ability self-rating
- Risk factors Cardio-metabolic disorders
- Drugs use



WHS content (2)

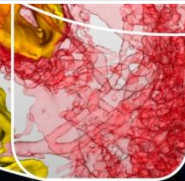
Psychological state and abilities/requirements:

- Psychological complaints (General Health Questionnaire) as first step screener
 - 2nd step: anxiety, depression, burnout
- Work-related fatigue (need for recovery after work scale)
- Post-traumatic stress disorder (Impact of Event Scale-NL)
- Sleepiness (Epworth Sleepiness Scale)
- Medication check
- Alcohol use (AUDIT-C)
- Recent exposure check to aggression, severe trauma
- Work-ability (Workability index adapted)



Examples WHS advice/interventions to be taken by occupational physicians (3)

Problem screened or signalled	Intervention/advice from occupational physician
High work-related fatigue or high stress complaints	Discuss interventions at work to increase recovery opportunities
Musculoskeletal problems, work-related	Discuss and advice ergonomic measures for specific work environment
High psychological complaints, non-specific	Start more in-depth diagnostics for depressive disorder, anxiety disorder and burnout
High, more specific psychological complaints	Start self-help module E-physicianhealth.com: <ul style="list-style-type: none"> - Resiliency - Burnout - Disruptive behaviour - Posttraumatic stress disorder
Risk factors for cardiovascular disease or substance use	Start self-help module E-physicianhealth.com: <ul style="list-style-type: none"> - Substance use - Weight, nutrition and fitness



Feasibility study

- In 1 Dutch academic medical center with internal OccHealthService
- 3 medical specialisms (surgery, gynaecology/obstetrics, radiotherapy)
- Minimum of 20-40 participating physicians (sr and med residents)
- Classic WHS strategy; written questions, medical examination at OHS followed by personal feedback by occupational physician
- Written out WHS protocol (survey, medical examination, outcome calculation, consult structure, clinical algorithm to apply advices/interventions)
- Training WHS protocol for occupational health service
- Invitation letters and flyers, tailored for management and users
- Between September and December 2011



Feasibility study

- Outcomes:
 - Reach (% of invited physicians that respond and attend)
 - Dose received (% of participants that fill in questions, came to phys.assistent for tests, visited occ. Phys.)
 - Dose delivered (% of correct advices of occ.phys.)
 - Satisfaction with WHS organisation and consult (figure between 0-10)
 - Future intention for participation (self, colleagues)



Methods preparation phase

- Training WHS protocol for Occ Phys and Phys assist.
 - PA: three hours training by researchers with casus (MP and MR)
 - OP: three hours training with casus by JS and CH
- Tailoring information material:
 - With format invitation letter and format of flyer prepared by researcher
 - Discussed with management of medical specialisms and adjusted as wished

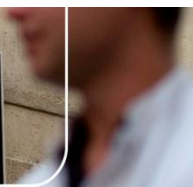
Data gathered:

- Outcomes per subject
- Process forms to sample OHS activities and advice from WHS consult
- Written evaluation questions for physicians (after feedback consult)
- Interview with medical management and OHS personnel



Results feasibility study: reach and dose

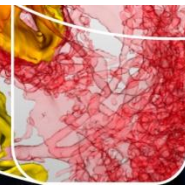
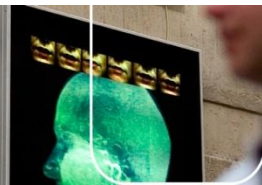
Outcome	Results	
Reach	54% respond to invitation 38% respond to attend 34% attend Surg:41%, Gyn:34%, Rad.Ther:43%	50 out of 93 invited 35 out of 93 “ 32 out of 93 “
Dose received	91% of attendents complete all parts WHS	
Dose delivered	92% of advices were correct + 22 extra preventive advices	77 of 84 positive findings



Results- Protocol adherence

signals used as start for guidance to individual physician

OccPhys:	Total number of adverse health requirement which should have been discussed	Signal recognized and adherence to protocol (action and advice initiated) by Occ Phys.	Total adherence to protocol in %
Categories of requirements:			
Psychological requirement (adverse exposure or health effect)	33	30/33	91%
Physical requirement (adverse exposure or health effect)	40	37/40	93%
Workability signal	8	7/8	88%
Cardiovascular signals	3	3/3	100%



Results feasibility study

Type of signals	% of physicians:
Physical exposure	53
Psychological exposure	25
Physical health	84
Psychological health	78
Workability	22
Risk factors CVD	38



Results feasibility: estimated effectiveness and future participation

Experienced effectiveness and willingness to participate in WHS in future:	Physicians:
Do you believe this WHS will have a positive effect on the health of hospital physicians?	Yes: 83%
Do you believe this WHS will have a positive effect on the work functioning of hospital physicians?	Yes: 69%
Do you believe this WHS will have a positive effect on the durable workability of hospital physicians?	Yes: 76%
How would you grade your employer for offering this WHS to employees in the future? (0 bad-10 very good)	Mean: 8
Will you personally attend this WHS again in future?	Yes: 93%
Do you believe your colleagues will attend this WHS in future?	Yes: 96%



Conclusions

- Introducing a preventive job-specific WHS for hospital physicians was feasible and shown to be relevant and necessary
- Hospital policy makers are advised to offer this WHS to hospital physicians
- A positive business case for WHS on work functioning in nurses recently shown in our group

