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*“Longe praestantius est praeservare
quam curare” B. Ramazzini*

Aula “Cesare Gerin”
Sapienza - Università di Roma

Roma, 30 novembre - 2 dicembre 2017

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“LONGE PRAESTANTIUS EST PRAESERVARE QUAM CURARE” B. RAMAZZINI

AULA “CESARE GERINI” - SAPIENZA - UNIVERSITÀ DI ROMA

ROMA, 30 NOVEMBRE - 2 DICEMBRE 2017

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INDICE

**II Congresso Internacional de Medicina del Trabajo
Italia - Argentina**

“Longe praestantius est praeservare quam curare” B. Ramazzini

**Aula “Cesare Gerin” - Sapienza - Università di Roma
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GIOVEDÌ 30 NOVEMBRE - AULA “CESARE GERIN” 10.00-10.30		VENERDÌ 1 DICEMBRE - AULA “CESARE GERIN” 09.00-10.30	
Lectio Magistralis	5	“Rischi per la salute nel lavoro in altura”	30
NEW CHALLENGES FOR YOUNGER AND OLDER WORKERS AND HEALTH	6	IL RISCHIO DA RADIAZIONE SOLARE NEL LAVORO IN ALTEURA: ESPOSIZIONE, EFFETTI, PREVENZIONE	30
TAVOLE ROTONDE	9	ADATTAMENTI FISIOLGICI E PROBLEMATICHE CLINICHE NEL LAVORO IN ALTEURA	31
GIOVEDÌ 30 NOVEMBRE - AULA “CESARE GERIN” 11.00-13.00		IL LAVORO IN ALTEURA: L'IMPORTANZA DELLA PREVENZIONE E DEL SOCCORSO PER LA SALUTE DEI LAVORATORI IN ALTA QUOTA	32
“Qualità della vita e benessere negli ambienti di lavoro” I Sessione	10	ESPOSIZIONE OCCUPAZIONALE AD ATMOSFERE IPERBARICHE: AGGIORNAMENTI IN TEMA DI FISIOPATOLOGIA	34
QUALITÀ DELLA VITA E BENESSERE NEGLI AMBIENTI DI LAVORO	10	RISCHIO CONTEMPORANEO DI ESPOSIZIONE A SILICE CRISTALLINA AERODISPERSA ED ELEVATA ALTITUDINE IN MINATORI CILENI: UNA VALUTAZIONE NON CONVENZIONALE	34
MALATTIE PROFESSIONALI E FATTORI DI RISCHIO PSICOSOCIALE: SITUAZIONE ARGENTINA E REGIONALE	10	IL LAVORATORE NEI CLIMI E SITUAZIONI AMBIENTALI ESTREME: SISTEMA DI GESTIONE DELLA SALUTE NELL'OIL AND GAS INDUSTRY	36
L'ESPERIENZA DI UN'ORGANIZZAZIONE PUBBLICA TRA CAMBIAMENTI DI CONTESTO E INNOVAZIONE ORGANIZZATIVA	12		
I TUMORI OCCUPAZIONALI	13		
GIOVEDÌ 30 NOVEMBRE - AULA “CESARE GERIN” 14.00-16.00		VENERDÌ 1 DICEMBRE - AULA “CESARE GERIN” 11.00-13.00	
“Qualità della vita e benessere negli ambienti di lavoro” II Sessione	14	“Rischi negli ambienti sanitari e organizzazione del servizio di Medicina del Lavoro” I Sessione	37
LA QUALITÀ PROFESSIONALE NELL'ATTIVITÀ DEL MEDICO OCCUPAZIONALE PER LA TUTELA E LA PROMOZIONE DELLA SALUTE NEI LUOGHI DI LAVORO	14	SORVEGLIANZA SANITARIA PER LA TUBERCOLOSI IN ITALIA	37
DISEGNO DI PROGETTO DI RICERCA: CIBO E PETROLIO. ALIMENTAZIONE E STATO NUTRIZIONALE DEGLI OPERAI PETROLIERI CON SRADICAMENTO NELL'AREA DI VACA MUERTA, NEUQUÉN, ARGENTINA NELL'ATTUALITÀ	14	VALUTAZIONE E PREVENZIONE DEI RISCHI IN AMBIENTE SANITARIO	38
LA VALUTAZIONE DEI RISCHI DI IGIENE E SICUREZZA IN ITALIA TRA STORIA E ATTUALITÀ	17	IL RISCHIO BIOLOGICO E LA PROTEZIONE VACCINALE DEGLI OPERATORI SANITARI: RUOLO DEL MEDICO DEL LAVORO DURANTE UN OUTBREAK DI MORBILLI IN UN OSPEDALE	38
“LA DOMANDA INFINITA”. PROBLEMI DI ORGANIZZAZIONE DEL LAVORO NEL PRIMO LIVELLO DI ASSISTENZA SANITARIA NELLA CIUDAD AUTÓNOMA DE BUENOS AIRES (CABA), ARGENTINA, E IL SUO RAPPORTO CON LA SALUTE DELLA POPOLAZIONE ATTIVA	18	LA VALUTAZIONE DEI RISCHI DI LAVORO NEI SERVIZI OSPEDALIERI. L'APPROCCIO DELLA SANITÀ PUBBLICA RISPETTO A QUELLO DEGLI ASSICURATORI SUL RISCHIO OCCUPAZIONALE	40
LA VALUTAZIONE DELLO STRESS CORRELATO AL LAVORO: APPROCCIO METODOLOGICO DI UNA GRANDE REALTÀ AZIENDALE	21	VALUTAZIONE E GESTIONE DEL RISCHIO DA AGENTI CHIMICI E BIOLOGICI NELLE STRUTTURE OSPEDALIERE: ESPERIENZE APPLICATIVE	41
LE ORIGINI DELLA MEDICINA DEL LAVORO IN AMBITO MILITARE MARITTIMO	22		
GIOVEDÌ 30 NOVEMBRE - AULA “CESARE GERIN” 16.00-18.00		VENERDÌ 1 DICEMBRE - AULA “CESARE GERIN” 14.00-15.30	
“L'importanza delle differenze di genere negli aspetti preventivi e nell'attività del medico del lavoro”	23	“Rischi negli ambienti sanitari e organizzazione del servizio di Medicina del Lavoro” II Sessione	42
L'IMPORTANZA DELLE DIFFERENZE DI GENERE NELLA VALUTAZIONE DELLO STRESS LAVORO CORRELATO PERCEPTO	23	CONOSCENZA E PRATICA DELLE PRECAUZIONI STANDARD TRA I LAVORATORI SANITARI NELL'AREA OVEST DELLA CITTÀ DI LUSAKA	42
RISCHI LAVORATIVI E DIFFERENZE DI GENERE. IL RUOLO DI SIML A SOSTEGNO DELL'ATTIVITÀ DEL MEDICO DEL LAVORO	24	SHOCK ANAFILATTICO PER UN'ALLERGIA AL LATEX SU UN LAVORATORE DELLA SALUTE. PRESENTAZIONE DEL CASO CLINICO	43
INVECCHIAMENTO E LAVORO. IL PROFILO DI SALUTE DEGLI OPERATORI SANITARI IN EUROPA	26	VALUTAZIONE DEL RISCHIO LEGATO ALLA LEGIONELLA NEGLI AMBIENTI DI LAVORO	45
DIFFERENZE DI GENERE, ERGONOMIA E ORGANIZZAZIONE DEL LAVORO: UN TRINOMIO IRRINUNCIABILE PER UN CORRETTO APPROCCIO ALLA SALUTE E SICUREZZA	28	LA VIOLENZA SUL POSTO DI LAVORO DELLA POPOLAZIONE ATTIVA DI UN OSPEDALE PUBBLICO NEL PERIODO 2014-2016. UN APPROCCIO MULTIDISCIPLINARE	46
INVECCHIAMENTO E RISCHI PSICOSOCIALI IN SANITÀ	29		

(segue)

GIORNALE ITALIANO DI MEDICINA DEL LAVORO ED ERGONOMIA

CONTRIBUTI	49	UNA EXPERIENCIA DE ARTICULACIÓN ENTRE LOS CAMPOS DE LA EDUCACIÓN Y PROMOCIÓN DE LA SALUD Y LA MEDICINA DEL TRABAJO. NUEVAS MIRADAS, NUEVOS APORTES	74
VENERDÌ 1 DICEMBRE - AULA "CESARE GERIN" 15.30-17.30			
Sessione Parallela			
"Qualità della vita e benessere negli ambienti di lavoro"	50	SABATO 2 DICEMBRE - AULA "CESARE GERIN" 09.00-10.30	
SINDROME DELLE APNEE OSTRUTTIVE NEL SONNO (OSAS) E INFORTUNI E PERFORMANCE SUL LAVORO	50	"Rischi negli ambienti sanitari e organizzazione del servizio di Medicina del Lavoro"	75
APNEA OBSTRUCTIVA DEL SUEÑO, ACCIDENTES VEHICULARES Y OBESIDAD	50	VALUTAZIONE DEL RISCHIO D'ESPOSIZIONE AL MYCOBACTERIUM TUBERCULOSIS E PROTOCOLLO SANITARIO PER GLI OPERATORI SANITARI DELL'EMERGENZA	75
TOTAL WORKER HEALTH: UNA SINTESI FRA MEDICINA OCCUPAZIONALE E MEDICINA PREVENTIVA	51	ANÁLISIS INTEGRAL DE LAS CONDICIONES LABORALES DE UN ÁREA DE SERVICIO SOCIAL DE UN HOSPITAL PÚBLICO DE LA CIUDAD AUTÓNOMA DE BUENOS AIRES	78
ANÁLISIS DE LOS FACTORES DE RIESGO PSICOSOCIAL EN TRABAJADORES DEL ESTADO EN LA CIUDAD DE RÍO GRANDE, TIERRA DEL FUEGO, ARGENTINA	52	LO STATUS VACCINALE ANTI-HBV E FATTORI DI RISCHIO ASSOCIATI NEGLI OPERATORI SANITARI DI DUE OSPEDALI CAMPANI	79
RISCHIO VISIVO E STRESS LAVORO CORRELATO: STUDIO DI UNA POPOLAZIONE DI VIDEOTERMINALISTI	53	REALIZZAZIONE DI UNA CHECK LIST FINALIZZATA ALLA STESURA DEI PROTOCOLLI SANITARI PER GLI ADDETTI AGLI SPAZI CONFINATI	80
ANÁLISIS DEL PERFIL SALUD-ENFERMEDAD DE LOS USUARIOS QUE UTILIZAN PANTALLAS DE VISUALIZACIÓN DE DATOS	54	ESTRATEGIA PEDAGÓGICA PARA SALUD Y SEGURIDAD EN EL TRABAJO PARA PROFESIONALES QUE INICIAN SU CARRERA DE ESPECIALIZACIÓN HOSPITALARIA	82
IL MEDICO COMPETENTE E LE "BUONE PRASSI": QUALITÀ, RISPETTO DEL SEGRETO PROFESSIONALE E TUTELA DELLA PRIVACY	55	REFLEXIONES DESDE LA CLÍNICA PSIQUIÁTRICA SOBRE LA REPRESENTACIÓN CLÍNICA DE LOS TRASTORNOS DE ADAPTACIÓN DESDE LA TRIADA TERAPEUTA-PACIENTE-MÉDICO LABORAL	84
EXPECTATIVAS DE LOS ESTUDIANTES DE MEDICINA DE LA FACULTAD DE MEDICINA DE LA UNIVERSIDAD NACIONAL DEL COMAHUE RESPECTO A SU CARRERA Y SU CONOCIMIENTO SOBRE LA MEDICINA DEL TRABAJO	56	LA VALUTAZIONE DEI RISCHI LAVORATIVI NEL SETTING DELLA CONTINUITÀ ASSISTENZIALE	85
STUDIO PILOTA SULL'UTILIZZO DELL'INDICE DI WINSOR NELLA MEDICINA DEL LAVORO	57		
VENERDÌ 1 DICEMBRE - AULA "C" 15.30-17.30		SABATO 2 DICEMBRE - AULA "CESARE GERIN" 10.45-12.15	
Sessione Parallela		"Qualità della vita e benessere negli ambienti di lavoro"	86
"Qualità della vita e benessere negli ambienti di lavoro", "Rischi per la salute nel lavoro in altura"	58	IL RUOLO DEL MEDICO COMPETENTE NEL PERCORSO DI REINserIMENTO LAVORATIVO DEL LAVORATORE INFORTUNATO E TECNOPATICO	86
EXPERIENCIA EN LA FORMACIÓN DE ESPECIALISTAS EN MEDICINA DEL TRABAJO EN EL CONFIN DEL MUNDO	58	LIFESTYLE, ENVIRONMENT AND RISK FACTORS FOR VARICOSE VEINS IN ITALIAN HEAD <i>CHEF DE CUISINE</i>	86
PREVENZIONE E CONTROLLO DELLE AGGRESSIONI IN AMBITO SANITARIO: REVISIONE DELLA LETTERATURA	58	IMPACTO RESPIRATORIO DE PARTÍCULAS VOLÁTILES EN EMPLEADOS TEXTILES	87
ERGONOMÍA EN ARGENTINA: DE LA RESOLUCIÓN A LA PRÁCTICA, ANÁLISIS DE UN PUESTO, REALIDAD DEL PROCESO ERGONÓMICO	59	VALUTAZIONE DI SEGNI PRECLINICI IN SOGGETTI PROFESSIONALMENTE ESPOSTI A FORMALDEIDE TRAMITE LA SOMMINISTRAZIONE DI QUESTIONARI	87
DAL IV FATTORE DI RISCHIO AL RISCHIO STRESS LAVORO-CORRELATO (STRESS WORK-RELATED)	59	APPLICAZIONE DELLE NORME SULLA PRIVACY NEGLI STUDI ODONTOIATRICI	88
CONDICIONES Y MEDIO AMBIENTE DE TRABAJO DE TRABAJADORAS DOMÉSTICAS SIN RETIRO CON TRABAJO FORMAL	60	OSTEOSÍNTESIS DE CLAVÍCULA; COMPARACIÓN DE RESULTADOS EN PACIENTES LABORALES Y NO LABORALES	89
FATIGA Y TRABAJO DOCENTE	60	VALUTAZIONE DEI TEMPI DI IMPIEGO DEI VIDEOTERMINALI IN UNA STRUTTURA OSPEDALIERA	89
L'IDONEITÀ AL LAVORO IN ALTA QUOTA	61		
EVALUATING WORK ENGAGEMENT AND OCCUPATIONAL STRESS AMONG LAWYERS	62	SABATO 2 DICEMBRE - AULA "C" 09.00-10.30	
POLÍTICA DE GESTIÓN DE LA SEGURIDAD E HIGIENE LABORAL EN LABORATORIOS DE DOCENCIA E INVESTIGACIÓN/DESARROLLO EN UNIVERSIDADES NACIONALES Y CENTROS DE INVESTIGACIÓN	63	"Qualità della vita e benessere negli ambienti di lavoro"	90
HERRAMIENTAS PARA LA VALORACIÓN DEL RIESGO EN LABORATORIOS DE INVESTIGACIÓN Y DESARROLLO	63	I Sessione	
VENERDÌ 1 DICEMBRE - AULA "D" 15.30-16.30		PERCEPCIÓN DEL RIESGO DE DAÑO POR MOVIMIENTO REPETITIVO DE TRABAJADORES EN UNA INDUSTRIA DEL CALZADO	90
Sessione Parallela		SOCIETÀ DELLE 24 ORE E SINDROME METABOLICA: DUE COMPAGNI DI VIAGGIO. REVIEW 2017	91
"L'importanza delle differenze di genere negli aspetti preventivi e nell'attività del medico del lavoro"	65	GOVERNO CLINICO: L'IMPORTANZA DEL RISK MANAGEMENT VOCACIÓN, CONDICIONES LABORALES Y NIVEL DE SATISFACCIÓN DEL PROFESIONAL MÉDICO	91
DONNE IN GRAVIDANZA E LAVORO: PROGETTO DI STUDIO ITALO-ARGENTINO SULL'EFFICACIA DELLA TUTELA NORMATIVA	65	OSSERVAZIONI SUI FATTORI DI RISCHIO COINVOLTI NELL'INFEZIONE DA <i>HUMAN HERPES VIRUS 8 (HHV-8)</i> ASSOCIATI ALLA MALARIA DA <i>PLASMODIUM FALCIPARUM</i> INUGANDA	93
EMBARAZO, LACTANCIA Y SALUD LABORAL	66	RISCHIO DA RADIAZIONI IONIZZANTI PER IL PERSONALE ODONTOIATRICO: CONSAPEVOLEZZA E RACCOMANDAZIONI IN TEMA DI RADIOPROTEZIONE	94
INVECCHIAMENTO DELLA POPOLAZIONE LAVORATIVA E PROMOZIONE DELLA SALUTE SUI LUOGHI DI LAVORO	67	SABATO 2 DICEMBRE - AULA "C" 10.30-12.00	
LUCI ED OMBRE NELLA GESTIONE DELLE DIFFERENZE DI GENERE: DALLA NORMATIVA PREVENZIONISTICA ALLE MISURE DI WELFARE AZIENDALE PER LA CONCILIAZIONE VITA-LAVORO	67	"Qualità della vita e benessere negli ambienti di lavoro"	95
VENERDÌ 1 DICEMBRE - AULA "D" 16.30-17.30		II Sessione	
Sessione Parallela		TELETRABAJO COMO HERRAMIENTA DE LA MEDICINA DEL TRABAJO	95
"Rischi negli ambienti sanitari e organizzazione del servizio di Medicina del Lavoro"	68	L'IMPORTANZA DI UNA CORRETTA ALIMENTAZIONE DURANTE L'ATTIVITÀ LAVORATIVA	95
MOTIVOS DE CONSULTA DE POSIBLE ORIGEN OCUPACIONAL Y SU RELACION CON EL TRABAJO INFORMAL EN UN HOSPITAL PÚBLICO DE LA CIUDAD AUTÓNOMA DE BUENOS AIRES	68	QUANDO LA STRADA È IL LUOGO DI LAVORO IL RISCHIO CONNESSO ALLA GUIDA DI VEICOLI PER FINI LAVORATIVI: OBBLIGHI, PREVENZIONE, FORMAZIONE E RESPONSABILITÀ	96
AGGRESSIONI E VIOLENZA NEL COMPARTO SANITÀ: STUDIO TRASVERSALE SU INFERMIERI E STUDENTI DI INFERMIERISTICA. DATI PRELIMINARI	69	VALIDAZIONE E PROPOSTA DI UN NUOVO QUESTIONARIO PER VALUTARE IL WORK ENGAGEMENT IN SANITÀ: L'HOSPITAL WORK ENGAGEMENT SCALE (HWES)	96
ESTRÉS LABORAL EN PERSONAL DE SALUD	70	ITALIA-ARGENTINA: ASPETTI NORMATIVI E DATI STATISTICI SU INFORTUNI E MALATTIE PROFESSIONALI	97
¿CÓMO NOS CUIDAN A LOS/AS QUE CUIDAMOS? DISEÑO DE INSTRUMENTO DE EVALUACIÓN DE RIESGOS PSICOSOCIALES EN EL SUBSECTOR PÚBLICO DE SALUD. ESTRATEGIA PARA LA VALIDACIÓN CUALITATIVA	70	LO STRESS NEGLI OPERATORI SANITARI DELL'EMERGENZA: UNO STUDIO CASO-CONTROLLO	98
		CARGA LABORAL EN LOS MÉDICOS RESIDENTES	100
		CONDIZIONI SANITARIE E DI OCCUPAZIONE NELL'OCCUPAZIONE INFORMALE NELLA CITTÀ AUTONOMA DI BUENOS AIRES, IN ARGENTINA	101

LECTIO MAGISTRALIS

GIOVEDÌ 30 NOVEMBRE
AULA "CESARE GERIN" 10.00-10.30
Lectio Magistralis

NEW CHALLENGES FOR YOUNGER AND OLDER WORKERS AND HEALTH

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Abstract. Working life is changing and there are new challenges for both younger workers entering the work force and older workers who are being encouraged to extend their working lives beyond the usual retirement age. Younger workers are faced with precarious jobs with little job security, home and mobile working and increasing unemployment in the face of automation of the workforce. Increasingly young people without education and skills are potentially disenfranchised from the workforce and from society. All of these challenges may carry a risk for ill-health. Older workers are being asked to extend their working lives as healthy life expectancy increases and, in many countries, there is a shortage of younger workers. The results of a UK based consortium of research on extending lives (renEWL) are reported with a focus on working conditions and health. This has identified that many factors from earlier in the lifecourse predict the ability to continue extended working. Policy interventions to extend the working life should start in midlife or even beforehand.

Introduction. The nature of work and its relation to society has changed immensely in recent years. This affects both younger workers starting out on their working life and well as older workers who are expected to adapt to the changing demands of the workforce and the economy. Thus it is important to understand how these changes may impact on work practices and working relationships because they may also influence workers health through exposure to increased stress.

The experience of younger workers. Increasingly entry level jobs for young workers are precarious with little security and may have 'zero-hours' contracts. This means that workers are expected to be flexible and may have no longterm financial security and hence may be subject to financial hardship with potentially deleterious effects on health. It may also mean that young workers have to take on several jobs in order to make ends meet.

Precarious employment has been linked to future mental ill-health. In the SCANIA study in 1135 individuals aged 18-34 years precarious employment was defined at baseline in 1999/2000 and again in 2005 (Carnivet et al, 2016). This was linked to psychological distress measured by the GHQ-12 at follow up in 2010. In 1999/2000 42.1% were in precarious employment, while in 2010 22.9% were in precarious employment. For precarious employment at baseline and in 2005 there was a greatly increased risk of psychological distress at follow up (IRR= 2.0 95%CI 1.6-2.6). One issue could be that poor mental at baseline may select people into precarious employment. However, excluding those with poor mental health at baseline the risk remained statistically significant although was reduced in magnitude (IRR= 1.40 95%CI 1.1-2.0 with 18% attributable risk fraction). Risk factors for psychological distress included job insecurity, poor working conditions, no sense of career, and no entitlements to benefits.

Managing multiple jobs with long hours can also have deleterious effects on personal relationships and families through effects on work life balance. While young workers may adapt to this new 'flexibility' in the labour market it may also expose them to long term job insecurity which has been shown to increase risk of mental ill-health (Ferrie et al, 2001).

Another recent trend has been increased working from home rather than in the office and more mobile working. This has benefits such as more contact with family, less travelling time and greater flexibility in working life. But it can also have disadvantages such as increased social isolation and a lack of face to face contacts with colleagues and bosses which can be associated with good health through the effects of social support at work.

One important theme in the recent labour market is the rise of the use of automation. Many jobs, and not only manual jobs, but some skilled jobs too, have been automated and this reduces the size of the labour market and potentially puts people at risk of unemployment – many of whom may not have faced unemployment previously. This is only the beginning of a trend and labour market policy makers should be considering the unintended consequences of automation which may be good for business but not necessarily beneficial to the workforce.

Young adults who are not in education, employment or training (NEET) are at risk of long term financial disadvantage and social exclu-

sion. In the Victorian Adolescent Cohort Study Prospective Cohort Study those with repeated disruptive behaviours or with persistent common mental disorders or repeated cannabis use were more at risk of being NEET. Those with early onset psychological and behavioural problems were more at risk of failing in the transition from school to employment (Rodwell, et al, 2017). This could have consequences for their future socioeconomic status. In a sample of 448 young adults, 15-25 years, attending 4 primary mental health services those who became depressed reported an increase in functional disability (measured by the WHODAS). In those whose depression remitted their functional ability improved. However, remitted depression alone did not make a person more likely to become employed again. There was no association between change in NEET and change in depression. It may be that being NEET may have a scarring effect on self-esteem, confidence and aspirations. There may also be structural barriers to getting back to work – treating mental ill-health alone is not sufficient, there is a need for education and training (O'Dea et al, 2016).

The experience of older workers. In the context of an ageing population, because of improved health at older ages, there is an increasing policy focus across Europe on retaining employees in the workforce. This applies to both retaining employees beyond conventional retirement ages but also identifying why employees drop out of the workforce at younger ages. Employees may leave the workforce for a variety of reasons including early retirement, unemployment and temporary or permanent sickness absence. This section of the paper reports recent research on factors related to extending working lives of older workers carried out by a UK consortium examining these matters in a range of UK and European cohort studies (<https://www.ucl.ac.uk/renewl>) (Holley-Moore et al, 2017).

Psychosocial work characteristics and exit from work. One aspect of working lives that may either hasten employees' work exit or encourage extended working beyond retirement age is their psychosocial work environment. Low decision latitude, that is low control over work and little opportunity for use of skills, predicts earlier retirement (Blekesaune & Solem, 2005; Clausen, 2014) and higher levels of control at work are related to delayed retirement (Virtanen et al, 2014). Psychological demands, in terms of fast work pace and conflicts in priority between work tasks, in general, do not predict early retirement (Kubicek et al, 2010; Clausen, 2014) except in some occupational groups (e.g. nurses, Jensen et al, 2012) while there is some evidence that low support from managers predicts intention to retire early (Oude Hengel et al, 2012). Job insecurity is also associated with early retirement (Henkens & Tazelaar, 1997; Mein et al, 2000). In a recent unpublished systematic review we found that high job control and job satisfaction were related to both an intention to retire later and also to retirement behaviour related to extending working life (Browne et al, submitted). Conversely, and somewhat surprisingly high levels of job demands were not consistently related to earlier retirement although in some studies job stress was associated with earlier retirement.

Psychosocial work characteristics also influence the risk of sickness absence. This is suggested by sickness absence rates varying by occupation (Hensing et al, 1995) and decrease in decision latitude and increase in job demands predicting long spells of sickness absence (Head et al, 2006). Recurrent spells of absence in turn predict permanent sickness-related absence from the workforce (Vaez et al, 2007). Also high job strain predicts increased risk of disability pension (Clausen & Dalgard, 2009). Interventions to increase decision making and social support at work reduce short spells of absence but it is not clear how they affect permanent sickness and disability (Michie et al, 2003).

Low job control (Roebroek et al, 2013; Roebroek et al, 2015), and job demands predict unemployment (Thielen et al, 2014). Mental ill-health predicts unemployment and the quality of working conditions influences whether people with mental ill-health receive disability benefits (Leijten et al, 2015).

We analysed data from the 1958 British Birth Cohort using data on psychosocial work characteristics at age 45 years in the biomedical follow up in 2002 to predict exit from the labour market by the ages of 50 and 55 years (Stansfeld et al, submitted). In fully adjusted analyses we found that low decision latitude, low work support at 45 years and high job insecurity at 42 years were associated with increased risk of being unemployed at 50 years. High job insecurity was also associated with increased risk of unemployment at age 55 years and the association was greater in manual rather than non-manual employees. Medium and high demands were associated with reduced risk of being unemployed at 50 years. High demands, which in earlier studies, represented more high status jobs, in which employees are 'in demand' are associated with reduced odds of unemployment at 55 years (Roebroek et al, 2015). Early exit from the labour force is increased by high general levels of unemployment which may be exacerbated by this survey being undertaken at the start of the economic recession in 2008. Those unemployed at 50 years may have left because of low quality working conditions, (Clausen et al, 2014) although leaving may be difficult if there are few other options for income, or may have been made redundant. Employers may be less supportive of older workers which may lead to older employees, sensitive to employers and colleagues view of them, leaving

employment, and because they see a lack of future prospects (PRIME, 2014).

Almost by definition job insecurity predicts unemployment and is seen as 'the most extreme stage of job instability' (Muntaner et al, 2010) and this may be especially the case for older people at a time of economic recession. In the United Kingdom one million people aged 50-64 years have been estimated to have left the workforce involuntarily between 2006 and 2014 and 26% of those currently jobless would like to be working (PRIME, 2014). Of the unemployed population over 50 years in the UK, 46.6% have been out of work for 12 months or more. In this age group unemployment rates tend to be higher in women, as we found too. At 50 and 55 years unemployment may mean restricted opportunities for re-employment in many occupations. There may also be an effect of the 'discouraged workers' concept where people perceive that it is no longer worth looking for work which could be influenced by previous experience of working conditions.

One unanswered question is whether the association between work characteristics and exit from the workforce at 50 and 55 years may be influenced by the presence of existing mental ill-health or longstanding illness. Existing ill-health may exacerbate the effects of work stressors on work exit making work more difficult to tolerate and burdensome and thus lead to earlier exit from the workforce. The association of demands with increased risk of permanent sickness may reflect a causal association mediated through adulthood psychiatric disorder, measured by the malaise scale, or may indicate that employees scoring high on the malaise scale either report or experience higher demands than those without psychiatric disorder. It may also be that the combination of work demands and psychiatric disorder have a synergistic effect on permanent sickness (Thielen et al, 2015). As expected malaise in adulthood and long standing illness were both independently associated with increased risk of permanent sickness at both 50 and 55 years.

Socioeconomic status and extended working. In analyses from the Finnish Public Health Sector Study there were significant occupational class differences in almost all work, health, and health behaviour factors apart from psychological distress (Virtanen et al, 2017). Managers and professionals were 1.79 times more likely to extend working life for six months beyond pensionable age than those in elementary professions, while lower grade non-manual workers were 2.03 times more likely adjusting for gender. Skilled manual workers had a very similar likelihood to extend their working life as elementary workers, being 0.95 times as likely.

Better working conditions (low physical workload, low job strain, high work time control), good health and perceived work ability were related to greater likelihood of working beyond pensionable age. Of these factors, physical workload, work time control and perceived work ability made the largest contributions to occupational differences together accounting for 42% of the occupational difference in likelihood of working beyond pensionable age. Further analyses suggested that the reduced physicality of higher occupational professions have an explanatory role in increasing the working life for this group.

Health throughout the lifecourse and earlier exit from the workforce. In analyses of the 1958 British Birth Cohort evidence was found of an association between childhood psychological health problems and an increased likelihood of being unemployed, permanently sick or homemaker at the age of 55 (Clark et al, 2017). Children with 1 or 2 reports of internalising psychological problems, such as depression or withdrawal were 1.59 and 2.37 times more likely to be unemployed at 55 respectively, when controlling for malaise in adulthood and educational attainment at age 33. When controlling for gender, social class in childhood and marital status at 55, 3 counts of internalising problems were associated with a 4.25 times greater chance of being permanently sick and a 2.8 times greater chance of being a homemaker. Three reports of externalising behaviour in childhood, such as bullying or aggressive behaviours were associated with a 5.69 times greater likelihood of being permanently sick at age 55, a 2.81 times greater likelihood of being a homemaker and a 3.1 times greater likelihood of being unemployed. Moreover, not only mental ill-health but also childhood experience of adversity predicts earlier exit from the workforce in adult life largely through the development of permanent sickness (Fahy et al, 2017). These associations were maintained after adjustment for disengagement from education in adult life and adult ill-health.

Reporting psychological distress, measured by the Malaise scale, throughout the life course was associated with a greater chance of being unemployed, permanently sick or a homemaker at the age of 55. Reporting malaise later in life at ages 42 or 50 was associated with an 11.63 times greater likelihood of being permanently sick at 55 for men and 10.03 times greater likelihood for women at 55. If malaise was reported 4 times across adulthood there was a 4.14 times greater chance of being unemployed and a 13.62 times greater chance of being permanently sick at 55 than those reporting no cases of malaise. Thus lifetime mental illness is strongly associated with early exit from the workforce.

Health behaviours and early exit from the workforce. An important public health insight is that health behaviours earlier in life may affect whether people are able to stay in the workforce later in life. This was studied in civil servants from the London based Whitehall II Study

of middle aged women and men. Men who smoked during mid-life were 1.42 times more likely to leave employment by the time of follow up interview between 45 and 80 years after other health behaviours, socio-economic status and prevalence of chronic disease were controlled for (Hagger-Johnson et al, 2016). Men who were heavy drinkers (men who drank more than 21 units a week) or reported 'problem drinking' during their working life were 1.23 and 1.27 times respectively more likely to transition out of employment.

Men performing low levels of physical activity (less than an hour a week of vigorous or moderate activity) were 6.45 times more likely to transition out of employment on health grounds when only considering age, but men who drank heavily or reported low levels of physical activity were 4.79 times and 3.44 times more likely to transition out of work on health grounds, when adjusted for the socioeconomic background, occupational grade, health status and income of the individual. Thus smoking, heavy drinking and low levels of physical activity, possibly mediated through the development of illness, were particularly likely to predict earlier exit from the workforce.

Diabetes mellitus, chronic illness and exit from the workforce. Analyses were carried out that looked specifically at individuals with diabetes using pooled data from three cohort studies: the Finnish Public Sector Study, The Whitehall II study in the UK and the GAZEL cohort study in France (Virtanen et al, 2015). These papers looked at different factors which might influence how having diabetes might impact on patterns of work disability across time (sickness absence or disability pension) in later life. These included: socio-economic background, psychosocial working conditions, psychological wellbeing, co-morbidity and life-style related behaviours.

On average, people with diabetes had higher rates of work disability than people without diabetes. However, this increased risk of subsequent work disability varied by health and social factors. Employees with diabetes who were in less advantaged socio-economic occupations, who were obese or suffered from greater job strain were more likely to suffer from work disabilities. Employees with diabetes who also suffered from psychological distress were found to have more work disability days and more frequent spells of sickness absence. The key results are that diabetes is not a homogenous disease in terms of future work disability. Among those employees with additional co-morbid conditions or who face harsher socio-economic and employment conditions, the additional strain was likely to exacerbate risk of work disability and form a barrier to extending working life.

Cognitive and physical capabilities and exit from the workforce. RenEWL researchers also looked at the relationships between physical health, cognitive ability and retirement. The research looked at the links between physical and cognitive capabilities in mid-adulthood in the 1946 British Birth Cohort and the increased likelihood of participating in either bridge employment or voluntary work for those with higher scores in the respective tests (Stafford et al, 2017). Bridge employment, usually defined as a gradual transition from full time work, into less intensive forms of paid employment, into retirement, was found to be occurring more frequently in people with higher cognitive ability. When looking at physical health and the impact that had on retirement transitions, those with physical limitations were more likely to retire for negative reasons, and renEWL also found that those with the highest physical capability were more likely to engage in volunteering. Much of the advice from charities and other organisations recommend voluntary work as a good way to transition between employment and retirement. The findings from renEWL suggest that older adults in poorer health may be excluded from this.

Geographical perspectives on health. It is widely recognised that living in areas with higher unemployment is associated with people exiting the workforce earlier. RenEWL research looked at health as a possible measure to explain this. We found strong links between living in areas of high employment and being sick or disabled (Murray et al, 2016). Furthermore, if a person had poor health earlier in life, they were more likely to be sick or disabled later in life. What was interesting was the impact a change in employment rates in an area had on the length of working lives. We found that if unemployment rates fell in an area over 10 years, it was associated with a healthier population (less people classified as sick or disabled).

Conclusion. Young people entering the workforce are exposed to a variety of changing working conditions that require adaptation and may have consequences for health. Planning at the company, local and central government levels needs to consider these challenges in order to provide healthy workplaces and good work opportunities for younger people. Older workers are being asked to extend their working lives with consequent changes in the age of first receiving a pension. Experiences and exposures earlier in life can have powerful effects on determining the capacity for people to extend their working lives and may limit people's capacity to work longer. Interventions to improve health, especially mental health, and encourage healthier behaviours may have an impact on extending working lives. Additionally providing a working environment that provides high levels of control and support and values the contribution of older workers is also likely to encourage workers to stay at work for longer.

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