Evaluation of Health Impact Assessments Related to Labor and Employment

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Abstract

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OBJECTIVES: To identify characteristics of employment-related health impact assessments (HIA) and the range of health issues these HIAs addressed. METHODS: We identified 564 HIAs published in English-speaking countries between 2004 and 2014. Twenty-seven HIAs were employment-related and met our inclusion criteria. We abstracted data from the published reports. RESULTS: Over half (n=14) of employment-related HIAs were conducted in the U.S., 26% (n=7) were conducted in the UK, 15% (n=4) in Europe (excluding UK), and one HIA was conducted in New Zealand and one HIA in Palau (U.S. territory). The majority (n=18, 67%) of HIAs were conducted on a proposed policy. Six HIAs were performed by Human Impact Partners on a policy for paid sick leave, and five HIAs were performed by the European

Commission on an employment policy to promote flexible labor markets. Other proposals included job retraining (n=8) and domestic worker bill of rights (n=2). Most HIAs were funded by government sources (n=17, n=63%) such as health departments (local and national) or federal agencies. These HIAs most commonly considered health outcomes such as chronic disease (n=14) and mental health (n=14), but also injury and illness (n=8), health care resource utilization (n=8), and the spread of communicable disease (n=7). CONCLUSION: Most employment-related HIA activity has taken place in the US over the last five years (13 of 15) and primarily addresses large-scale policy measures. These types of proposals can promote HIA use by sharing of resources (expertise, data, research methods) among HIA practitioners. And lastly, HIAs provide an opportunity for cross-sector collaboration between the public health, planning, and labor communities.

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INTRODUCTION:

The relationship between employment and individual health is complex. Being employed is associated with better health outcomes, although this can vary depending on a person's type of work and the working conditions to which he is exposed.[1] Conversely, a person's health status can have a profound impact on his or her ability to obtain and maintain employment.[2] The relationship between health, the conditions of work and employment can be summarized in the conceptual model adapted from Work Matters[3] and Braveman et al[4] (Figure 1). Working conditions refer to the exposures and risks an individual experiences at the workplace itself – including physical, chemical, and biological hazards; sleep deprivation; and sense of control over job tasks. In contrast, employment conditions describe the type of contract or an agreement an employee has (e.g., full-time vs. part-time, fixed term or temporary), and the benefits associated with employment (e.g., income, health insurance, paid leave). These work-related resources enable workers and their families to pursue health-promoting behaviors such as the ability to seek medical care; afford food, housing, and other basic necessities; and engage in physical activity. Policies and programs that influence employment have both upstream health effects like work-related injury and musculoskeletal strain, as well as downstream health effects such as risk for obesity and cardiovascular disease.

Over the last few decades, planners and decision-makers have worked with public health professionals to use health impact assessment (HIA) as a tool to evaluate the potential health consequences from proposed policy and projects.[5–7] HIAs can be undertaken at local, regional, national, and international levels to inform decision-making. The World Health Organization

supports the use of HIAs as part of a *Health In All Policies* approach to incorporating health considerations into decision-making.[8] Although there is no universal standard for HIA methodology, there is a general consensus that HIAs should follow six core stages (screening, scoping, assessing, developing recommendations, reporting, monitoring and evaluating).[7,9] What does vary and can affect the capacity for a HIA to influence a policy, program, or project is the context, process, and impacts of a particular HIA.[10]

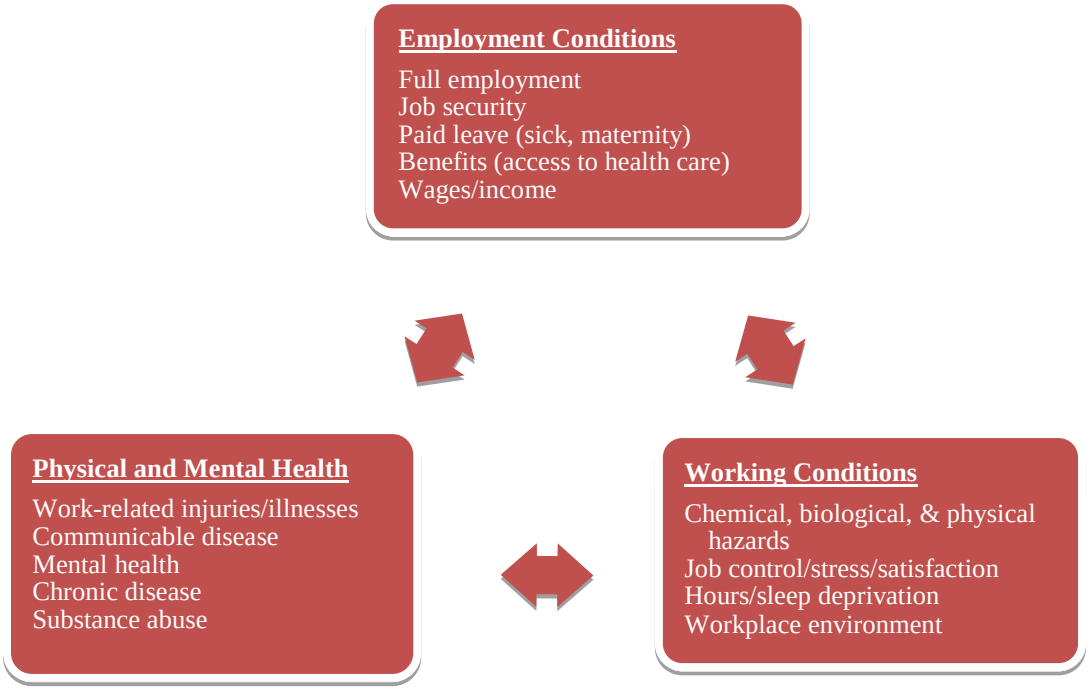

Figure 1: Relationship between working conditions, employment conditions, and health.

Dozens of HIAs have been completed in the U.S. and abroad, addressing potential health risks and opportunities of employment. Reviews of HIAs related to housing[11] and to transportation[12] have been performed, but to the best of our knowledge, no comprehensive review of employment-related HIAs has been conducted. Thus, little is known about the range of employment-related health issues addressed by HIAs. This paper addresses this gap, by

describing the range of health issues addressed, presenting the findings from a process evaluation, identifying knowledge gaps and providing recommendations for next steps for employment-related HIAs. The evaluation is organized around the model shown in Figure 1.

METHODS:

Data sources

The majority of HIAs conducted in the U.S. can be found in two databases that substantially overlap. The Health Impact Project at Pew Charitable Trusts maintains a master list of HIAs completed in the US. We searched by the sector "labor and employment," listed as of February 15, 2015. The UCLA Health Impact Assessment Clearinghouse also maintains a HIA master list. We searched by the sector, "labor, workplace," as of February 2015. We cross-referenced these lists excluded duplicates. To our knowledge, there is no equivalent database for HIAs conducted outside of the US. The WHO maintains a directory of key groups who conduct HIAs worldwide.[13] We searched databases from December 2014 to February 2015 in English-speaking countries using the terms "labor," "employment," and "workforce and also searched established websites in those regions, including: United Kingdom (HIA Gateway, IMPACT), New Zealand (New Zealand Ministry of Health, Australia (CHETRE, HIA Connect), and Wales (Wales Health Impact Assessment Support Unit). Thailand has mandated routine use of HIA for proposed development projects.[14] We sought assistance from professional contacts to access HIAs in Thailand, but no HIAs were available that met our inclusion criteria.

Study sample

The HIAs we included in our data set met the following criteria: 1) the HIA was a prospective analysis of a proposed policy or plan; 2) a report was completed and available for download; 3) employment or labor issues were a discrete component of the HIA described in the title or Executive Summary; and 4) the central purpose of the HIA was related to labor and employment. Reports were excluded if the HIA did not describe a specific policy or proposal related to employment (e.g., general development or economic development plans) or were not completed by February 2015. This is demonstrated in Figure 2 below.

Summary Data

Once identified, HIAs were assessed by a single investigator (HYS) and coded for general descriptive data. These included location, year of completion, depth of HIA[7] (i.e., rapid, intermediate, and comprehensive), type of HIA[15] (i.e., policy, plan, program or project), typology/reason for HIA[15] (i.e., advocacy, decision-support, and mandated) and description of HIA methods. We categorized the work, employment and health issues addressed in each HIA, as depicted in our conceptual model.

Process evaluation

Schuchter, et al.[16] recently completed an evaluation of HIA procedural fidelity, which they defined as conformity to practice standards. We conducted a novel process evaluation, using criteria from HIA practice standards developed by a working group of North American HIA practitioners, like Schuchter, et al., but applied the most recent version, *Minimum Elements and Practice Standards for Health Impact.*[9] Also, for simplicity, we limited our evaluation to just 10

practice standards, chosen because they emphasized guiding principles of HIA, democracy, equity, ethical use of evidence, comprehensive approach to health,[17] and because they represented five of the six stages of HIA (see Appendix). We omitted screening because it was inconsistently described in HIA reports. We evaluated each HIA for the presence or absence of procedures consistent with each of the 10 standards and scored from 0 to 2 using the Edwards and Haines plan evaluation framework[18] (0 = not present, 1 = present but limited in scope, and 2 = present, comprehensive, and specific). We described individual practice standard scores and summary scores, the sum of all 10 standard scores out of a maximum of 20 points.

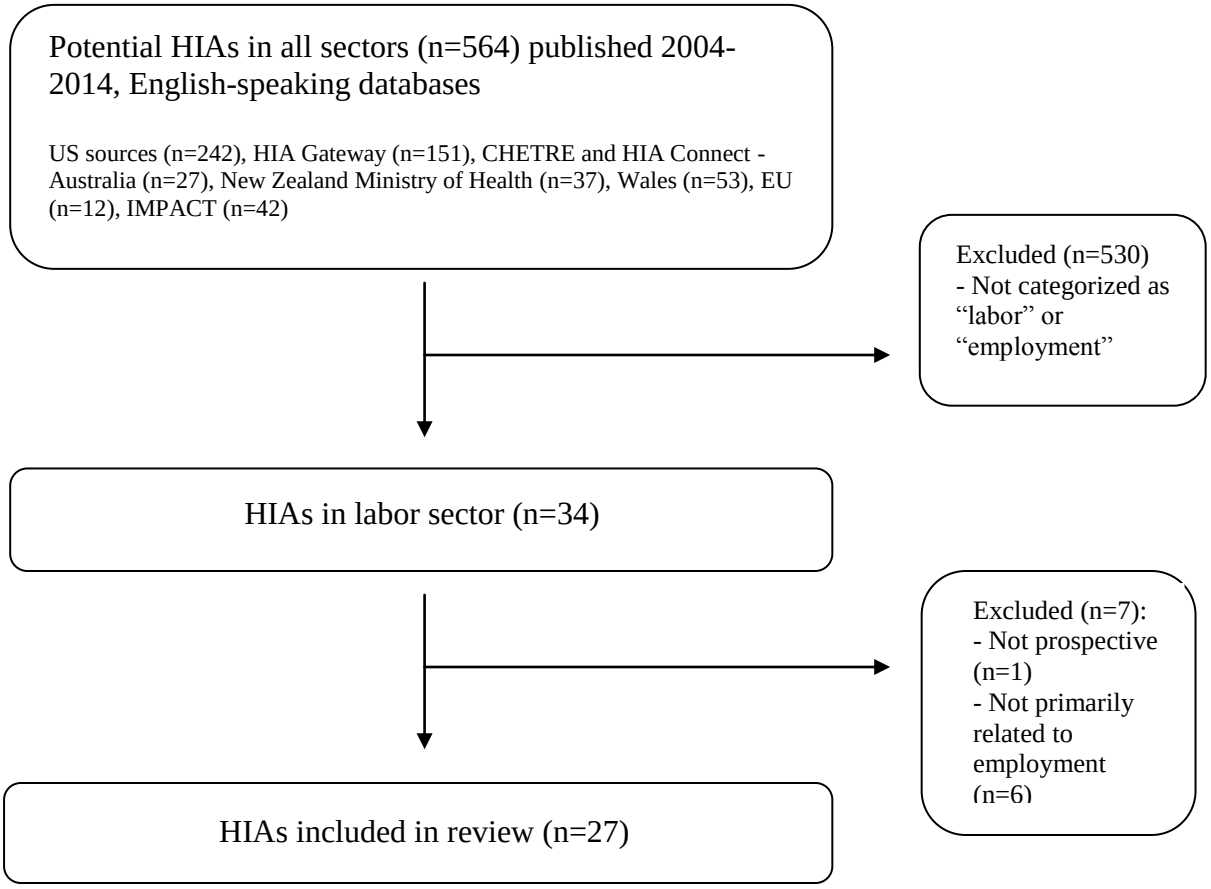

Figure 2: Flow chart of HIAs included in review.

RESULTS

Study sample

We identified 564 HIAs conducted in the U.S. and its territories, Australia, New Zealand, the European Union, and the United Kingdom (Figure 2), including 27 employment-related HIAs completed between 2004 and 2014 (Table 1). Half of the employment-related HIAs were conducted in the U.S. (n=13), 23% (n=6) were conducted in the United Kingdom, 19% by the European Commission (n=5), one was conducted in New Zealand, and one was conducted in Palau, a U.S. Territory (Table 2). Two well-known HIAs on living wage measures from California were not included in this study because they were conducted prior to 2004[19] or performed retrospectively.[20]

Summary Data

About two-thirds (n=18; 67%) of the employment-related HIAs were conducted on a proposed policy, and the other third was split between HIAs addressing a proposed project (n=5; 22%) or proposed program (n=4; 15%). Most HIAs received government funding although nearly one third received foundation support (Table 2). We used a broad definition of government funding which included public health departments in the U.S. and National Health Service trusts in the UK. Foundations, particularly the Robert Wood Johnson Foundation and The Pew Charitable Trusts also commonly funded HIAs in the U.S. Half of the assessments were comprehensive reports (50%) and the remainder split between rapid and intermediate depth HIAs. In the UK and EU, all employment-related HIAs that we identified were categorized as decision-support and conducted in partnership with a decision-making body. In the U.S., HIAs that were conducted by public health departments similarly had a closer relationship with decision makers

than HIAs conducted by non-profits organizations or academic institutions. Most HIAs in our sample were evenly split between decision-support and advocacy-based HIAs, with no community-led HIAs. In the U.S., three HIAs were conducted in California and the remaining 10 HIAs were performed in all major regions of the country.

Table 1: List of 27 employment-related HIAs included in review, sorted by year of completion.

HIA Title	Location	Scope	Lead Groups	Year
European Community Employment Strategy	European Community	International	IMPACT,[1] RIVM,[2] Institute of Public Health North Rhine-Westphalia, Institute of Public Health in Ireland	2004
German European Employment Strategy	Germany	National	IMPACT,[1] RIVM,[2] Institute of Public Health North Rhine-Westphalia, Institute of Public Health in Ireland	2004
Irish European Employment Strategy	Ireland	National	IMPACT,[1] RIVM,[2] Institute of Public Health North Rhine-Westphalia, Institute of Public Health in Ireland	2004
Dutch European Employment Strategy	Netherlands	National	IMPACT,[1] RIVM,[2] Institute of Public Health North Rhine-Westphalia, Institute of Public Health in Ireland	2004
UK European Employment Strategy	UK	National	IMPACT,[1] RIVM,[2] Institute of Public Health North Rhine-Westphalia, Institute of Public Health in Ireland	2004
HIA of the Neighborhood Renewal Strategy in Cheshire	Cheshire, UK	Local	Centre for Health Planning and Management	2005
MWIA[3] of the Hatfield Training Centre	Hatfield, UK	Local	South London and Mausley National Health Services Foundation Trust, Hatfield Primary Care Trust	2006
Health and Wellbeing Impact Assessment on Lambeth Target Action Plans	Lambeth, UK	Local	Inukshuk Consultancy, Limited	2007
MWIA of employment project "Compass," Hounslow	London, UK	Local	London Borough of Hounslow Steering Group	2008
MWIA of an LAA approach to work benefit claims, Lancashire	Lancashire, UK	Local	Lancashire Trust	2008
MWIA of Parrot Zoo Project, Lancashire	Lancashire, UK	Local	Lincolnshire Primary Care Trust	2008
A HIA of the California Healthy Families, Healthy Workplaces Act of 2008	California, USA	State	HiP,[4] SFDPH[5]	2008
HIA of the Healthy Families Act of 2009	USA	National	HiP,[4] SFDPH[5]	2009
HIA of the Healthy Families Act of 2009: A HIA of Paid Sick Days in Maine	Maine, USA	State	HiP[4]	2009
HIA of the Healthy Families Act of 2009: Massachusetts Addendum	Massachusetts, USA	State	Massachusetts Paid Leave Coalition, HiP[4]	2009
HIA of the Healthy Families Act of 2009: New Hampshire Addendum	New Hampshire, USA	State	HiP [4]	2009
HIA of the Healthy Families Act of 2009: New Jersey Addendum	New Jersey, USA	State	New Jersey Time to Care, Rutgers Center for Work and Women, HiP,[4]	2009
HIA of the Cultural and Clinical Nursing Support and Training Programme	New Zealand	Local	Quigley Watts Limited, Katoa Ltd.	2010
HIA of Gender Pay Inequity	Michigan, USA	State	Wayne County Department of Public Health	2011
HIA of the Layoff and Bumping Process	Ohio, USA	Local	Cincinnati Health Department HIA Committee	2011
HIA of California Assembly Bill (Domestic Work Employee Equality)	California, USA	State	SFDPH[5]	2011
Kentucky Worksite Wellness Tax Credit	Kentucky, USA	State	Kentucky Department of Public Health	2012
U.S. Equal Employment Opportunity Commission Policy Guidance: A Mental Health Impact Assessment	Illinois, USA	State	Adler School of Professional Psychology	2013
Transitional Jobs Program: A HIA	Wisconsin, USA	State	University of Wisconsin Population Institute	2013
Maternity Leave in the Palau Workforce-Rapid HIA	Palau, US Territory	US Territory	HIA Working Group 2013	2013
Massachusetts Domestic Worker Bill of Rights	Massachusetts, USA	State	Health Resources In Action	2014
HIA of the Proposed Los Angeles Wage Theft Ordinance	California, USA	State	HiP,[4] UCLA Labor Center	2014

[1] University of Liverpool, UK
[2] National Institute for Public Health and the Environment, Netherlands
[3] Mental Well-being Impact Assessment
[4] Human Impact Partners
[5] San Francisco Department of Public Health

Table 2: Descriptive statistics of employment-related health impact assessments.

HIA Characteristic	Category	Frequency (%)
Location	United Kingdom	7 (25.9%)
	Europe (not UK)	4 (14.8%)
	European Community	1 (3.7%)
	Netherlands	1 (3.7%)
	Germany	1 (3.7%)
	Ireland	1 (3.7%)
	U.S.	14 (51.9%)
	West (CA)	3 (11.1%)
	Midwest (IL, OH, MI, WI)	4 (14.8%)
	Northeast (ME, MA, NJ)	4 (14.8%)
	South (KY)	1 (3.7%)
	National	1 (3.7%)
	New Zealand	1 (3.7%)
	U.S. territory	1 (3.7%)
Year completed	2004-05	6 (22.2%)
	2006-07	2 (7.4%)
	2008-09	8 (29.6%)
	2010-11	5 (18.5%)
	2012-13	4 (14.8%)
	2014	2 (7.4%)
Proposal type	Policy	18 (66.7%)
	Project	7 (25.9.2%)
	Program	2 (7.4%)
Reason for HIA	Decision support	17 (63.0%)
	Advocacy	10 (37.0%)
Depth	Rapid	8 (29.6%)
	Intermediate	6 (22.2%)
	Comprehensive	13 (48.1%)
Funding (may sum to > 100% as HIA can have multiple funding sources)	Foundation	8 (29.6%)
	Government	17 (63.0%)
	Unknown	4 (14.8%)
	University	1 (3.7%)

HIA subject: Employment and health issues

Employment conditions (n=45) were cited more often than working conditions (n=19). Thirteen HIAs described the relationship between income and health. These HIAs estimated how income would impact health outcomes like stress (n=6), mental health (n=3), and chronic disease (n=2). Job security, paid leave, and job retraining were the next most common employment conditions discussed. Physical hazards were the most frequently cited working condition health indicator (n=7). HIAs predicted how physical hazards could lead to increased numbers of work-related injuries (n= 6), disability (n=2), and chronic disease (n=2). The remaining indicators, shift-work,

sleep deprivation, job autonomy, and risk for physical abuse, were fairly evenly split and mentioned by two to four HIAs. The most common health outcomes linked to work-related health indicators included stress (n=11), mental health (n=14), and chronic disease (n=14).

Five HIAs were conducted by the European Union and four member states. These HIAs estimated the effects of the European Employment Strategy (EES), a coordinated employment policy across the European Community to increase rates of full employment through implementation of flexible labor markets, that is, the use of alternatives employment conditions such as fixed term, temporary, and part-time contracts to make it easier for employers to adapt to changing business conditions. All of these HIAs discussed how flexible labor markets could reduce job security and its association with worsening working conditions and increase in on-the-job injuries, but most of the health outcomes measured were limited to self-report of "poor health status," mental health, and absenteeism. The HIA from the Netherlands, however, did quantify baseline rates of disability and predicted that this could rise as a result of the European Employment Strategy.

The six HIAs performed by Human Impact Partners studied how a policy mandating paid sick leave could decrease the incidence of communicable diseases like influenza and rotavirus at the state and national level (Table 3). Other common issues examined by the HIAs included employment conditions such as benefits of full employment like income, health insurance, paid sick leave, and job security (Table 3). Few HIAs focused on the link between working conditions and health. The five HIAs on the European Employment Strategy (EES) discussed how job insecurity and part-time work were associated with increased risk for injury, but did not

use this as an outcome measure. The EES by the Netherlands obtained baseline disability claim data and estimated the effect the policy would have on claim incidence. And lastly, the HIA for a policy to establish labor rights for domestic workers in California estimated incidence rates of occupational exposures, injuries, and illnesses. The remaining six HIAs performed in the UK (excluding the report on the EES) examined mental well-being as a health outcome for small projects and programs conducted at the local level (Table 3). These reports are also older, conducted in the first half of the period of observation between 2005 and 2008. They evaluated the impact of various transitional work programs for the chronically unemployed or individuals with a history of mental illness.

HIA data sources

One of the main functions of an HIA is to provide evidence on the potential health consequences for a proposed policy, project, or program. A literature review of the broad health impacts was the most basic study method used by all of the employment-related HIAs in our sample (n=27, Table 4 in Appendix). Secondary data analysis was also present in most HIAs (n=21). Sources included state and local health departments, the National Health Interview Survey and Bureau of Labor Statistics in the US and national health statistics centers in Europe and New Zealand. Secondary data ranged from baseline data on a narrow range of indicators (age, gender, prevalence of heart disease, life expectancy, and infant mortality) to a broad range of health indicators and social determinants of health stratified by age, gender, income, and occupation. Some HIAs for policy proposals (n=4) also reviewed documents for policy language from a range of sources including existing laws (EEOC 2013), internal institutional memos and correspondence (Cincinnati 2011), and formal policy analysis and audit (European Community

2004). Many HIAs (n=17) collected primary data from interviews with key informants, stakeholders, and community members. The most comprehensive HIAs (n=13) performed mathematical modeling (Germany 2004) or developed and collected survey data (Transitional Jobs 2011).

Table 3: Frequency of key health-related themes; many HIAs addressed more than one theme.

Health outcomes (number of times cited in HIA)

Health Indicators (number of times cited in HIA)	Stress	Mental Health	Substance abuse	Chronic disease	Infectious disease	Injury/ illness	Mortality	Long-term disability	ER/ Hospital	Child health	Domestic abuse	Not specified	*Indicator frequency**
Working conditions													
Physical hazards	1			2		6		2				1	*7*
Shift work				2								1	*3*
Abuse/ assault	3	2				1							*4*
Job control/stress	2		1	1				1					*2*
Job satisfaction	1	2										1	*3*
Sleep deprivation	2	1		2		1	1						*2*
Employment conditions													
Wages	8	3	1	2			1			1		1	*13*
Paid leave	6	1		1	7	2			6	1			*7*
Health insurance				2	1	1			1	1			*2*
Workers' compensation						1		1					*1*
Job security	2	5	1	7		1	1			2	1	1	*10*
Job retraining		6		1					1				*7*
Wellness				2						1			*2*
Wage theft	2	1		1								1	*3*
*Outcome frequency**	*11*	*14*	*3*	*14*	*7*	*8*	*3*	*3*	*8*	*4*	*1*	*3*	

HIA process evaluation

Summary scores from our process evaluation ranged from a low of 4 to a high of 19 (out of 20 points), with an average total score of 11.9 (Table 4). Not surprisingly, rapid, less comprehensive HIAs were less likely to meet all 10 standards (mean summary score 7.3) while comprehensive HIAs were more likely to meet more of the standards (mean 15.1). The assessment of baseline health conditions, consideration of the full range of health effects, and reporting of the key stakeholders involved were most commonly present in employment-related HIAs. As the depth of HIA increased, reports included a more explicit discussion of the direction of expected health effects and formally evaluated the strength of the evidence from which conclusions were based. The final step of the HIA process of planning for impact and outcome evaluation (*Evaluation* and *Monitoring*) was commonly absent, with a mean score of <0.2 except among comprehensive HIAs.

Table 4: Process evaluation. Mean category score (range 0-2) and total summary score (range 0-20). Scoring of HIA based on 10 key standards, adapted from Minimum Elements and Practice Standard (Bhatia et al 2014). Each category was scored from 0 to 2, and then summed for a total of possible 20 points for each HIA.

Mean score for each standards category

HIA Depth	Scoping	Baseline	Systematic	Direction	Strength	Vulnerable	Recommendations	Stakeholders	Evaluation	Monitoring	Summary Score (sum of 10 standards)
Rapid (n=8)	1.0	0.6	1.0	1.1	0.6	0.8	0.9	1.1	0.1	0.1	7.4
Intermediate (n=6)	1.2	1.8	1.3	1.5	0.8	1.3	0.8	1.7	0.5	0.5	11.5
Comprehensive (n=13)	1.8	1.8	1.8	1.8	1.5	1.6	1.5	1.7	0.8	0.6	14.9
Mean (n=27)	1.4	1.4	1.5	1.6	1.1	1.3	1.2	1.5	0.5	0.4	11.9

DISCUSSION

To our knowledge, this is the first review of employment-related HIA activity in English-speaking countries. This study describes the range of employment-related health issues these HIAs have addressed over the last 11 years, where they have been conducted, what types of proposals they have addressed, and how they have been funded. Through a process evaluation, we identified that most employment-related HIAs have met practice standards by providing a complete assessment of baseline health conditions and reporting of stakeholder involvement, but show areas to improve, particularly in planning for evaluation and monitoring of HIA impacts and outcomes. Similar published reviews of HIA have been performed in other sectors including a review of HIAs on transportation (Dannenberg 2014) and housing (Morley NCHH report, 2015, unpublished).

Three clusters of HIAs emerged, grouped around three issues related to employment conditions: paid sick leave in the U.S. (n=6), transitional employment and job retraining in the U.K. (n=6), and flexible labor practices in the E.U. (n=5). These HIAs represent a concentration of HIA activity, accounting for nearly two thirds (63%) of all HIAs in our study. Each HIA cluster is centered on one proposed policy or project, but each had very different approaches to reproducing their HIA methods. The European Employment Strategy HIAs were the result of a coordinated and centralized effort by the European Community (EC) to incorporate health considerations into its policies and actions (Abrahams 2004). The EC recruited partners from four member nations to pilot their HIA methodology on the European Employment Strategy for the E.U. as a whole and individually in their own countries. They shared many of their methods including review of employment and health evidence, policy analysis, and core health and

employment-related indicators, but also allowed for partners to experiment with different methodology, such as mathematical modeling in Germany or in-depth stakeholder interviews in the U.K. Unlike the EC, the HIAs in the U.K. were performed by decentralized local public health agencies. Their objective was to meet national standards to promote mental health as part of the "Making It Happen" campaign launched in 2001.[21] Although conducted by different HIA practitioners, across the country, with different funding sources, and no overt connection to one another, all six HIAs used the Mental Well-being Impact Assessment (MWIA) methodology. These groups used the same MWIA toolkit and shared four key target areas for health promotion. And lastly, in the U.S., the initial HIA was performed by Human Impact Partners and staff at the San Francisco Department of Public Health in 2008 to document the relationship of paid sick days to health for the California Healthy Families, Healthy Workplaces Act of 2008. A second HIA was commissioned the following year in 2009 for a federal proposal to mandate paid sick leave and performed by the same team from Human Impact Partners. This second report replaced California-specific data with national data, updated the literature review, and conducted original analysis using secondary data. Human Impact Partners worked with practitioners in five states to produce five rapid and intermediate HIAs that shared evidence from the national report and added supplemental data to support the specific contexts of New Jersey, Maine, Massachusetts, New Hampshire, and California. The cities of Milwaukee and Denver produced fact sheets of paid sick leave, but did not follow HIA methodology and were not included in this review.

There are several implications for these series of HIAs. First, by pooling resources and expertise, the "sunk costs" of conducting a HIA may be reduced. The paid sick leave and EES

HIAs were conducted by high-functioning teams with experience and technical expertise. By sharing national or multinational-level data, review of the literature, and methodologies, practitioners can add to existing knowledge by applying locally-relevant health and employment data. This underscores the importance of updated and comprehensive HIA databases, like the ones maintained by the UCLA Clearinghouse and Pew Charitable Trusts, of making existing work accessible to current and future HIA practitioners. Careful review of prior HIAs may reveal that there is already strong evidence for positive or negative health consequences from a particularly proposal and allow practitioners to either avoid redundancy or highlight gaps where future HIA work could help answer policy questions. This may reduce the burden for resources and skills that may discourage groups from performing HIA. Second, when done well, this strategy can expand the reach and influence of existing HIAs by increasing awareness and engagement of stakeholders to consider health consequences of a proposal. And finally, these findings demonstrate how selection of a centralized policy goal like mental health promotion in the UK or campaigns for paid sick leave in the U.S., can be an effective and efficient use of HIA.

While research has attempted to measure the impact of an HIA on decision-making, [22,23] practitioners have recognized that HIAs also impacts the environments in which decisions are made.[8,12,23] A study of practitioners, stakeholders, and decision-makers of HIA in the U.S. found that HIAs raise awareness of the health consequences of a proposal and strength interdisciplinary collaboration.[22] Through the stages of screening, scoping, assessment, and reporting, the process of conducting a HIA alone can lead to changes besides the ones made explicit in the recommendations of a HIA.

In the U.S., HIAs have been funded predominantly by a core group of foundations (Robert Wood Johnson Foundation, The Pew Charitable Trusts, and The California Endowment) and the Centers for Disease Control and Prevention and its partners (National Association of City and County Health Officers and the National Network of Public Health Institutes). In particular, Health Impact Project, a national initiative to promote HIA collaboratively funded by the Pew Charitable Trusts and Robert Wood Johnson Foundations, has funded more HIAs than any other source. In our limited sample, HIAs conducted outside of the U.S. are typically funded at least in part by government entities. In the U.K., the National Health Service (NHS) developed local foundation trusts that act independently of the central government to deliver and evaluate NHS programs. One potential consequence of receiving funding from a government source in these countries could have greater engagement of decision makers in the HIA process. Non-U.S. HIAs tended to be commissioned by government agencies and served as decision-support rather than advocacy tools. Still, our results may overstate this possible relationship as there was significant overlap between the definitions for decision-support and advocacy and designation in one category versus the other was subject to rater bias. We attempted to make the distinction between the two as the formal inclusion or partnership with decision makers that should be characteristic of decision-support HIAs.

Our process evaluation (Table 4) found that as the depth of an HIA increased, the more likely an HIA was to meet the key standards of HIA practice. The standards that were most difficult to meet were presence of a plan for outcome evaluation and monitoring, with an average score around 0.5 (out of 2). Sixteen HIAs were scored zero for both evaluation and monitoring. This shortcoming is consistent with what other HIA practitioners and researchers have found.[8,22]

However, we identified two HIAs that can serve as a model for how to develop clear, cogent, and practical plans for monitoring and evaluation. The Wisconsin Transitional Jobs Program recommended strategies for how and what kind of data implementing agencies could collect to quantify program success. Authors of the Kentucky Worksite Wellness Credit HIA described specific outcomes to be monitored and identified offices or departments charged with this task. Improving practice regarding evaluation and monitoring could provide valuable feedback of whether HIAs are influencing decision-making and whether these do ultimately lead to different health outcomes.

Ross, et al.[24] discuss the evolution of HIA around the professionals in planning and policy making, and funding sources. Western Europeans were early practitioners world due to variation in the regulatory environments, extent of involvement of health of HIA and many of their HIAs have covered both policies and projects and are often conducted by working closely with decision-makers. England, Ireland, the Netherlands, Poland, Slovenia, Switzerland, and Wales have HIA budgets allocated on a national level (Ross 2014). HIA has also been readily adopted in several Southeast Asian countries, including Thailand which amended its constitution to require HIAs on proposed development projects.[25] Similar capacity building efforts have also been adopted in Laos, Cambodia, and Mongolia.[15,26] Australia and New Zealand have a robust HIA practice that is being incorporated into a wide range of policies and projects, although their budgets to conduct HIAs have varied in recent years. Practitioners in Australia and New Zealand have completed at least 115 HIAs as of 2013.[27] Finally, some HIAs have been conducted in South American and Africa, usually as a requirement of major lending banks.

There are several limitations to consider when interpreting the results of this study. The HIAs identified may not be representative of all labor-related HIAs as there is no single exhaustive database of all labor-related HIAs in U.S. or abroad. We are also limited to HIAs written in English and acknowledge that we could not capture ongoing HIA work from parts of non-English speaking parts of Europe, Asia, Africa, and South America. Second, as our search was limited to HIAs written in English, the heterogeneity of the reports assessed was limited to developed countries. Existing studies have described how developed and developing countries (defined by the Human Development Index) are disproportionately affected by distinct health issues and would expect that the scope of employment-related HIAs performed in these different settings to vary accordingly.[24,28] Further research is needed with a broader and more global perspective on potential similarities and differences. Third, coding of HIAs was performed by a single investigator and could be subject to intra-rater variability. This was mitigated by repeat coding of all HIAs by the same rater, as coding patterns could have evolved over time and with experience. And finally, over one fourth of the HIAs included in this study were conducted on a single issue by a single primary organization, Human Impact Partners. This may have skewed the results as these HIAs were all categorized as policy, advocacy (except for one HIA which was commissioned by a legislator and considered to be "decision-support"), and used nearly identical methods in describing a baseline health assessment and estimating the strength of the effect and the evidence.

Although HIAs have been conducted across the US, Europe, and the Pacific, all but two of the more recent employment-related HIAs were performed by American practitioners. As discussed, our sample may not be representative of all employment-related HIA worldwide and could be the

result of a limitation of our search strategies, as the EC and countries like Canada have incorporated HIA methods into existing assessment mechanisms. Alternatively, this could be attributed to the rise in HIA activity and momentum in the US over the last 10 years. HIA activity in the US has been dominated by the built environment and transportation sectors, which comprise over half of all HIAs that have been conducted. As of April 2013, employment-related HIAs make up a small proportion of all HIAs conducted in the United States and account for around 4% of all HIAs listed in the Health Impact Project database.[29] We are unable to determine if this proportion is consistent in other countries as reliable estimates of the total number of HIAs conducted to date is unavailable. Regardless, employment-related HIAs are relatively uncommon in spite of the extensive evidence of the interaction between work and health. In fact, the public health community, particularly in the US, has not traditionally been engaged in conceptualizing work as a social determinant of health. This could be an opportunity for HIA practitioners and public health officials to collaborate with new partners such as labor unions or employment advocacy groups, to inform decision-makers of the health effects of proposals like minimum and living wage ordinances, worker retraining programs, and laws to protect worker rights. In the U.S., public support for such proposals is growing and this could be an area for future HIA work.

Interestingly, these types of proposals have typically been supported by labor advocacy groups. While the Healthy Families, Healthy Workplaces HIA conducted in 2008 did not immediately affect decision-making through passage of paid sick leave legislation, it did help reframe the issue of paid sick leave through the lens of the policy's impact on individual health such as prolonged illness, and public health through the spread of communicable diseases, increased

utilization of emergency room visits and rise in overall health care spending. Human Impact Partners reports that their HIA generated attention from over 20 local and state media sources.[30] During discussion of the bill on the State Assembly floor, the Chair of the California Assembly Labor Committee referred to this HIA and asked if opponents of the bill condoned the spread of disease through restaurant workers. California eventually passed legislation for paid sick leave in November 2014.

Finally, employment-related HIAs included in our study have predominantly focused on large scale policy proposals such as pay equity, domestic worker bill of rights, and international employment strategies. Most of the remaining HIAs address proposals to help ameliorate potentially negative health effects of work ranging from unemployment to injury and illness prevention. Only one HIA, the Kentucky Worksite Wellness Tax Credit, was conducted on prevention-oriented policies and programs. Health promotion activities have received significant attention from both research groups and corporations like IBM, Boeing, and American Express.[31] In 2011, the National Institute of Occupational Safety and Health (NIOSH) coined the term, Total Worker Health, to include wellness and well-being into the traditional model of occupational health and safety.[32–34] Future employment-related HIAs may be needed to provide evidenced-based assessments of potential proposal that promote the values of Total Worker Health.

Health impact assessments are a valuable tool to prospectively and systematically consider the health consequences of a policy, project, or program. This evaluation of HIAs describes the range of work-related health determinants and health outcomes that have been addressed by

recent HIA activity in English-speaking countries. Our process evaluation confirmed existing knowledge that while most HIAs meet practice standards, reporting of monitoring and evaluation plans can be improved. And lastly, we learned that promotion of HIAs in the employment and labor sector is an opportunity to improve multidisciplinary collaboration between labor rights advocates and public health officials.

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APPENDIX A

Process Evaluation 10 Standards

1) *SCOPING:* The HIA engages meaningful and inclusive participation from key stakeholders (health experts, project proponents, decision makers) throughout the HIA process.
2) *BASELINE:* The HIA provides baseline analysis of existing health conditions.
3) SYSTEMATIC: The HIA systematically considers the full range of potential impacts of the proposal on health (both individual health outcomes and contextual health determinants).
4) *DIRECTION:* The HIA estimates the direction, severity, magnitude, and likelihood of these health effects using best available evidence.
5) *STRENGTH:* The HIA rates the strength of evidence based on best practices for the relevant field
6) *VULNERABLE:* The HIA addresses vulnerable populations and attempts to identify health inequalities that may arise from a proposal.
7) *RECOMMENDATIONS:* The HIA provides recommendations on feasible and effective actions to promote positive health impacts and mitigate negative health impacts of the proposal.
8) *STAKEHOLDER:* The HIA should document the document the processes and stakeholders (screening, scoping, funding source, primary team, other team members and their contributions).
9) *EVALUATION:* The HIA describes a plan for a process or impact evaluation.
10) *MONITORING:* The HIA describes a plan for outcome evaluation.

APPENDIX B

Detailed descriptive statistics of employment-related HIA

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by,** ***Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
1	HIA of CA Assembly Bill (Domestic Work Employee Equality) *SF Department of Public Health, 2011*	CA	Policy State bill to increase labor protection for domestic workers	<u>HEALTH INDICATORS</u> *WORKING CONDITIONS* - Physical hazards - Sleep deprivation - Shift work - Sexual harassment - Physical abuse *EMPLOYMENT CONDITIONS* - Worker's compensation - Job security - Income - Wage theft - Paid sick days - Health insurance <u>HEALTH OUTCOMES</u> - rates of injury/illness - communicable disease - mental health - Stress - Chronic disease - Long-term	SF Department of Public Health Program on Health Equity	Advocacy	Comprehensive	Literature review, focus groups, key informant interviews (not formally reported), BLS data Census and labor data	Government City public health department, CDC → UC Berkeley Health Impact Group (funded by CDC grant)

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by,** ***Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
				disability - mortality - cognitive/motor performance					
2	MWIA of employment project "Compass," Hounslow *London Borough of Hounslow Steering Group, 2008*	UK	Project: Impact of a sheltered employment project within a mental health day center has on mental well-being and health	<u>HEALTH INDICATORS</u> *EMPLOYMENT CONDITIONS* - Job retraining <u>HEALTH OUTCOMES</u> - Mental well-being: (control at work/ self-efficacy, resilience, social inclusion)	London Borough of Hounslow Steering Group (local government) *Clients, Funders, Staff, local government*	Decision-support	Rapid	Brief literature review, small scale survey (n=23)	Government (NHS Foundation Trust, Big Lottery Fund)
3	MWIA of an LAA approach to work benefit claims, Lancashire *Hilary Martin and Hilary Abernathy, 2008*	UK	Program? Local Area Agreement (LAA) to deliver improved services: reduce unemployment, reduce # of unemployment benefit claims	<u>HEALTH INDICATORS</u> *EMPLOYMENT CONDITIONS* - Job retraining <u>HEALTH OUTCOME</u> - Mental well-being (participation, control, and resilience)	Hilary Martin and Hilary Abernathy, roles unclear	Decision-support	Rapid	Literature review, focus groups (though results not clearly relating health and labor)	Unknown Government?
4	MWIA of the Parrot Zoo Project,	UK	Project: voluntary work opportunity for people with mental illness to	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS*	Unknown	Decision-support	Rapid	Stakeholder workshop with survey questions , literature	Government

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by,** ***Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
	Lancashire *Lincolnshire Primary Care Trust, 2008*		transition toward regular work	- job retraining/ transitional employment HEALTH OUTCOME - Mental well-being (participation, control, and resilience)				review	(Lincolnshire Partnership Foundation Trust)
5	Health and Wellbeing IA on Lambeth Target Action Plans *Inukshuk Consultancy, Ltd, 2007*	UK	Project: neighborhood renewal project with Gain Project to reduce long-term unemployment	HEALTH INDICATOR *EMPLOYMENT CONDITIONS* - job retraining/ transitional employment HEALTH OUTCOME - Mental well-being (participation, control, and resilience)	Consultant (Inukshuk)	Decision-support	Rapid	Literature review, broad scope but includes many non-employment sectors too; focus groups	Government (Lambeth Primary Care Trust)
6	MWIA of the Hatfield Training Centre 2006	UK	Project: Evaluation of training program to improve IT skills	HEALTH INDICATOR *EMPLOYMENT CONDITIONS* - job retraining/ transitional employment HEALTH OUTCOME	Government/NHS Susan Jones	Decision-support	Rapid	Literature review, focus groups (n=14)	Government (South London and Maudsley NHS Foundation Trust, Hatfield Primary Care

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by,** ***Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
				- Mental well-being (participation, control, and resilience)					Trust)
7	HIA of the Neighborhood Renewal Strategy in Cheshire, *Centre for Health Planning and Management* 2005	UK	Project: neighborhood renewal project with key goals of job creation/retraining	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS* - job retraining/ transitional employment - wages <u>HEALTH OUTCOME</u> - Mental well-being (participation, control, and resilience) - substance abuse	Centre for Health Planning and Management, Keele University	Decision-support	Comprehensive	Literature review, review of prior HIA reports, consultation with stakeholders and community members, secondary data analysis	Government (Central Cheshire Primary Care Trust)
8	A HIA of the California Healthy Families, Healthy Workplaces Act of 2008, *Human Impact Partners and SFDPH* 2008	CA	Policy: Statewide proposal for mandatory paid sick leave	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS* - Paid sick leave - Wages <u>HEALTH OUTCOMES</u> - Transmission of communicable disease - Chronic disease - Injury/illness (less likely to seek	SF Department of Public Health, Human Impact Partners Municipal health department and HIA agency *Legislators,*	Advocacy	Comprehensive	Literature review, existing data, secondary data analysis (California Work and Health Survey), survey of 91 workers attitudes toward PSD, focus group, interviews with PH experts	Religious group, Government Unitarian Universalist Veatch Program Likely, SFDPH

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by, *Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
				care) - stress	*advocacy groups*				(government)
9	HIA of the Healthy Families Act of 2009, *Human Impact Partners & SFDPH*	National	Policy: Law for 1 hour paid sick leave per 30 hours worked for workplaces with > 15 employees	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS* - Paid sick leave| - Wages <u>HEALTH OUTCOMES</u> - Transmission of communicable disease| - Chronic disease - Injury/illness - stress	SF Department of Public Health, Human Impact Partners *Legislators, advocacy groups,*	Decision-support ?(congressional staff of legislative sponsors felt HIA would inform decision-makers)	Comprehensive	Literature review, secondary data analysis (NHIS survey), focus groups, interviews	Foundation Annie E Case Foundation
10	Massachusetts Domestic Worker Bill of Rights *Health Resources In Action,* *2014*	MA	Policy: Establish basic labor standards for domestic workers	<u>HEALTH INDICATOR</u> *WORKING CONDITIONS* - Physical hazards (musculoskeletal, chemical, biological hazards) - Physical abuse - Sleep deprivation - Shift work - Job satisfaction/ autonomy - Sexual harassment *EMPLOYMENT CONDITIONS* - Income/wages - Paid sick leave - Job security	Health Resources in Action (Public health consultant) *Advocacy groups, domestic workers,*	Advocacy	Comprehensive	Literature review, secondary data, collection of primary data through focus groups and interviews with domestic workers	Foundation National Network of Public Health Institutes via Robert Wood Johnson, Pew Charitable Trusts, Health Impact Partners

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by,** ***Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
				- Wage theft <u>HEALTH OUTCOMES</u> - Injury/illness - Mental health - Stress - Chronic disease - Long-term disability - Substance abuse					
11	Maternity Leave in the Palau Workforce-Rapid HIA of S.B. 9-20-SD2 2013 *HIA Working Group, 2013*	Palau	Policy: Expand 3 month paid maternity leave to private and public sector	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS* - maternity leave <u>HEALTH OUTCOMES:</u> - Chronic disease -Mental health - Health benefits for child	Government and community health support group (Ulkerreuil A Klengar)	Decision-support	Rapid	Literature review - Survey of chamber of commerce - focus groups - key informant and stakeholder interviews	Government Association of State and Territorial Health Officers
12	Transitional Jobs Program: A HIA 2013 *University of Wisconsin Population Health Institute*	WI	Project Make temporary transitional jobs program permanent, modify, or eliminate	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS* - Wages - Job retraining <u>HEALTH OUTCOMES:</u> - Chronic disease - Mental health - Birth outcomes - Domestic violence	University of Wisconsin Population Health Institute *Advocacy groups, State agencies, state legislators*	Decision-support (National Demonstration project)	Comprehensive	Literature review, primary data collection (survey of transitional jobs participants n=141), secondary data analysis	Foundation National Network of Public Health Institutes via Health Impact Project via Robert Wood Johnson and Pew Charitable

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by,** ***Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
				- Stress - Substance abuse - Child health					Trusts
13	U.S. Equal Employment Opportunity Commission Policy Guidance: A Mental Health Impact Assessment 2013 *Adler School of Professional Psychology*	IL	Policy: revise EEOC regarding use of arrest records when making employment decisions	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS* - Wages/income - Job security <u>HEALTH OUTCOMES:</u> - mental health	University Adler School of Professional Psychology faculty	Advocacy	Comprehensive	Literature review, secondary data analysis, community survey, focus groups, interviews with employers	Foundation Robert Wood Johnson, Kellogg Foundation, Pierce Family Foundation
14	Kentucky Worksite Wellness Tax Credit *Kentucky Department of Public Health* 2012	KY	Policy: tax credits to employers who provide wellness programs	<u>HEALTH INDICATOR</u> *WORKING CONDITIONS* - job satisfaction *EMPLOYMENT CONDITIONS* - wellness program <u>HEALTH OUTCOMES</u> - chronic disease - child health	Kentucky Department for Public Health *state cabinet staff, local health departments, chambers of commerce, Kentucky Cancer Consortium*	Decision-support	Intermediate	Literature review, secondary data analysis	Government Association of State and Territorial Health Officials
15	HIA of the Layoff and Bumping	OH	Project: To assess health	<u>HEALTH INDICATOR</u> *EMPLOYMENT*	City health department	Decision-support	Rapid	Literature review, review of workplace	No outside funding

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by, *Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
	Process *Cincinnati Health Department HIA Committee, 2011*		impacts of worker impacted directly and indirectly from layoff or bumping process	*CONDITIONS* - job security *WORKING CONDITIONS* - job satisfaction HEALTH OUTCOMES - Mental health - Stress → "Post Downsizing Stress Syndrome" (Shore et al.)	(Cincinnati Health Department HIA Committee)			policies, union contracts, and layoff communication between employers and employees	identified Presumably City health department
16	HIA of Gender Pay Inequity *Wayne County Department of Public Health, 2011*	MI	Policy: introduce legislation prohibiting employee from providing equal pay for equal work	HEALTH INDICATOR *EMPLOYMENT CONDITIONS* - income - access to health insurance HEALTH OUTCOMES - chronic diseases - mental well-being - birth outcomes - mortality - stress - child health - ER utilization	Wayne County Health Department	Advocacy WCDPH studying how women's health affects infant mortality	Intermediate	Literature review and secondary data analysis and projection using BLS and Wayne County and MI population data	Foundation Kellogg Foundation (for Place Matters grant)
17	Health Impact Assessment of the Cultural and Clinical Nursing	NZ	Program: establish a cultural and clinical nursing training and support	*EXAMINES HEALTH ISSUES OF PATIENTS, NOT*	Consultants *Maori health*	Decision-support	Intermediate	Literature review, review of policy documents, focus groups	Government Hawke's Bay

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by, *Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
	Support and Training Programme, *Quigley Watts Ltd, Katoa Ltd.* *2010*		program (chronic care model) for nurses to improve care for Maori patients with chronic medical conditions	*EMPLOYEES* HEALTH INDICATOR *EMPLOYMENT CONDITIONS* - Job retraining HEALTH OUTCOME - Chronic disease (care for Maori patients - ER utilization (by patients)	*providers, community members, district health board members*			and key informant interviews	District Health Board
18	HIA of the proposed Los Angeles Wage Theft Ordinance, *Human Impact Partners, UCLA Labor Center, Los Angeles Coalition Against Wage* Theft, 2014	CA	Policy: city ordinance to create local wage theft fund and bureau	HEALTH INDICATOR *EMPLOYMENT CONDITIONS* -income/wages -physical hazards (noise, extreme temperature, physical hazards) - wage theft - Abuse HEALTH OUTCOME - stress - work-related injuries - chronic disease - mental health	Human Impact Partners, UCLA Labor Center	Advocacy	Comprehensive	Literature review, secondary data analysis (report, Wage Theft and the Workplace Violations in Los Angeles 2010) key informant interviews, focus groups, community scoping	Foundation Kresge Foundation
19	HIA of the Healthy Families Act	Maine	Policy: Guarantee employees have access to paid sick	HEALTH INDICATOR *EMPLOYMENT*	Human Impact Partners	Advocacy	Intermediate	Literature review, policy review focus	Foundation

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by, *Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
	of 2009: Maine Addendum – A HIA of Paid Sick Days in Maine, *Human Impact Partners, 2009*		leave	*CONDITIONS* - Paid sick leave - Wages <u>HEALTH OUTCOMES</u> - Prevent transmission of communicable disease - ER utilization - Stress	*Maine Women's Policy Center*	Commissioned by Maine Women's Policy Center		groups, secondary data analysis, reporting of data analysis performed by other groups	Maine Health Access Foundation and Family Values @ Work
20	HIA of the Healthy Families Act of 2009: Massachusetts Addendum – A HIA of An Act Establishing Paid Sick Days, *Human Impact Partners, 2009*	MA	Policy: Guarantee employees have access to paid sick leave	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS* - Paid sick leave - Wages <u>HEALTH OUTCOMES</u> - Communicable disease - ER usage - Stress	Human Impact Partners, *AFL-CIO, Massachusetts Paid Leave Coalition*	Advocacy Commissioned by Greater Boston Legal Services and Massachusetts Paid Leave Coalition	Intermediate	Literature review, reporting of data analysis performed by other groups, focus groups, convenience sample survey of workers, secondary data analysis using NHIS data,	Foundation Blue Cross Blue Shield of MA Foundation, Annie E Casey Foundation, Family Values @ Work
21	HIA of the Healthy Families Act of 2009: New Hampshire Addendum, *Human Impact Partners, 2009*	NH	Policy: Guarantee employees have access to paid sick leave	<u>HEALTH INDICATOR</u> *EMPLOYMENT CONDITIONS* - Paid sick leave <u>HEALTH OUTCOMES</u> - Communicable disease	Human Impact Partners	Advocacy	Rapid, incomplete summary	Literature review, reporting of data analysis performed by other groups (Kaiser Family Foundation and NH D HHS)	Not reported

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by, *Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
				- ER utilization					
22	EC European Employment Strategy 2004	EU	Policy: European Employment Strategy – incorporate more flexible forms of employment	<u>HEALTH INDICATOR</u> *WORKING CONDITIONS* - Physical hazards *EMPLOYMENT CONDITIONS* - job security <u>HEALTH OUTCOMES</u> - chronic disease (self-reported "poor health status") - Injury	Commissioned by European Commission 's Directorate Generale Health and Consumer Protection *IMPACT, Institute for Public Health Ireland, National Institute for Public Health and the Environment (Netherlands), Institute of Public Health North Rhine-Westphalia*	Decision-support	Comprehensive	Literature review, secondary data analysis, report of country-specific HIA findings	Government
23	UK Employment Strategy 2004	UK	Policy: European Employment Strategy – incorporate more flexible forms of employment Uses UK Employment Action Plan	<u>HEALTH INDICATOR</u> *WORKING CONDITIONS* - physical hazards - hours *EMPLOYMENT CONDITIONS* - job security - wellness/ prevention <u>HEALTH OUTCOMES</u> - chronic disease	Commissioned by European Commission 's Directorate Generale Health and Consumer Protection	Decision - Support	Comprehensive	Literature review, secondary data analysis, focus group, semi-structured interview with qualitative analysis, mathematical modeling	Government

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by,** ***Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
				(self-reported "poor health status") - mental health					
24	Ireland Employment Strategy	IR	European Employment Strategy Focus on active and preventive measures for unemployment Uses Irish Employment Action Plan	<u>HEALTH INDICATOR</u> *WORKING CONDITIONS* - physical hazards, noise, MSD - sense of control - bullying and sexual harassment *EMPLOYMENT CONDITIONS* - job security <u>HEALTH OUTCOMES</u> - chronic disease (self-reported "poor health status") - injury - stress	Commissioned by European Commission 's Directorate Generale Health and Consumer Protection *Trade union rep, employers reps, Various government departments, National Economic and Social Council, Economic and Social Research Institute, Health and Safety Authority*	Decision-support	Comprehensive	Literature review, secondary data analysis, participative stakeholder groups	Government
25	Germany Employment Strategy	GM	Policy: EES to incorporate more flexible forms of employment Uses German Employment Action Plan (EAP)	<u>H HEALTH INDICATOR</u> *WORKING CONDITIONS* - physical hazards *EMPLOYMENT CONDITIONS* - job security - income	Commissioned by European Commission 's Directorate Generale Health and Consumer Protection *IMPACT, Institute*	Decision-support	Comprehensive	Literature review, focus group, mathematical modeling, secondary data analysis (by German Institute for Employment Research), focus	Government

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by, *Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
				HEALTH OUTCOMES - chronic disease (self-reported "poor health status")	*for Public Health Ireland, National Institute for Public Health and the Environment (Netherlands), Institute of Public Health North Rhine-Westphalia*			group	
26	Netherlands Employment Strategy 2004	ND	Policy: EES to incorporate more flexible forms of employment Dutch EAP	HEALTH INDICATOR *WORKING CONDITIONS* - physical hazards - hours/shift work *EMPLOYMENT CONDITIONS* - job security HEALTH OUTCOMES - chronic disease (self-reported "poor health status") - mental health - rates of disability - mortality, birth rate, life expectancy	Commissioned by EC 's Directorate Generale Health and Consumer Protection *IMPACT, Institute for Public Health Ireland, National Institute for Public Health and the Environment (Netherlands), Institute of Public Health North Rhine-Westphalia*	Decision-support	Comprehensive	Literature review, policy review, secondary data analysis, qualitative data analysis (interview, n=5)	Government
27	HIA of the Healthy Families Act of 2009: New Jersey	NJ	Policy: Guarantee employees have access to paid sick leave	HEALTH INDICATOR *EMPLOYMENT CONDITIONS* - Paid sick leave	Human Impact Partners *New Jersey Time to*	Advocacy	Intermediate	Literature review, reporting of data analysis performed by other groups,	Not specified

	Name ***Performed by, year***	**Location**	**Proposal type**	**Labor and health issues**	**Performed by,** ***Stakeholders***	**Reason for HIA**	**Depth**	**Methods**	**Funding**
	Addendum			- wages <u>HEALTH OUTCOMES</u> - Communicable disease - ER Utilization - stress	*Care, Rutgers Center for Women and Work*			focus groups (n=9) , secondary data analysis	