State of the Science for Research on Work and Health Disparities

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Outline of this talk

**Motivation:** Why focus on work as a determinant of social disparities in health?

**Starting point:** Some focusing questions

**Choices & challenges:** Known challenges to filling knowledge gaps

**Context:** Additional considerations when mapping priorities
Why study work? Clear associations with health, clear opportunity for disparate experiences

Clear differences in health between those working (for pay) vs not
- Work brings power, health-enhancing social networks, positive social identity, access to critical material resources (Pavalko & Smith 1999)

Evidence for health variation among those who work for pay (e.g., by intensity, occupation, job quality, (non-)standard contract

Work experiences vary by social distinctions including: education, race/ethnicity, gender, immigrant status, disability status, other identities & statuses

Work experiences & consequences intersect with unpaid obligations
Work & health unfold over time, modified by competing (unpaid) obligations & social context

- Young children
- Aging kin
  - Gendered roles
  - Racial/ethnic, immigrant discrimination
  - Financial resources
  - Health & ability status
- Employment for pay – varied start & end
  - varied intensity, varied consistency

Age: 15 25 35 45 55 65 75 85+

Health disparities – accumulation of dis/advantage shapes diverging trajectories
Why study work?

Plausible mechanisms

Plausible mechanisms – link to health, differentially distributed

- **Psychosocial** – from strain to status
- **Material** – wages, benefits available
- **Physical/environmental** – hazards to the body
- **Workplace/employer context** – culture, employment contracts
- **Temporal** factors – shifts, schedules & employment stability
Changes to scheduling instability have impact larger than hourly wage (compare gradients)

Harknett & Schneider study scheduling practices in service sector jobs & links to health

2019 American Sociological Review

https://shift.hks.harvard.edu/
Some key questions remain

1. What are specific (modifiable?) mechanisms underlying health disparities that implicate work?

2. To what extent do different experiences of work explain health disparities? Which disparities? Suggestive recent findings:

   ◦ Role of occupational complexity & work hazards in mortality disparity by race/ethnicity (Fujishiro et al 2017), education (Fujishiro, MacDonald & Howard 2019)

   ◦ Role of occupational complexity in cognitive function disparity by education (Fujishiro et al 2019)
Choices & challenges

KNOWN CHALLENGES TO FILLING THESE KNOWLEDGE GAPS
What study design? Each has pros/cons

**Population-based** studies of individuals
- NHIS, HRS, NLS/Y, BRFSS, other representative cohorts/cross-sections

Other studies of **individuals**
- In-depth *interviews*, specific *groups/organizations* (Whitehall study)
- **Firm/employer**-based studies (Alcoa, Moen/Kelly time study)
- Physical *worksite*-based studies (Exposure monitoring on site)
- **Community** studies of plant closures (Not just workers; Marienthal)

**Occupation**-specific studies
- E.g., aggregate level rates and trends, occupation-specific surveillance
Silicosis in Stone Fabrication Workers

Silicosis

- Incurable lung disease
- Occurs after breathing silica dust

Workers are at risk

- 18 cases in 4 states
- 2 deaths

Most worked with engineered stone

How to protect workers

- Control and monitor exposures
- Comply with standards
- Conduct medical screening

Cases identified in CA, CO, WA, and TX through surveillance and case reports as published in Rose, Heinzerling, et al. MMWR 2019. bit.ly/CDCVA31

WWW.CDC.GOV
How to measure/operationalize work?

What, exactly, do we measure?


How many measures of work can we realistically & effectively capture in one data source? Is data linkage a possibility?

How often do we measure it, on dimensions of individual life course and/or calendar time?

(How do we pay for it?)
When & how often we measure determines what we can see

Non-random loss to follow up, long wait for follow up, expensive, may miss part of life course

What year is it?
Longitudinal: multiple exposure points, varying possible ages

Cross sectional: many ages, one exposure point

Miss early retirees, or if unemployed at time of survey, no view of temporal ordering between current health & current work

Employment for pay – varied start & end, varied intensity, varied consistency

Age 15 25 35 45 55 65 75 85+

Health disparities – accumulation of dis/advantage shapes diverging trajectories
How to capture impact of work in complex, often lengthy paths to health disparities

Classic **conceptual/analytic** issues: confounding; causal directionality; healthy worker effect; challenges of mediation analysis; work indicators may be correlated; etc.

Common relevant **data limitations**: power to conduct group comparisons and mediation analysis; cross-sectional vs longitudinal; quality of measures of work vs measures of health; changes over historical time in occupation categories & occupation sizes, characteristics, demographic makeup; etc.
Additional considerations when mapping priorities

LESS EXPLORED ISSUES & CONTEXTUAL MODERATORS
Issues at the individual level

Data “silences” that could influence size of disparities observed

◦ How to represent those with *weaker attachment* to formal labor force? Due to unpaid obligations, institutionalization, incarceration, etc.

◦ Should we/how to incorporate *unpaid or informal* work?

How to *reduce data complexity* across work indicators & career spans without losing sight of important variation?
Issues at the aggregate level

Thinking **beyond the individual** worker
- Families/generations
- Communities

Correlates of **population aging**
- Older workers a growing fraction of labor force overall
- Rising retirement age brings opportunities but also costs, unequally distributed
Aggregate considerations: implications beyond individual workers & of an aging workforce

- Young children
- Aging kin
  - Growing proportion of labor force older, retirement age rising
- Education
- Employment for pay – varied start & end, varied intensity, varied consistency
- Health disparities – accumulation of dis/advantage shapes diverging trajectories
Macroeconomic & other contextual conditions may modify associations

**Globalization** of labor, changing work opportunity structures

**Welfare state** arrangements & **policy** choices - which work mechanisms & disparities do policies influence?

Economic **recessions** – how do impacts on work matter?

**Pandemics** & natural **disasters** – remote work, essential workers, workplace safety & beyond
Recessions – change in work, health & disparities?

Aggregate-level changes
- Deceleration of business and industrial activity
- Weaker housing and financial markets
- Lower state revenue and spending

Aggregate- and individual-level effects
- Reduced work hours
  - Loss of income and benefits, financial strain, more difficulty servicing consumer debt
  - Worsened working conditions for the employed
- Increased job losses, incidence and duration of unemployment
  - Fewer inexperienced workers = lower external cause morbidity/mortality
- Asset devaluation and loss
  - Increased community foreclosure rates and disinvestment
- Changes in public health resources
  - Less public health surveillance, more housing instability = more infectious disease morbidity/mortality
- Changes in public health care spending
- Changes in social welfare benefits

Individual responses
- Time use changes
- Stress changes
- Consumption changes

Pathways to improved health
Pathways to worsened health
Pathways to either improved or worsened health

Improved health outcomes
Worsened health outcomes
Either improved or worsened health outcomes

Sarah Burgard & Lucie Kalousova. 2015. *Annual Review of Sociology*
Front line workers – high job growth but low pay & new hazards (COVID-19) for less advantaged workers

Balance of focus - bad jobs | good work

Innovating in the longstanding focus on health harming aspects & unequal impacts on health of disadvantaged groups

Learning from studying “good” jobs and “successful” careers - good/ “high road” employment contracts - “good” employers - “worker-protective” societies
Science without silos

What would more holistic, collaborative assessment across work-related mechanisms & health outcomes reveal about role of work in health disparities?

How should we put occupational health & population health approaches – that have evolved somewhat separately (Ahonen et al 2018) - into productive conversation?
Thank you

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