Thank you for joining us for today’s webinar:

The Rise of Industrial Robots and Increased Overdose and Disability Rates:
A Story of Automation and Addiction in the U.S.
The webinar will begin promptly at Noon CT
The Rise of Industrial Robots and Increased Overdose and Disability Rates: A Story of Automation and Addiction in the U.S.

April 14, 2021
12:00 am – 1:00 pm CT
Brought to you by:
Center for Financial Security
at the University of Wisconsin-Madison
Retirement and Disability Research Center
The Rise of Industrial Robots and Increased Overdose and Disability Rates: A Story of Automation and Addiction in the U.S.

• Welcome
• Presentations:
  • Research Presentation: Background, Methods, Findings
  • Discussant: Context of Study and Policy Perspective
  • Discussant: Context of Study and Practice Perspective
• Q & A
• Sign off
Our Presenters

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Automation, Mortality, and Disability in the United States

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Elizabeth Bair (Penn)
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American mortality crisis

Venkataramani, O'Brien, et PLOS Med 2020
Rise in disability claims

Disabled Workers as a Share of Workers with Taxable Earnings, 1970–2013

Source: SSA, via Urban Institute
Why? Fading economic opportunity?

- Economic mobility—odds of doing better than your parents—has declined

- Correlation between parent-child income has increased since 1980s

OpportunityforHealth.org
Drivers of falling opportunity

- Trade policy (Autor et al *Ann Rev Econ* 2016)

- Automation (Acemoglu and Restrepo *JPE* 2020)

→ Falling employment opportunities in easily routinized jobs; hurts workers without a college degree

Chetty et al, *Science* 2017
This study

• Estimates impacts of fading economic opportunity due to automation on mortality and SSI/SSDI applications:
  – Use newly available CZ-level data on robots in US

• Core findings:
  – Greater automation ➔ higher mortality
    • Mainly from drug overdose deaths, and largest impacts in manufacturing counties and for middle aged individuals
  – Greater automation ➔ increases in SSDI and SSI applications
    • Driven fully by denied applications
Automation
Figure maps quartiles of commuting-zone-level exposure to automation, as measured by change in the number of industrial robots per 1,000 workers, 1993–2007. Map shows county borders. Data were obtained from Acemoglu and Restrepo (2020). Mean delta of 2.03; Median 1.53.
Automation

• Fourfold increase in the number of industrial robots between 1993 and 2007; loss of 400,000-750,000 jobs in manufacturing and service sectors (Acemoglu & Restrepo 2020)

• Adopt causal identification strategy developed by A&R: a measure of ‘predicted’ robot penetration in local ‘commuting-zones’ given industrial trends in other countries.

• Model change in age-adjusted mortality rates at the county level; adjust for rich set of baseline demographic and economic characteristics.
Age-group estimates, men

A. Male, aged 20-29

- All cause
- Drug overdose
- Suicide
- Homicide
- Cardiovascular
- Respiratory illness
- Cancer
- Unintentional injury

B. Male, aged 30-44

- All cause
- Drug overdose
- Suicide
- Homicide
- Cardiovascular
- Respiratory illness
- Cancer
- Unintentional injury
Age-group estimates, men

C. Male, aged 45-54
- All cause
- Drug overdose
- Suicide
- Homicide
- Cardiovascular
- Respiratory illness
- Cancer
- Unintentional injury

D. Male, aged 55-64
- All cause
- Drug overdose
- Suicide
- Homicide
- Cardiovascular
- Respiratory illness
- Cancer
- Unintentional injury

Coef. (95% CI)
Age-group estimates, women

A. Female, aged 20-29

- All cause
- Drug overdose
- Suicide
- Homicide
- Cardiovascular
- Respiratory illness
- Cancer
- Unintentional injury

B. Female, aged 30-44

- All cause
- Drug overdose
- Suicide
- Homicide
- Cardiovascular
- Respiratory illness
- Cancer
- Unintentional injury

Coeff. (95% CI)
Age-group estimates, women

C. Female, aged 45-54

- All cause
- Drug overdose
- Suicide
- Homicide
- Cardiovascular
- Respiratory illness
- Cancer
- Unintentional injury

D. Female, aged 55-64

- All cause
- Drug overdose
- Suicide
- Homicide
- Cardiovascular
- Respiratory illness
- Cancer
- Unintentional injury

Coeff. (95% CI)
Variation Across Contexts?

A. Safety Net Policies
   • Effect of automation on drug overdose + suicide mortality greater in states with less generous Medicaid programs; Unemployment Insurance (UI) generosity also mitigates effect on suicide mortality.

B. Labor Market Policies
   • Effect of automation on suicide mortality lower in states with higher minimum wage.
   • Effect of automation on drug overdose mortality higher in “right-to-work” states.

C. Prescription Opioid Supply
   • Effect of automation on drug overdose mortality higher in areas with relatively more prescription opioids per capita.
An interquartile increase in robots explains ~25% of rise of both SSDI and SSI applications per capita.
Summary

• Robust link between automation and drug overdose mortality
  – Scale of impacts consistent w/ findings from highly automated industries (e.g., automotive) and impacts of trade policy (e.g., Autor et al AERI 2019; Pierce and Schott AERI 2020)
  – Some evidence of moderation as a function of safety net program generosity, labor market policies and local area prescription opioid supply.

• Similar link with disability program applications
  – Broadly driven by denials, as in other work (e.g., Maestas et al AER 2015)
  – Reflects general sense of despair?

• Findings may have important implications given expected increases in automation worldwide in next decade
The Health Consequences of Economic Decline: Policy Implications and Responses

Tisamarie B. Sherry, MD PhD
RAND Corporation

Center for Financial Security Retirement and Disability Research Center
University of Wisconsin-Madison
April 14th, 2021
Automation, Mortality and Disability in the United States

• Automation (and similar economic changes that have displaced workers) has contributed to a behavioral health crisis.
  – Changes in economic status and opportunity can have profound effects on health outcomes.
  – A warning of what lies ahead?

• Safety net programs and policies can moderate this relationship:
  – Unemployment insurance (UI), Medicaid, minimum wage, labor unions
  – Roadmap for policies to mitigate harms of declining economic opportunity?
What Policies Can Mitigate Adverse Health Outcomes Among Displaced Workers and Their Communities?

- Health Needs
- Economic Needs
- Connecting Individuals to Services
- Cross-Sector Collaboration
Policies to Address Health Needs

- Economic decline is a health policy issue that requires health policy responses.
  - Expand behavioral health treatment capacity
    - Target investments to communities facing economic hardship and decline.
  - Address stigma as a barrier to mental health and substance use disorder (SUD) treatment
  - SUD prevention initiatives for displaced workers and their communities
    - Note evidence in adult populations is more limited\(^1\)
  - Affordable health insurance options that are not tied to employment and with behavioral health parity enforcement
    - Medicaid expansion in Oregon \(\rightarrow\) 30% decline in depression incidence\(^2\)

\(^1\) Compton et al. 2019; \(^2\) Baicker et al. 2013
Policies to Address Economic & Health Needs

• But health policy responses alone aren’t enough....
  – Targeted expansions/investments in safety net programs
    • Minimum wage increases, UI generosity linked to lower suicide mortality[^3]
    • Housing assistance, nutrition support linked to health improvements[^4]
    • Cash transfers/negative income tax programs have mixed impacts on health[^5]

• Some considerations and areas where evidence needed:
  – What combination of programs/policies?
  – How should assistance be targeted?
    • Who is at highest risk? Who benefits? Equity implications?
    • Need to know more about needs of displaced workers themselves versus other community members
  – How should social cost-effectiveness be measured?
    • Need to think more broadly than just the consumption and labor impacts of safety net policies
    • Multigenerational impacts (e.g. children in SUD-affected families[^6])

Connecting Clients to Services

• Once we have the right programs and policies in place, how do we connect individuals to appropriate services?

• Challenging/burdensome to navigate safety net
  – Programs are siloed, coordinated system for connecting with benefits is lacking
  – Some health care organizations have become social service navigation “hubs”
  – Need multiple ”hubs” at any point of contact with the safety net
    • E.g. what happened to denied SSI/SSDI applicants?

• Some promising strategies:
  – SAMHSA’s Outreach, Access and Recovery Program
    • Provides SSI/SSDI application assistance to high-risk individuals
  – SSA’s Supported Employment Demonstration
    • Provides integrated mental health and employment services to denied SSI/SSDI applicants

Cross-Sector Collaboration

• Longer-term goal: integration and coordination of safety net programs across multiple sectors
  – Both for eligibility determination and service delivery

• Investments to support cross-sector collaboration:[10]
  – Data sharing and linkages
  – Shared goals, joint accountability and oversight of performance
  – Cross-training of staff
  – Single funding stream

• Some starting points:
  – Place-based policies
  – Integrated Care for Kids (Medicaid demonstration)

Thank You!
SUBSTANCE USE AND EMPLOYMENT

Marcia Galvan
Project Coordinator, Support to Communities
Southwest Wisconsin Workforce Development Board

SWWDB is an equal opportunity employer and service provider.
The Southwest Wisconsin Workforce Development Board is responsible for overseeing and operating workforce development programs in Southwest Wisconsin: Grant, Green, Iowa, Lafayette, Richland, and Rock Counties.

All services are driven by the needs of employers and workers and are available through the Job Center.
What is Support to Communities?

Funded by the Department of Labor, Support to Communities: Fostering Opioid Recovery Through Workforce Development, is intended to help “make a difference in the substance abuse crisis through workforce development” by skilling and upskilling our workforce to better serve individuals impacted by substance use and their employers.
Eligible Individuals

- Individuals who have been impacted by substance use, including those impacted by a family or friend’s substance use;

- Individuals who are interested in working with those who are at-risk, or who are living with, substance use disorders.
What Do We Do?

- Provide career planning services, including assessments, meaningful referrals, work and school readiness, employment development plans, and follow-up services for 12 months post-employment;

- Provide financial assistance for career services, including work readiness, training, certificate, and educational opportunities;

- Provide financial assistance for support services for the duration of training or school, and for a minimum of 12 months post-employment;

- Offer financial assistance for recovery services;

- Offer training and educational opportunities for industry employers who are interested in becoming ‘Second Chance Employers.’
Why is Employment important to Recovery?

- Salary
- Benefits
- Stability
- Purpose
- Meaningful connection
Every Person Counts

- Economic growth, declining birthrates, and workforce retirements will create a workforce shortage

- From 2020-2030 job growth and industry need is expected to exceed current labor force by almost 11 million

- Working age (15-69) population is expected to contract by nearly 1.8 million during this same period

- Targeted prevention, recovery, and management effort to ensure maximum participation in the workforce are necessary to maintain the health of our economy

Source: Emsi- economicmodeling.com
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Please remember that today’s webinar was recorded and will be posted on our website: cfs.wisc.edu & cfsrdrc.wisc.edu within two business days.

Please contact Hallie Lienhardt with questions:

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