The Butterfly Effect: Co-occurrence of Physical Disability and Mental Disorders

Presenter affiliations

- Fred Schott, MS, works for the Council for Disability Awareness, a nonprofit organization dedicated to helping working adults, employers, and financial advisors make informed decisions about the financial risks people face from a disability that may occur during their working years.

- Fraser Gaspar, PhD, & Kerri Wizner, MPH, work for MDGuidelines, the sole proprietor of American College of Occupational and Environmental Medicine (ACOEM) Clinical Practice Guidelines.

- Martha Garcia CPDM, works for Kaiser Permanente, a national health system that provides care for and manages internal employee and patient disability cases.

Outline

- Introduction to mental health and disability

- Identifying patients with physical disability followed by a mental disorder

- Designing an intervention

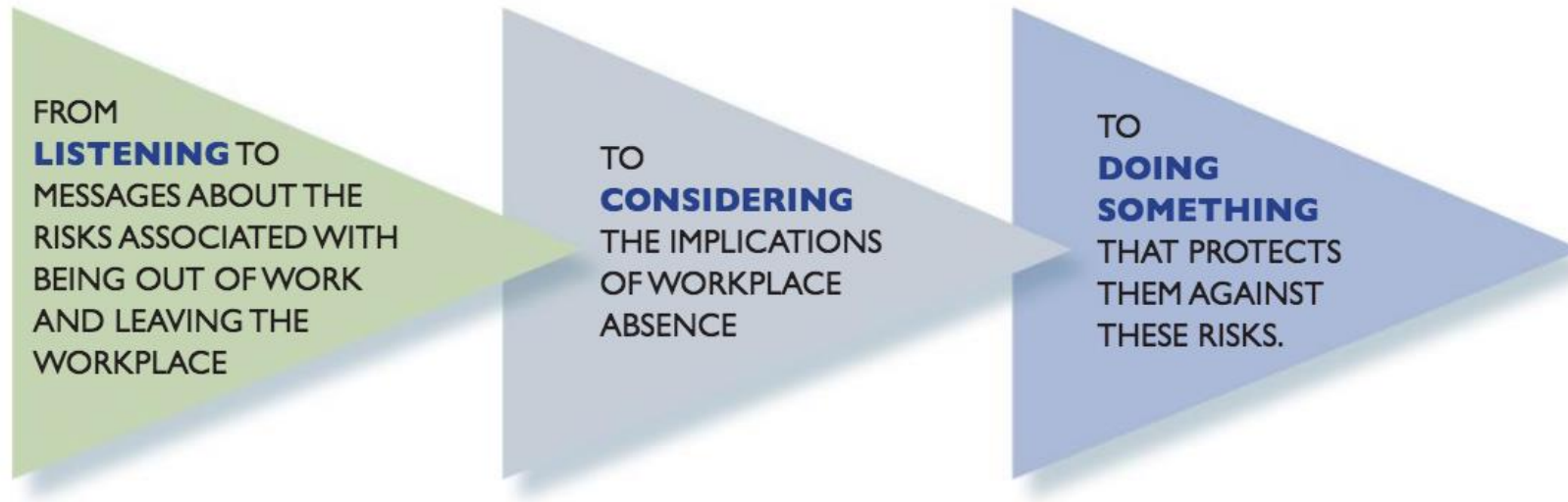- A Kaiser Permanente intervention example

- Q & A

Audience participation

What is your job type?

- **Employer** – people that run disability programs

- **Researcher** – people that study disability programs

- **Insurance carrier or TPA** – people that administer disability programs

- **Consultant** – people that advise employers about disability programs

- **Other**

The biggest challenge in the income replacement and workplace absence industries: How to move working consumers, employers and advisors

FROM **LISTENING** TO MESSAGES ABOUT THE RISKS ASSOCIATED WITH BEING OUT OF WORK AND LEAVING THE WORKPLACE

TO **CONSIDERING** THE IMPLICATIONS OF WORKPLACE ABSENCE

TO **DOING SOMETHING** THAT PROTECTS THEM AGAINST THESE RISKS.

The CDA provides a noncompetitive, collegial forum for business members to talk about issues specific to this challenge.

Mental health & disability: how we got interested in the topic

National Health Interview Study found that 20 million adults– just over 10% of the working population– reported a work disability (includes both short- and long-term disability).

Original Article

Prevalence and causes of work disability among working-age U.S. adults, 2011−2013, NHIS

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ARTICLE INFO

ABSTRACT

Background: Chronic conditions are among the major causes of work disability (WD), which is associated with lower employment, less economic activity, and greater dependence on social programs, while limiting access to the benefits of employment participation.
Objective/Hypothesis: We estimated the overall prevalence of WD among working-age (18−64 years) U.S. adults and the most common causes of WD overall and by sex. Next, we estimated the prevalence and most common causes of WD among adults with 12 common chronic conditions by sex and age. We hypothesized that musculoskeletal conditions would be among the most common causes of WD overall and for individuals with other diagnosed chronic conditions.
Methods: Data were obtained from years 2011, 2012, and 2013 of the National Health Interview Survey. WD was defined by a "yes" response to one or both of: "Does a physical, mental, or emotional problem NOW keep you from working at a job or business?" and "Are you limited in the kind OR amount of work you can do because of a physical, mental or emotional problem?"
Results: Overall, 20.1 million adults (10.4% (95% CI = 10.1−10.8) of the working-age population) reported WD. The top three most commonly reported causes of WD were back/neck problems 30.3% (95% CI = 29.1−31.5), depression/anxiety/emotional problems 21.0% (19.9−22.0), and arthritis/rheumatism 18.6 (17.6−19.6). Musculoskeletal conditions were among the three most common causes of WD overall and by age- and sex-specific respondents across diagnosed chronic conditions.
Conclusions: Quantifying the prevalence and causes of work disability by age and sex can help prioritize interventions.
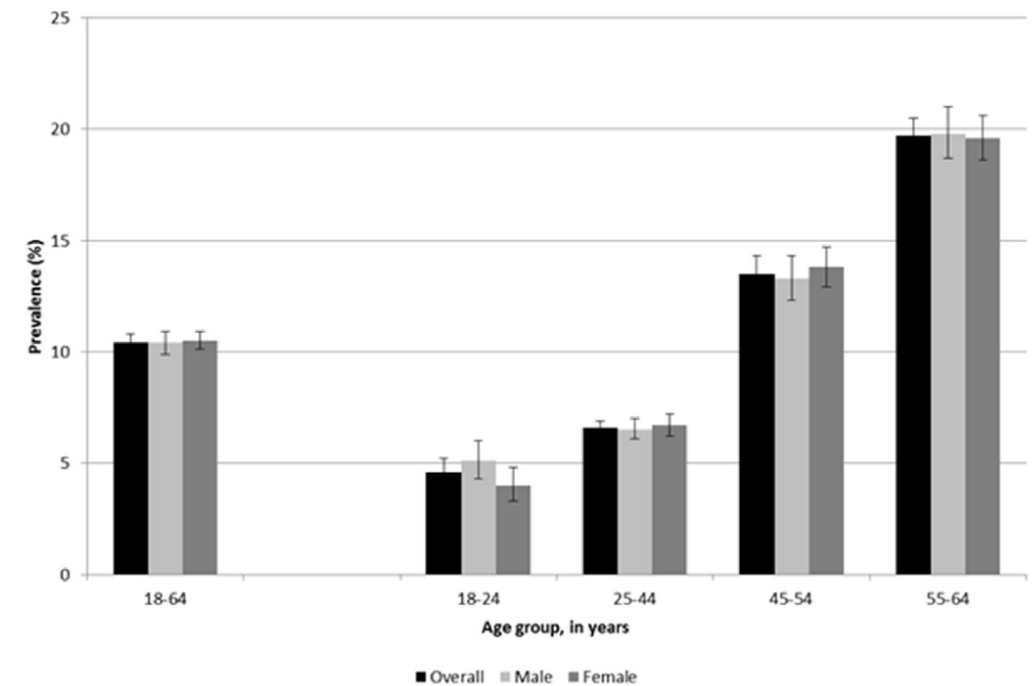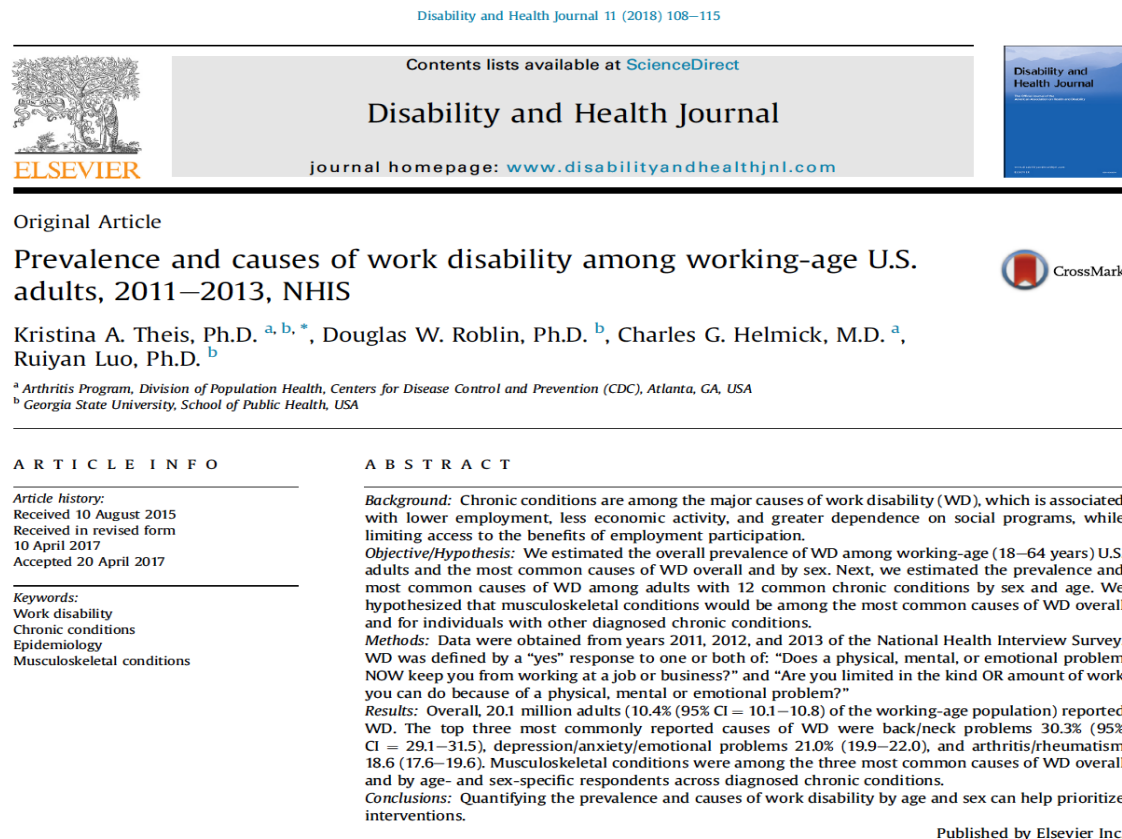
Published by Elsevier Inc.

Fig. 1. Prevalence of Work Disability among Working-Age (18−64 years) U.S. Adults, Overall and by Age and Sex, NHIS, 2011−2013.

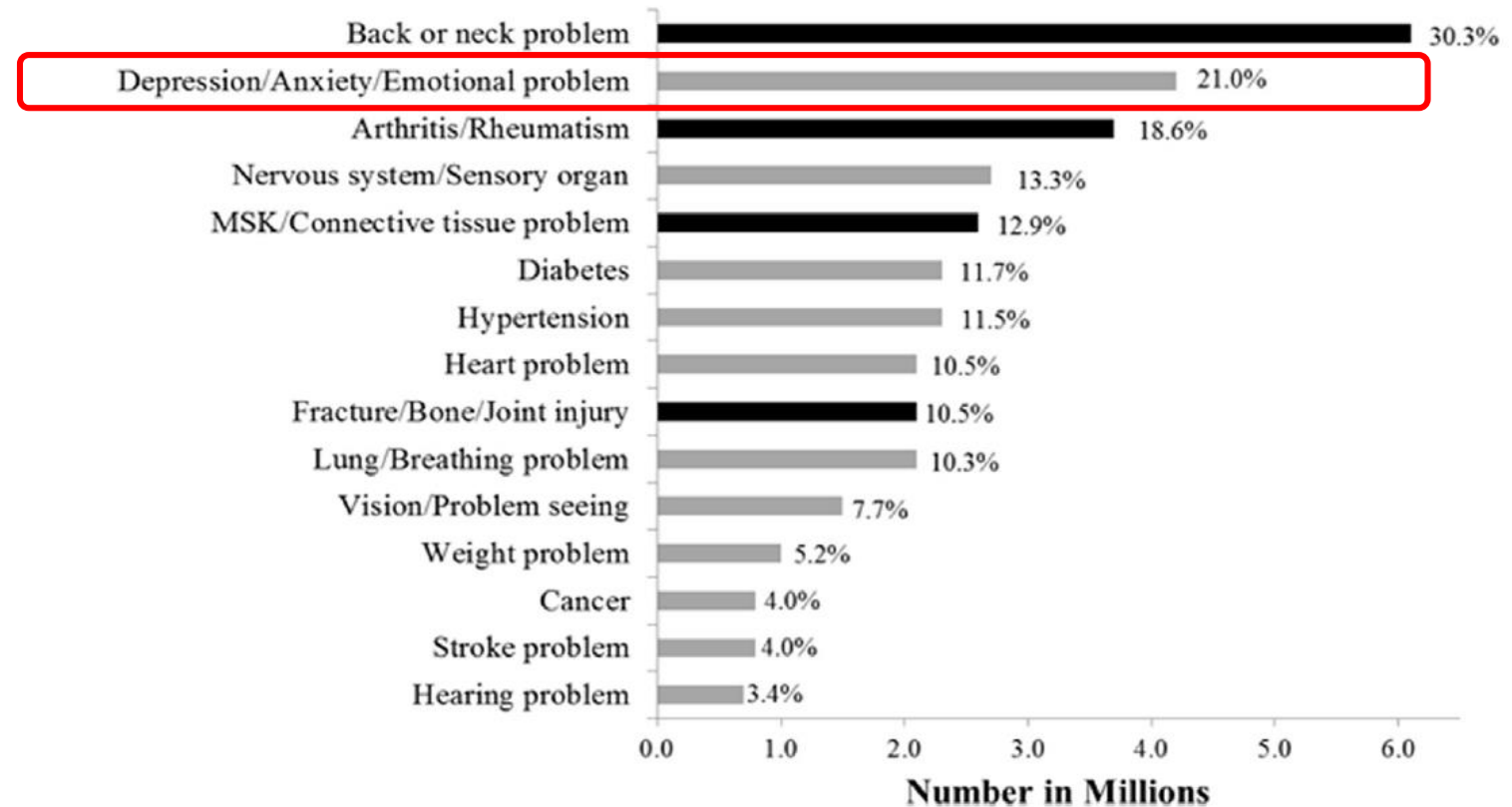# NHIS study participants- "What conditions or health problems cause your limitations?"

You may choose more than one.

1. **Vision/problem seeing**
2. **Hearing problem**
3. **Arthritis/rheumatism**
4. **Back or neck problem**
5. **Fracture or bone/joint injury**
6. **Other injury**
7. **Heart problem**
8. **Stroke problem**
9. **Hypertension/high blood pressure**
10. **Diabetes**
11. **Lung/breathing problem (for example, asthma and emphysema)**
12. **Cancer**
13. **Birth defect**
14. **Intellectual disability, also known as mental retardation**
15. **Other developmental problem (for example, cerebral palsy)**
16. **Senility**
17. **Depression/anxiety/emotional problem**
18. **Weight problem**

Other impairment/problem

K.A. Theis et al. / Disability and Health Journal 11 (2018) 108–115

Back or neck problem — 30.3%
Depression/Anxiety/Emotional problem — 21.0%
Arthritis/Rheumatism — 18.6%
Nervous system/Sensory organ — 13.3%
MSK/Connective tissue problem — 12.9%
Diabetes — 11.7%
Hypertension — 11.5%
Heart problem — 10.5%
Fracture/Bone/Joint injury — 10.5%
Lung/Breathing problem — 10.3%
Vision/Problem seeing — 7.7%
Weight problem — 5.2%
Cancer — 4.0%
Stroke problem — 4.0%
Hearing problem — 3.4%

Number in Millions

An example of mental health comorbidity

- The authors identified 12 common and costly chronic health conditions and took a look at people in each of these categories who self-reported a work disability

- The largest group was Back or Neck Pain, with an estimated 13+ million people reporting a work disability

- For each of the 12 groups, the authors identified (by gender and age band) the top 3 self-reported causes of disability

- Here's what they found for Depression/Anxiety/Emotional Problem as a cause of disability in the Back or Neck Pain group

		__Rank__	__Proportion__
Ages 18-44	Male	2	20.3%
	Female	2	31.1%
Ages 45-64	Male	3	16.5%
	Female	3	23.7%

The bottom line

- We need to learn more about mental health as a co-morbidity factor in work disability

- Standard disability-claims data by itself isn't very helpful to that end

- The ability to look at related medical claims data before, during, and after a work disability episode would be a game-changer for our level of understanding

Identifying physical disabilities with co-occurring mental disorders

Methods

- IBM Watson MarketScan disability and medical claim databases

- Found first injury/illness (physical) disability of patients (STD, WC, or LTD)

- Then found mental disorder diagnoses noted in the disability or medical claims

- Analysis includes ~772,000 physical disability claims from 2008-2017

Audience participation

At least 48% of individuals who have a physical work disability experience a mental disorders in their lifetime

Experienced a mental disorder

52%   48%

8% increase from a comparable population
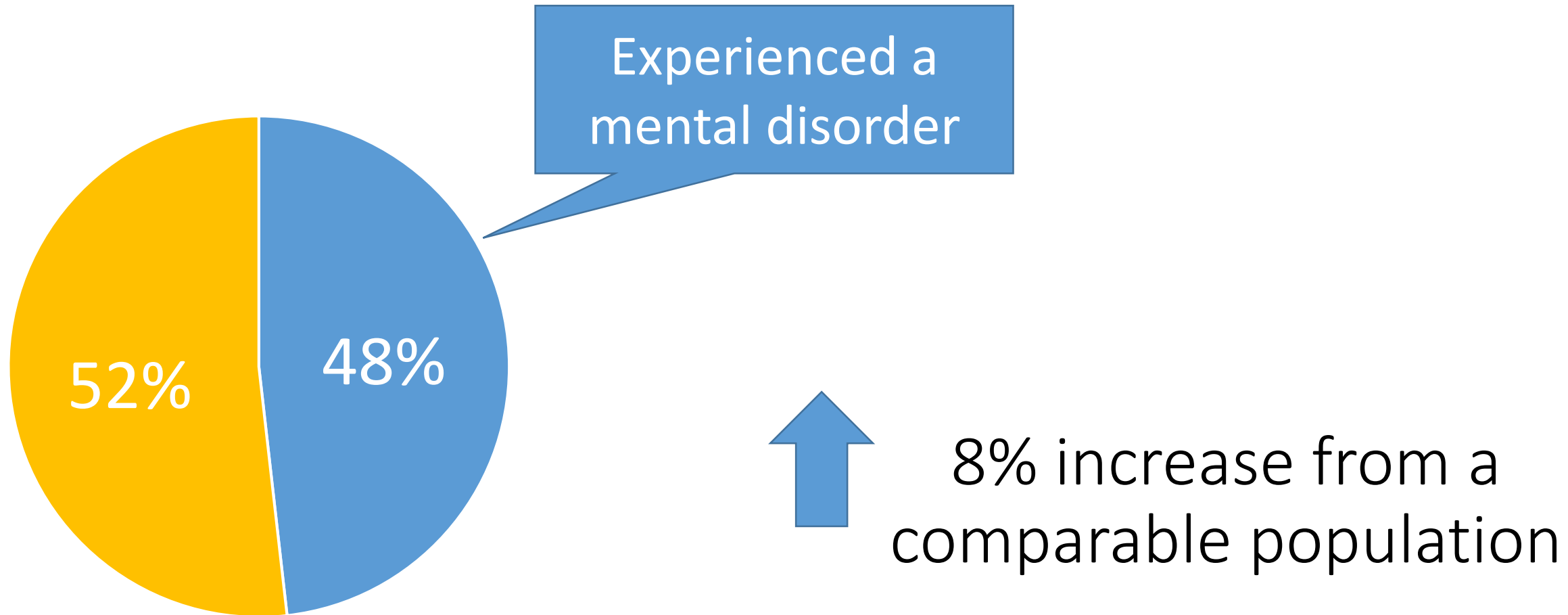
Steel et al. 2014. *Int J Epidemiol.*

When are mental disorders *first* diagnosed in relation to a physical disability?

52%

48%
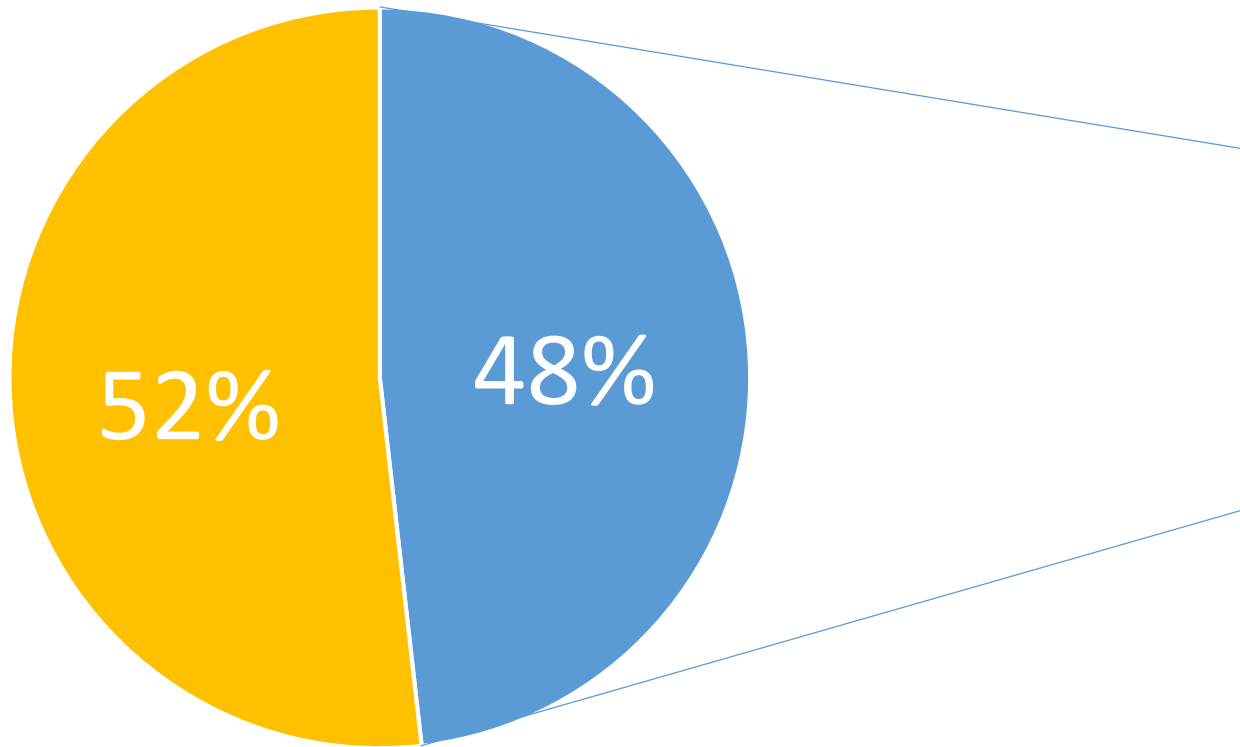
% mental disorder diagnosed...

Before physical disability?
During physical disability?
After physical disability?

When are mental disorders *first* diagnosed in relation to a physical disability?

52%

48%

63% before disability

6% during disability

31% after disability
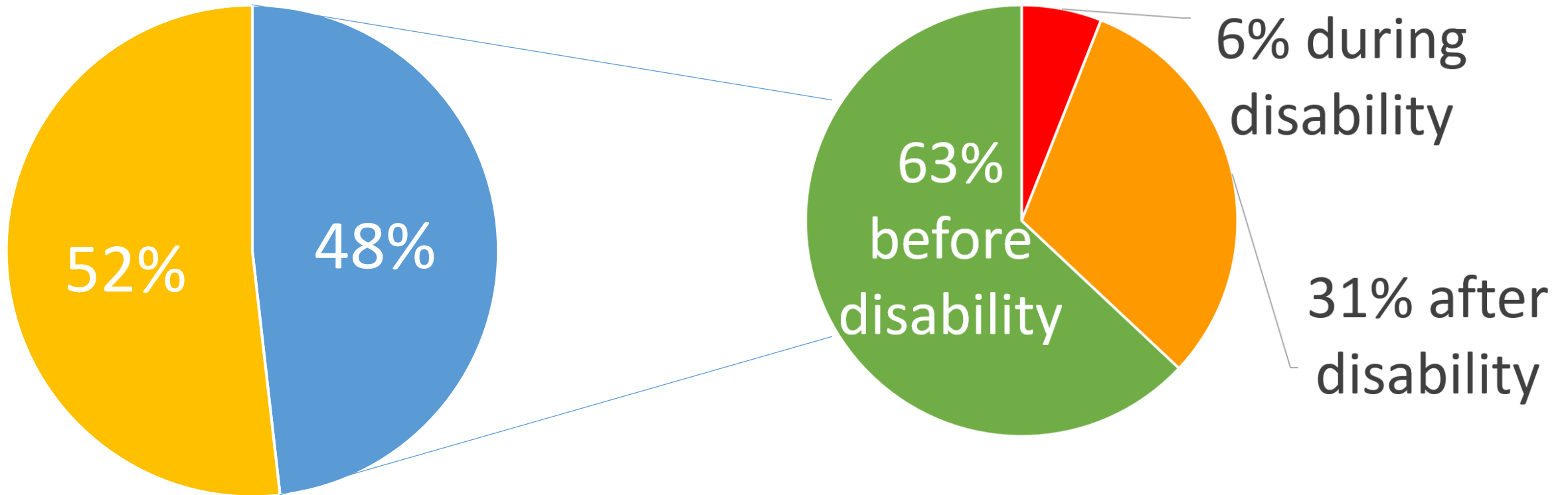
Mental health diagnoses by when first diagnosed
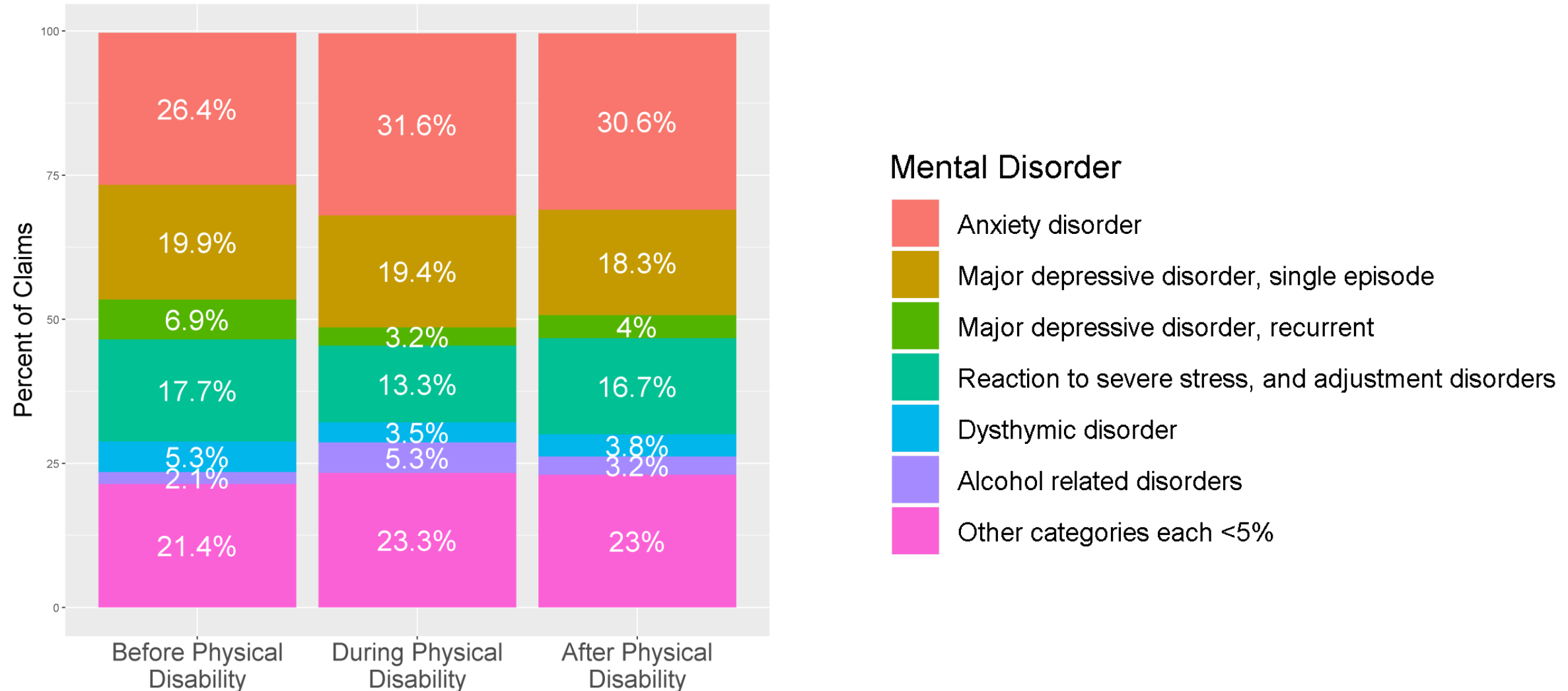
Finding patients with new/exacerbated mental disorders

- Clinicians and case managers may be interested in knowing the physical disorders likely to have new *and* exacerbated mental disorders

- Excluded patients with a mental disorder diagnosed <u>within one year prior of their physical disability</u>

- Then, for patients *without* a mental disorder diagnosed within one year (n = 626K), calculated probability of mental disorder during physical disability.

Mental disorder diagnosed during physical disability

Major diagnostic category	N (%)	Diagnosed during physical disability
Circulatory System	30,508 (5%)	10%
Blood and Blood-Forming Organs	1,790 (<0.5%)	8%
Nervous System and Sense Organs	30,417 (5%)	7%
Endocrine, Nutritional, Metabolic, Immunity	10,240 (2%)	6%
Congenital Anomalies	2,635 (<0.5%)	6%
Neoplasms	39,198 (6%)	6%
Infectious and Parasitic Diseases	17,280 (3%)	5%
Musculoskeletal System	127,534 (20%)	5%
Digestive System	59,795 (10%)	4%
Genitourinary System	31,667 (5%)	4%
Injury and Poisoning	206,031 (33%)	3%
Respiratory System	33,470 (5%)	3%
Skin and Subcutaneous Tissue	12,015 (2%)	3%

Diagnostic subcategories of physical disabilities most likely to "add" a mental disorder

Example diagnoses

Diagnostic subcategory	N (%)	Diagnosed during physical disability
Extrapyramidal and Movement Disorders	240 (<0.5%)	21%
Diseases of Liver	599 (<0.5%)	21%
Cerebrovascular Diseases	4,212 (1%)	20%
Malignant Neoplasms of Eye, Brain & Other Parts of CNS	445 (<0.5%)	19%
Inflammatory Diseases of the CNS	378 (<0.5%)	18%
Episodic and Paroxysmal Disorders	4,082 (1%)	18%
Symptoms, Signs Speech and Voice	159 (<0.5%)	17%
Polyneuropathies & Disorders of the PNS	376 (<0.5%)	17%
Other Disorders of the Nervous System	910 (<0.5%)	17%
Cerebral Palsy and Other Paralytic Syndromes	148 (<0.5%)	16%

Parkinson's disease

Meningitis

Top diagnostic subcategories by claim frequency

| Diagnostic subcategory	N (%)	Diagnosed during physical disability
Injuries to the Knee and Lower Leg	40,712 (7%)	3%
Other Dorsopathies	35,750 (6%)	6%
Injuries to the Wrist, Hand and Fingers	32,241 (5%)	3%
Other Joint Disorders	29,148 (5%)	3%
Injury of Unspecified Body Region	22,784 (4%)	4%
Injuries to the Shoulder and Upper Arm	21,645 (3%)	4%
Other Soft Tissue Disorders	20,365 (3%)	4%
Hernia	19,000 (3%)	3%
Injuries to the Ankle and Foot	17,180 (3%)	2%
Injuries to the Abdomen, Lower Back, Lumbar Spine, Etc.	16,630 (3%)	3%

Low back pain

Chronic vs Non-Chronic Disability

Chronic condition disabilities
had a 70% greater risk of having a mental disorder diagnosed during disability than non-chronic physical disabilities

Moderate correlation between length of physical disability and probability of mental disorder being diagnosed during physical disability
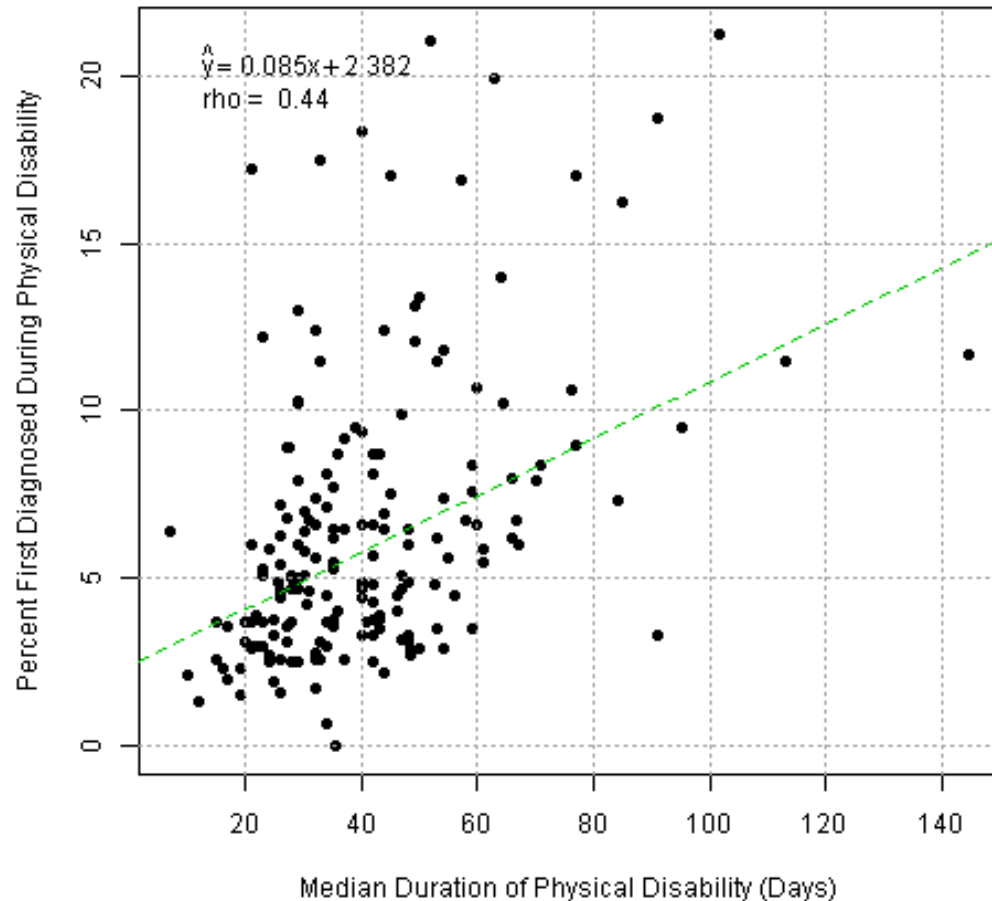
Disability duration	Diagnosed during physical disability
<40 days	2%
>=40 days and < 75 days	4%
>=75 days and < 150 days	7%
>=150 days	14%

When during a physical leave are mental disorders diagnosed?

	25th %ile	Median	75th %ile
All patients/durations	1 day	15 days	55 days

Typically, patients are diagnosed with a mental disorder **15 days** after the start of their physical disability

Disability duration	25th %ile	Median	75th %ile
<40 days	0 days	2 days	9 days
>=40 days and < 75 days	0 days	9 days	28 days
>=75 days and < 150 days	4 days	27 days	59 days
>=150 days	25 days	85 days	168 days

As the physical disability duration increases, so does the time to mental disorder diagnosis

Future work: Predict probability of mental disorder

- Diagnosis + demographics + health history = risk score

- Potential risk factors
  - Short vs long term disability
  - Gender
  - Age
  - Occupation
  - Industry
  - Urban/rural
  - Comorbidities
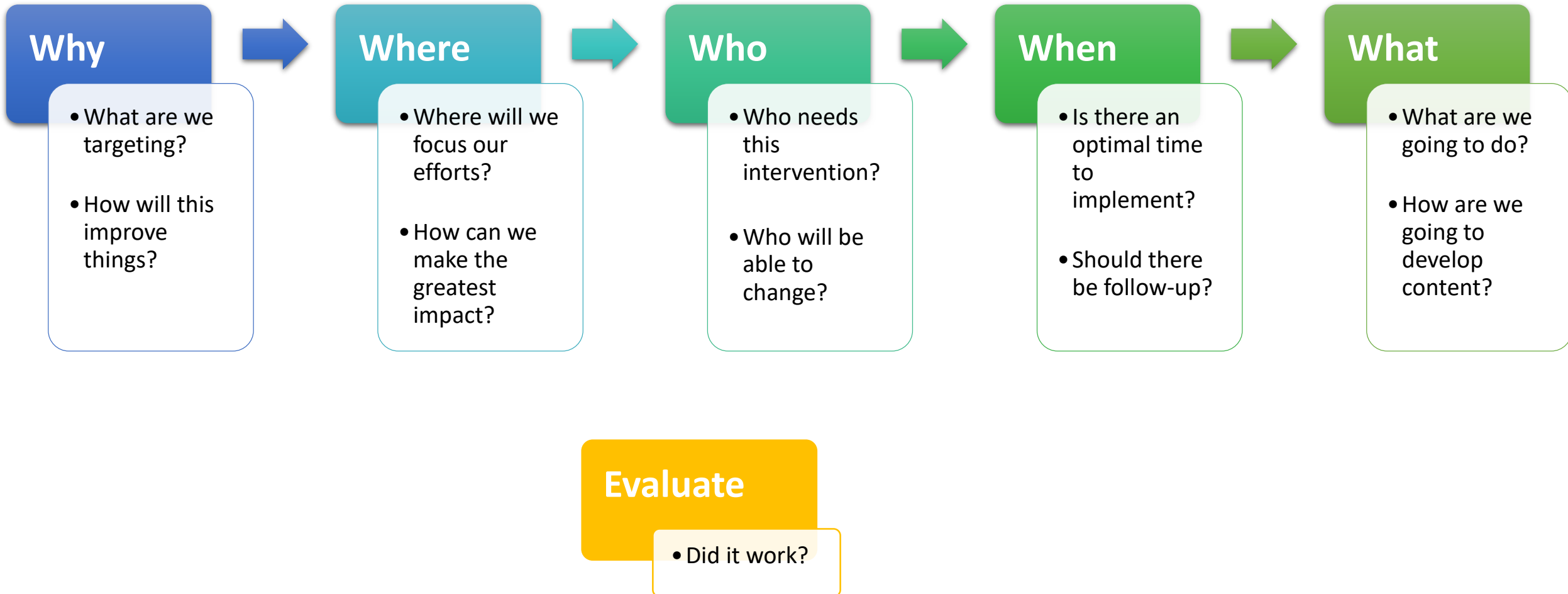 - Past work disability…

Designing an intervention

Employers impact mental health in the workplace

- 72% of employees want employers to champion mental health and well-being. This was rated as more important than equality (48%), sustainability (38%), and diversity (31%). (Peldon Rose 2018)

- Adding employer-based interventions to clinical care reduces the number of days on sick leave due to mental health conditions. (Nieuwenhuijsen K, Faber B, et al. 2014)

- A US national study estimated medical cost savings from integrating mental and physical health services to be $16-32 billion. (Melek et al. 2012)

- The World Health Organization recommends that employers reach out to physicians treating mental health cases to provide detailed job descriptions and consult on early or gradual return-to-work options.

Critical questions when designing an intervention

Why
- What are we targeting?
- How will this improve things?

Where
- Where will we focus our efforts?
- How can we make the greatest impact?

Who
- Who needs this intervention?
- Who will be able to change?

When
- Is there an optimal time to implement?
- Should there be follow-up?

What
- What are we going to do?
- How are we going to develop content?

Evaluate
- Did it work?

Injury prevention intervention types

Influencing policy and legislation
Changing organizational practices
Fostering coalitions and networks
Educating providers
Promoting community education
Strengthening individual knowledge and skills

Cohen L, Smith S. (1999) The spectrum of prevention: Developing a comprehensive approach to injury prevention. Injury Prev. 5(3):203-7. https://doi.org/10.1136/ip.5.3.203

Improving engagement

- Poor utilization of mental health services may lead to exacerbation of symptoms, rehospitalization, and not fully realizing the potential benefits of treatment. (Dixon et al. 2016)

- Recovery-oriented care prioritizes autonomy, empowerment, and respect for the person receiving services.

- Reach out in sensitive ways to provide culturally appropriate information
    - electronics (e.g. phones, internet), peer providers, educational sessions

Resources:
- www.mentalhealth.gov/talk/community-conversation
- www.cdc.gov/workplacehealthpromotion/tools-resources/workplace-health/mental-health/index.html
- http://workplacementalhealth.org/Mental-Health-Topics/Employee-Assistance-Programs

Evaluation: You can't change what you don't measure

- Get executive buy-in and consider company culture
  - Manager training to be supportive of mental health efforts
  - Policies to support employee access & cost coverage of mental health care

- Plan the roll-out to measure change by comparison
  - A single work site
  - All claims within 6 months of implementation
  - Certain types of claims for 1 year of implementation

- Evaluate
  - Outcomes (data)
    - Are there less severe mental health claims following a disability than in previous years?
  - Employee experience (survey)
    - Did employees, with and without a disability, utilize the resources or find them helpful?

Kaiser Permanente's Experience

Photo by J

Build a Culture of Well-being

Focus on creating a psychologically healthy workplace

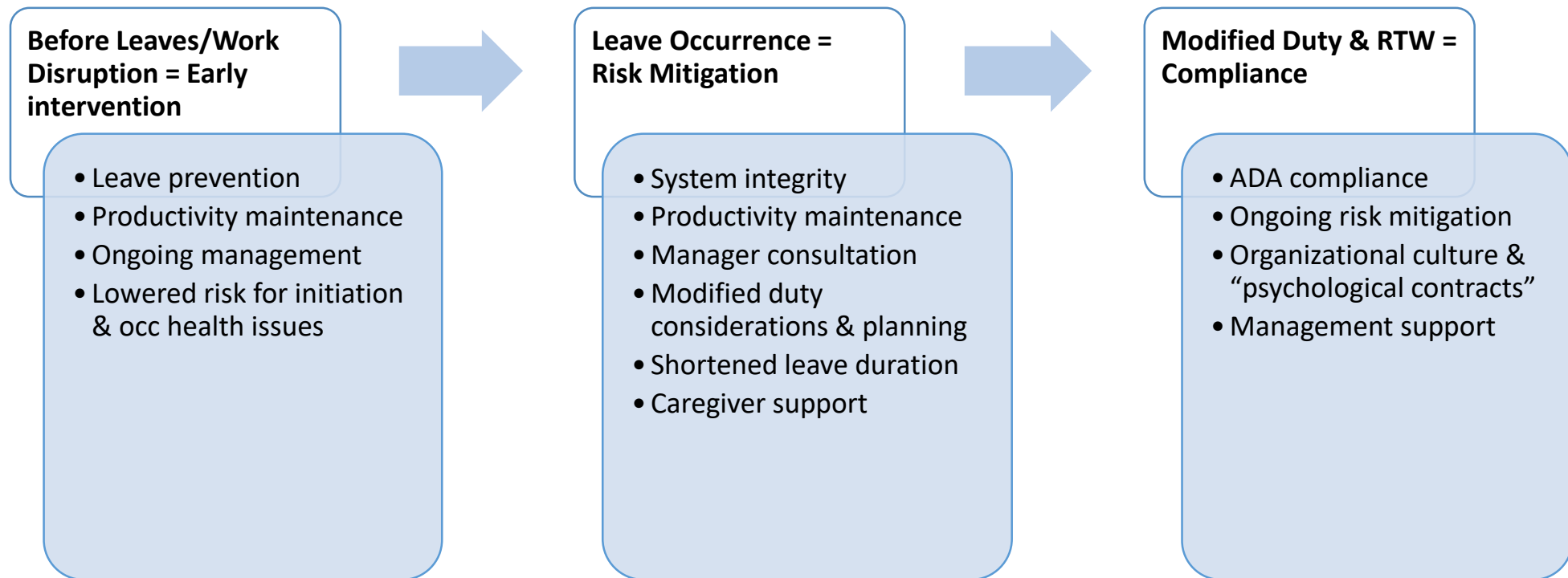# Employee Assistance Programs – perceptions & assumptions

Current narratives in HR disability/TPA management:

- "Free sessions" at the beginning of therapy
- A way for employers to monitor employees
- An entry point for a "stress claim"
- A trigger that will create a mental health issue

Employee Assistance Programs – the value-add narrative:

EAP integration to an employer's disability/FMLA leave program can positively impact in a variety of individual employee, manager, & systemic ways.

Before Leaves/Work Disruption = Early intervention

- Leave prevention
- Productivity maintenance
- Ongoing management
- Lowered risk for initiation & occ health issues

Leave Occurrence = Risk Mitigation

- System integrity
- Productivity maintenance
- Manager consultation
- Modified duty considerations & planning
- Shortened leave duration
- Caregiver support

Modified Duty & RTW = Compliance

- ADA compliance
- Ongoing risk mitigation
- Organizational culture & "psychological contracts"
- Management support

Integration with Disability/Leave Programs

- **Impacts:** *early intervention, prevent bigger problems, active management, positive leadership attribution, lower risk of job injury/illness, shorter/less intense productivity and stress "reactions"*

- Offer and remind – pos/neg events & planned absences, both managers and employees

- Don't forget your caregiver employees!

- EAP to help train and support employees and managers
  - Symptom & risk awareness – distinguish from "weird"
  - How to intervene & stigma reduction
  - Help manage workplace disruption around leaves

- Who manages your behavioral health related disability leaves and caregiver FML?

Integration with Disability/Leave Programs

Getting Started…

- Advocate for EAP role in employer leave program that aligns with your line(s) of business

- Reporting – where are your "problem" areas and how do you know? E.g. not just "annoying" but looking to outreach and prevent

- Culture, climate, strategy and tactics – is there something coming up that you're aware of? E.g. M&A, layoff

- Remember – **early intervention and prevention**

Thank you! Questions?

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Disclaimer

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