



## 2020 Annual Forum

### Rethinking Musculoskeletal Health through an Integrative Approach Tuesday, November 10, 2020 | 3:15 PM - 4:15 PM ET



**Mohannad Kusti, MD**

**MODERATOR**

Corporate Medical Director

Regional Medical Director for Pivot Onsite  
Innovations

National Alliance Medical Director Council  
Medical Director for PBGH Coalition



**Gary Riley**

National Medical Outcomes Science Liaison  
Abbvie



**Brian Gifford**

Director, Research and analytics  
Integrated Benefits Institute



**Lawrence Goren, MD**

Founder and Chief Medical Director  
Pivot Onsite Innovations



**#NatAllForum**

# We are AbbVie.....



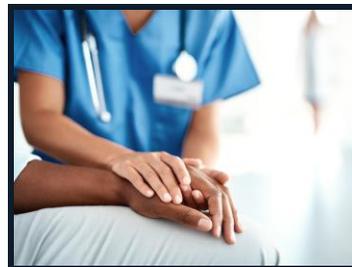
**A discoverer**



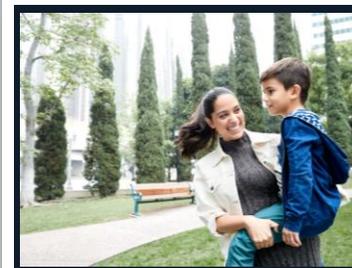
**An employer**



**A manufacturer**



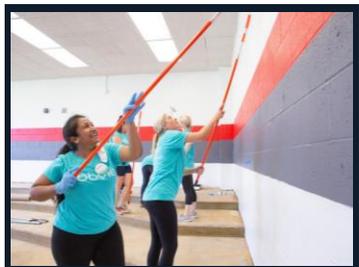
**Doctors  
Nurses**      **Pharmacists  
Patients**



**Parents**



**Sons & Daughters**



**Community**



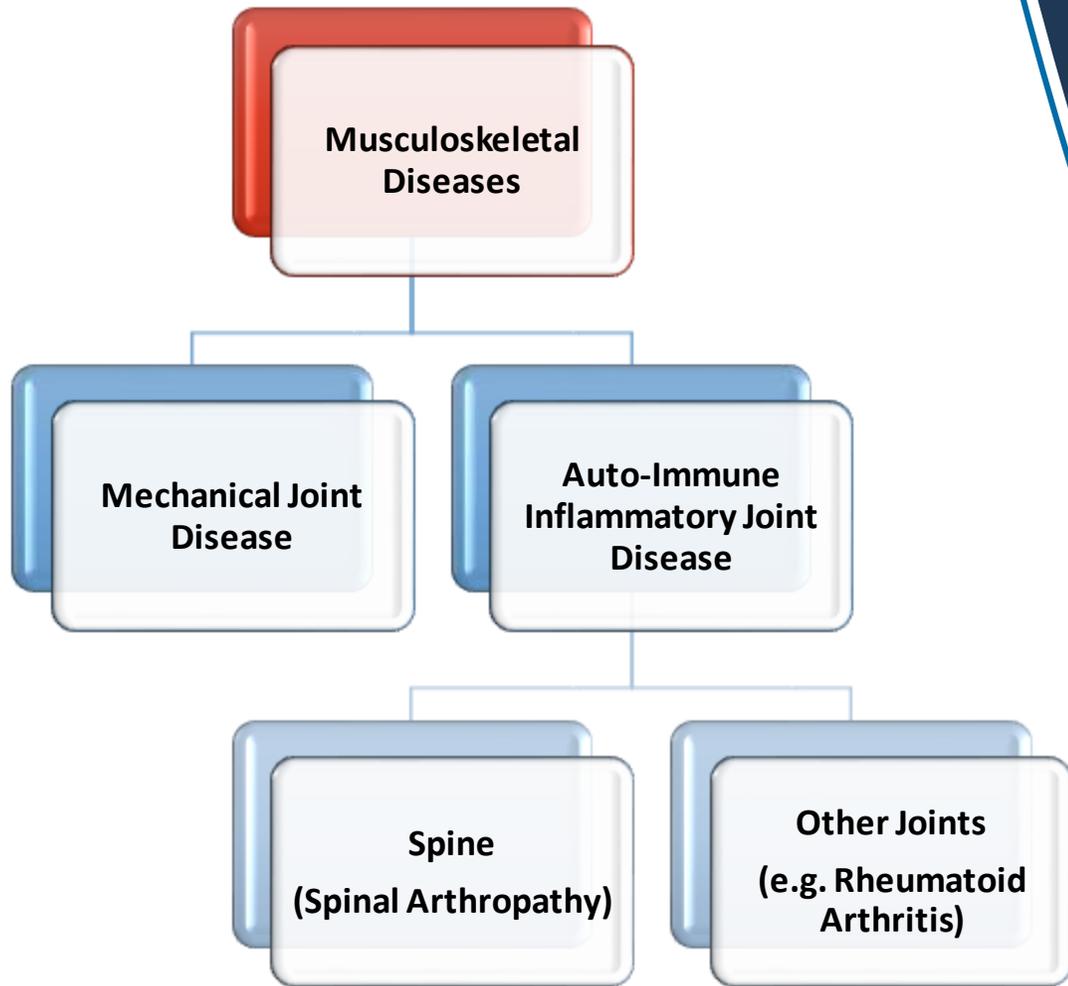
**Team**



**Business problem  
solvers**



**People. Passion. Possibilities.®**

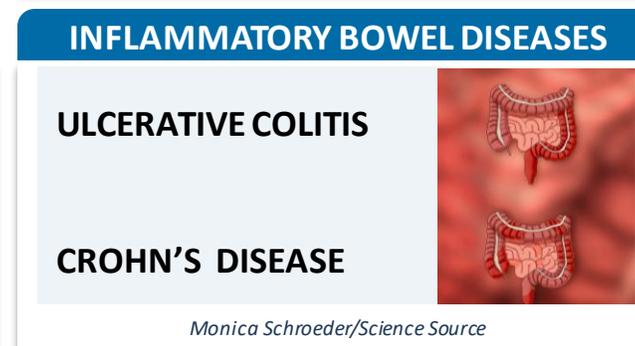
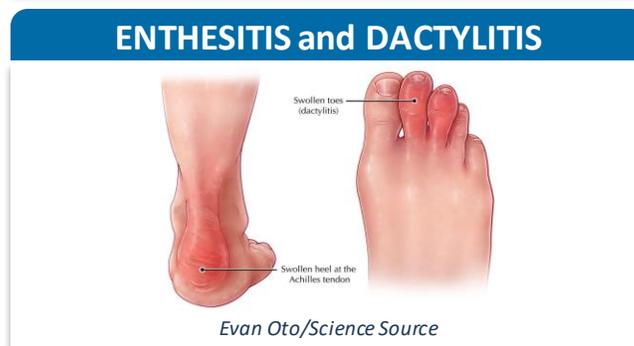
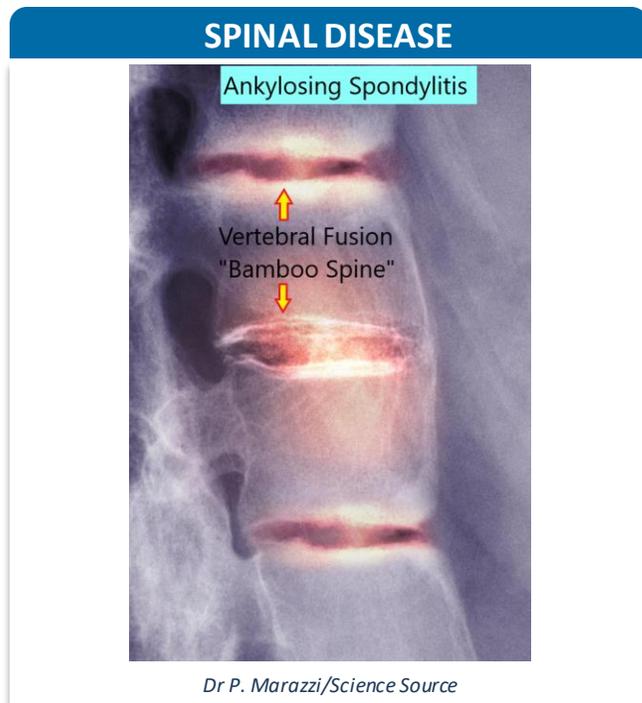


# Musculoskeletal Health Through an Integrative Approach



# Musculoskeletal Diseases Caused by the Immune System

## Multiple Conditions that Commonly Co-Occur



Images Licensed under ScienceSource Inc 2020.  
DIP=distal interphalangeal. PsA=psoriatic arthritis.

1. Lautermann D et al. Clin Exp Rheumatol. 2002;20(6 suppl 28):S11–S15.
2. Smale S et al. Arthritis Rheum. 2001;44(12):2728–2736;
3. Bessant R et al. J Rheumatol. 2002;29(7):1511-1519.
4. Mielants H et al. Clin Exp Rheumatol. 2009;27(4 suppl 55):S56-S61.
5. Taurog J, et.al. N Engl J Med 2016;374(26):2563-2574

# How Does Spinal Arthropathy Effect Work Outcomes Over Time?



## Work Productivity Losses (WPL):



Inefficiency at work (**presenteeism**) and excess sick leave (**absenteeism**)<sup>1</sup>



**5% leave workforce first year, and 31% after 20 years** due to AS related illness<sup>2</sup>



## Disability:<sup>3</sup>



Patients with AS are **more likely to be work disabled** (13.3% versus 5.7%;  $P < 0.0001$ )



**Less likely to participate in the labor force** compared with the proportion expected (25.1% versus 21.8%;  $P = 0.07$ )



Associations strongest for patients age >45 years and those with AS for >20 years

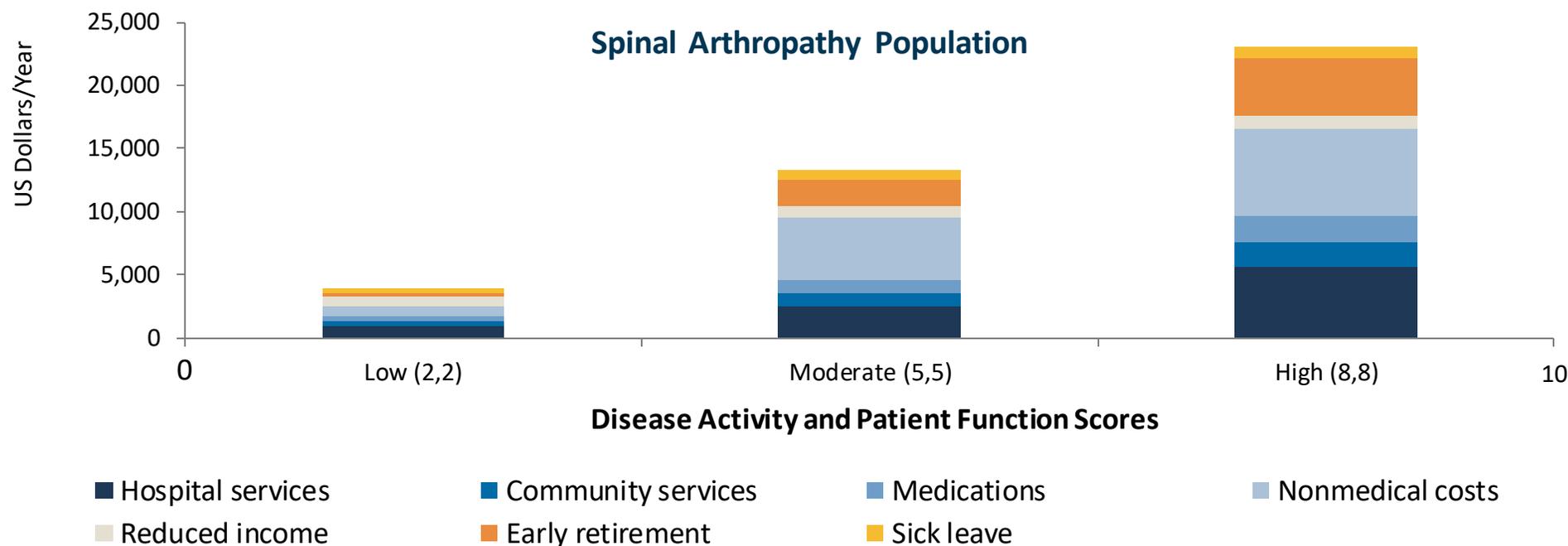
Spinal Arthropathy data specific to Ankylosing Spondylitis (AS)

1. van Lunteren M., et.al. Rheumatology (Oxford). 2017;56(12):2222-2228.

2. Frauendorf R, et.al. Rev Bras Reumatol 2013; 53 (3):303 – 309.

3. Ward M, et.al. Arthritis Rheum. 2008 ;59(4):497-503

# Costs Associated with Disease Activity and Diminishing Physical Function

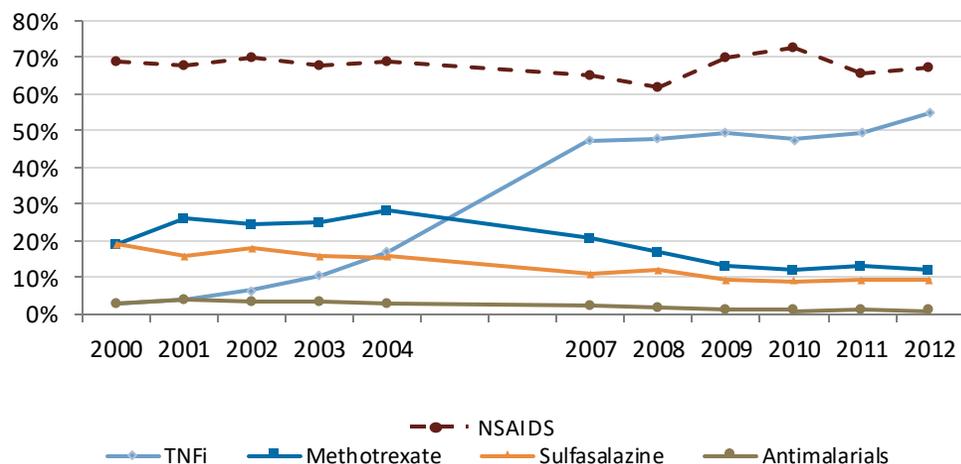


Direct healthcare costs, indirect, and societal costs are all associated with worsening of both disease activity and functional status in AS.

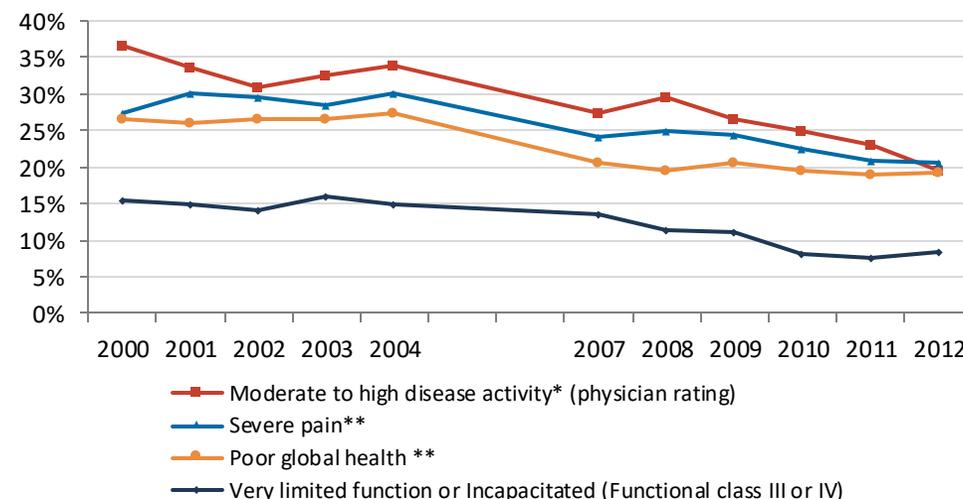
Mean annual costs for patients with AS with different levels of Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI). Costs for different severity levels of AS are modeled for patients with a defined combination of BASFI and BASDAI respectively (2,2; 5,5; 8,8). Disease Activity (BASDAI) and Functional Impairments (BASFI) are both scored out of 10. Kobelt G, et al. J Rheumatol. 2006;33(2):289-95.

# Trends in Treatment and Clinical Status of 1,000 Spinal Arthropathy Patients: 2000 - 2012

## Treatment Patterns



## Clinical Burdens



- NSAID use remained relatively consistent, csDMARDs declined while biologic medication (TNF inhibitors) use increased
- Clinical outcomes, quality of life improved concurrent to changes in treatment patterns.
- Trends in employment increased and early retirements declined 2000 – 2012 (See study for details)

Proportions of poorly rated physician-reported and patient-reported outcomes (scores \*4–10 or \*\*7–10 on a numerical ratings scale with range 0–10). csDMARD=conventional synthetic disease modifying antirheumatic drugs (e.g. methotrexate). NSAID=nonsteroidal anti-inflammatory drugs (e.g. ibuprofen). TNFi=tumor necrosis factor inhibitor. Huscher D, et.al. RMD Open. 2015;1(1):e000033.

# IPAIN as an Early Recognition Aid

## IPAIN Mnemonic to Prompt Appropriate Screening for Inflammatory Back Pain

I

Insidious (slow) onset

P

Pain at night (with improvement upon getting up)

A

Age at onset <40 years old

I

Improvement with exercise

N

No improvement with rest

J Rheumatol. 2010 Sep;37(9):1978.

# How Might We Get Better?

## Gaps



Timely, Accurate Diagnosis<sup>1-2</sup>

Employee/Patient Coping Ability<sup>3-4</sup>

Occupational Resources<sup>2</sup>

Appropriate & Effective Treatments<sup>2,5,6</sup>  
(non-prescription and prescription)

## Aspirational Opportunities



- Discern mechanical vs inflammatory back pain: Screen employees < 45 years old with IPAIN tool for rheumatologist referral
- EAPs, family support, and mental health benefits
- Awareness of patient support groups for AS
- Ergonomics and work that support posture and flexibility
- Physical therapy access and benefits
- Flexible hours (AM stiffness/pain)
- Review prior authorization criteria of prescription benefit
  - Step therapy with csDMARDs not indicated for AS
- Coverage / FSA benefit for OTC NSAIDS
- Opiate use / addiction resources

EAPs=employee assistance programs. FSA=flexible spending account. OTC=over the counter.

1. Ozgocmenj S, et.al. J Rheumatol. 2010;37(9):1978. 2. Taurog J, et.al. N Engl J Med 2016;374:2563-2574. 3. Spondylitis Association of America. <https://spondylitis.org/>. Accessed October 26, 2020

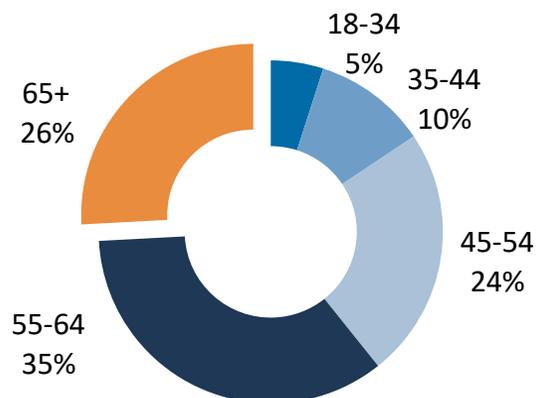
4. Ward M, et.al, Arthritis Rheum. 2008;59(4):497-503. 5. Ward M, et.al. Arthritis Rheumatol. 2019;71(10):1285-1299. 6. Ward M, et.al. Arthritis Rheumatol. 2016;68 (2):282–298.

# RHEUMATOID ARTHRITIS: CONSIDERATIONS FROM AN EMPLOYER'S PERSPECTIVE

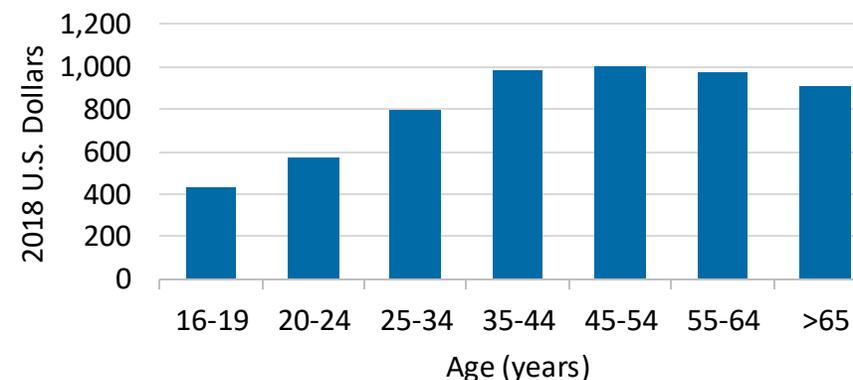
# Rheumatoid Arthritis (RA) and the General Population's Peak Earning Years



Patients with RA Age Distribution (%)<sup>1</sup>



Median Weekly Earnings of Full-Time Wage and Salary Workers by Age<sup>2</sup>



3 of 4 Patients with RA are less than 65 years old



Over half are 45 – 64 years old



Approximately 3/4 are female



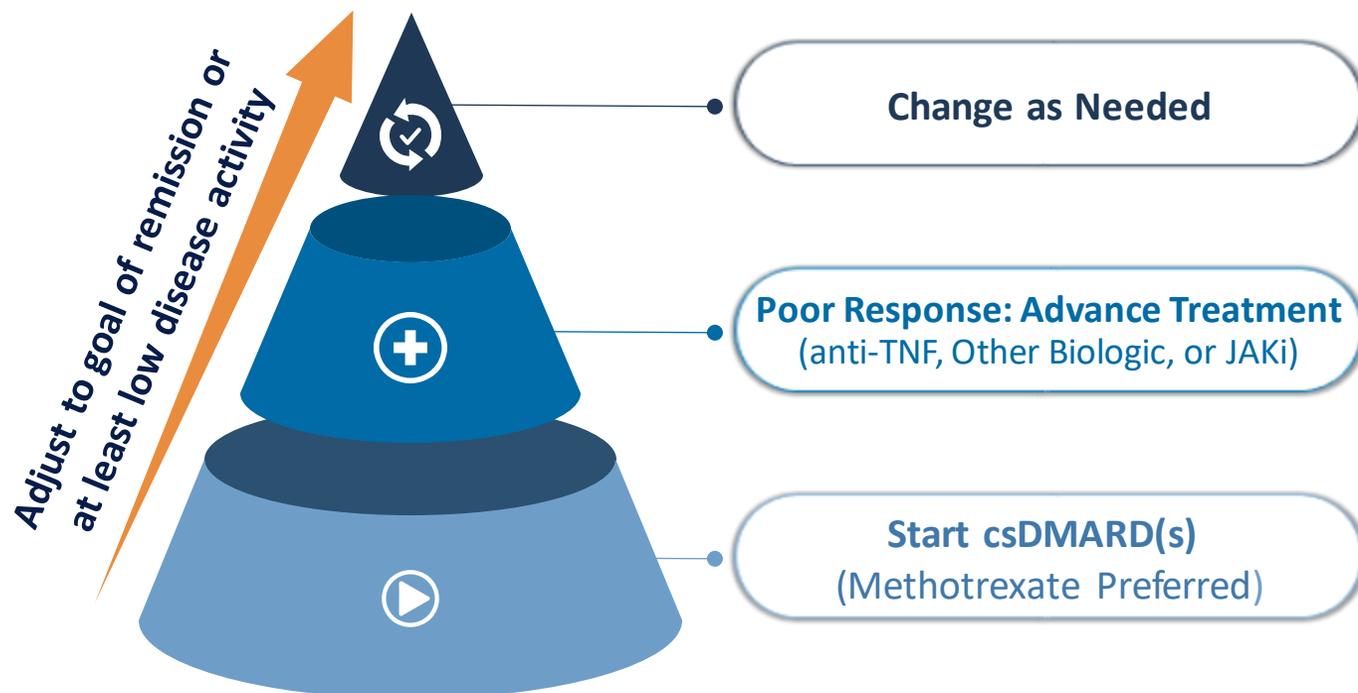
Impact Coincides with Peak Earning Years



1. Hunter T. et.al. Rheumatol Int. 2017;37(9):1551-1557.

2. U.S. Bureau of Labor Statistics. TED: The Economics Daily. April 20, 2018. <https://www.bls.gov/opub/ted/2018/median-weekly-earnings-783-for-women-965-for-men-in-first-quarter-2018.htm>. Accessed October 23, 2020.

# Aligning the Right Drug at Right Time with the Right Patient: Today's Treatment Model (Simplified)



**Tight disease control is the practical pathway toward:**

- Improved signs and symptoms (e.g. swelling, pain, fatigue)<sup>1,2</sup>
- Better physical function i.e. reduced disability<sup>1,2</sup>
- Achieve structural joint protection<sup>1,2</sup>
- Enhanced quality of life (QoL)<sup>1,2</sup>
- Improved work outcomes<sup>3</sup>

JAKi=JAK inhibitor.

1. Smolen JS, et al. Ann Rheum Dis. 2016;75(1):3-15.

2. Singh J, et.al. Arthritis Care Res (Hoboken). 2016;68(1):1-25.

3. Taylor P, et al. RMD Open. 2018;4(1):e000615.

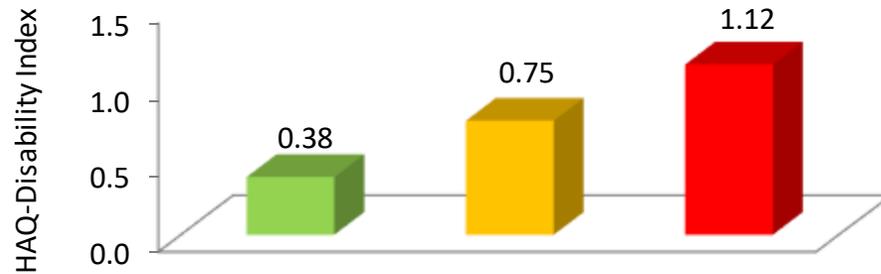


**National Alliance**  
of Healthcare Purchaser Coalitions  
Driving Innovation, Health and Value

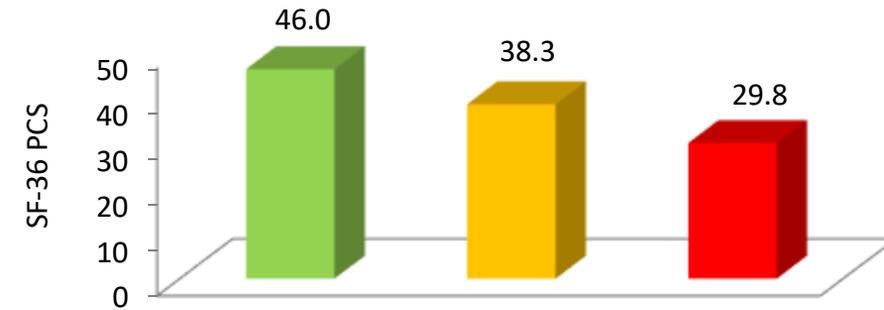
# Tighter Disease Control Correlates to Lower Disability, Improved Quality of Life, and Work Outcomes

Remission Low Moderate/ High

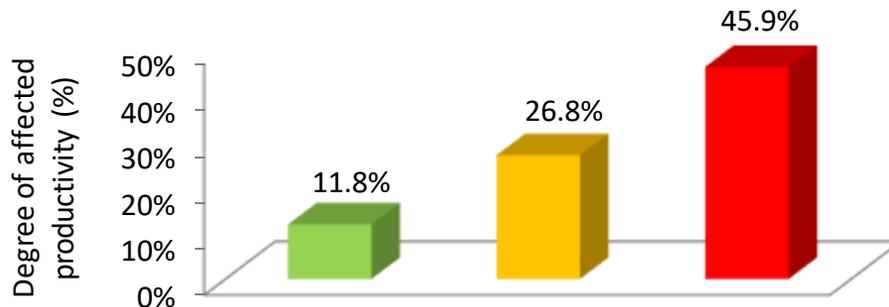
**A** Disability: Health Assessment Questionnaire



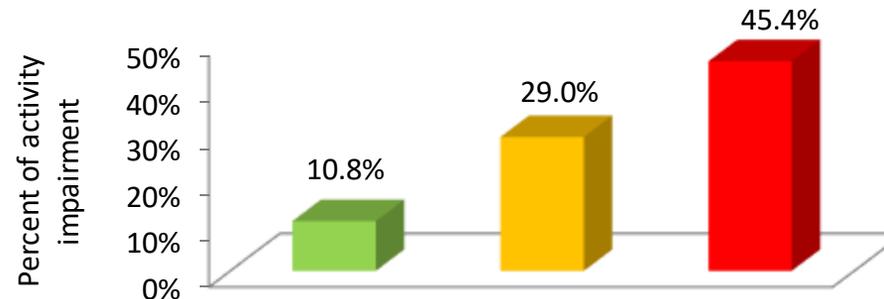
**B** Quality of Life: SF-36 Physical Component Score



**C** Degree RA affected productivity while working (%)



**D** Percent of activity impairment due to RA (%)

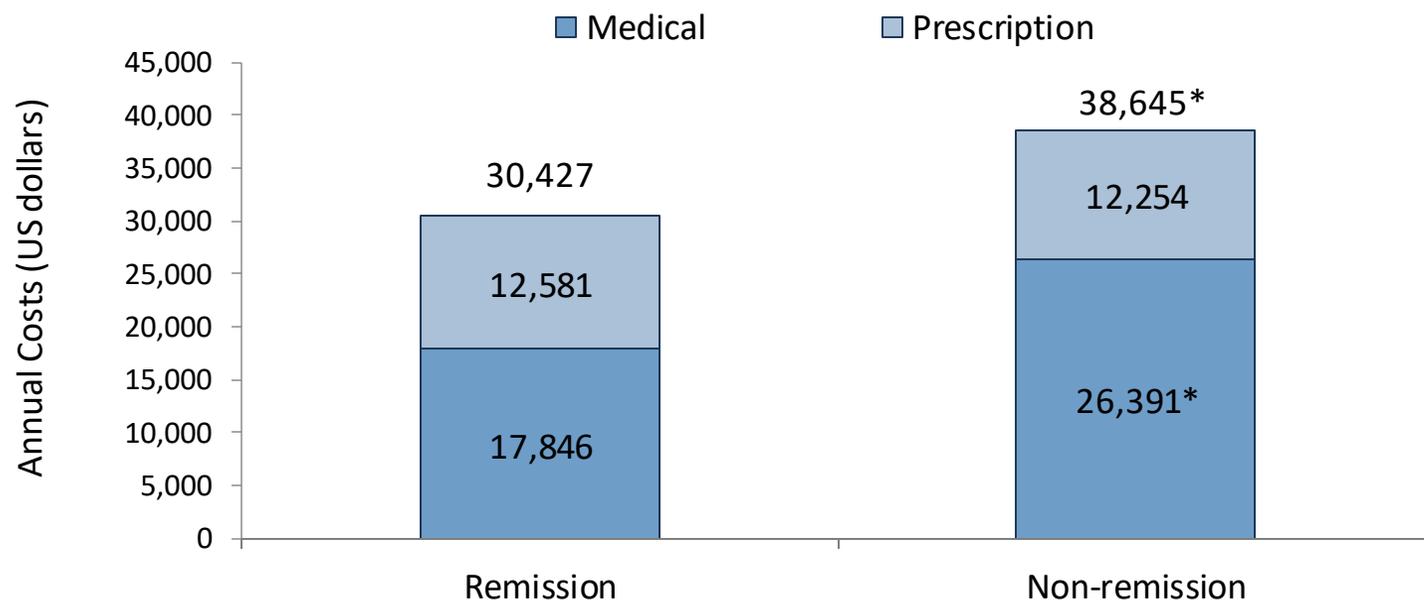


HAQ-DI=Health Assessment Questionnaire-Disability Index. SF-36 PCS=Short Form-36 Physical Component Score. Radner et al. Arthritis Res Ther. 2014;16(1):R56.

# Retrospective Cohort Study to Understand the Impact of Remission on Annual Healthcare Costs



## Annual all-cause direct costs



All-cause and outpatient medical costs were significantly lower in the remission versus the non-remission cohort.

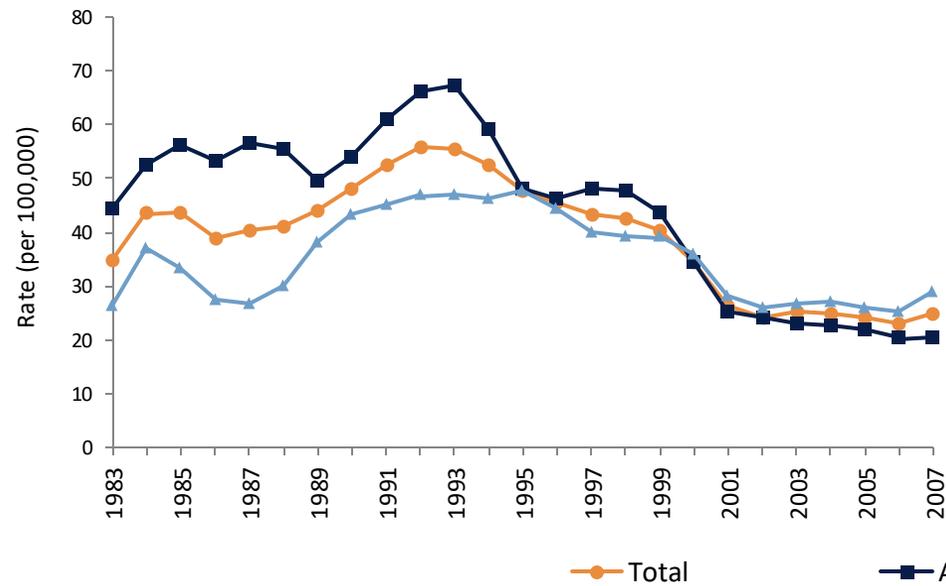
\*p<0.05.

Bergman M, et al. Poster THU0546 presented at the European Congress of Rheumatology - European League Against Rheumatism E-Congress; June 3-6, 2020.

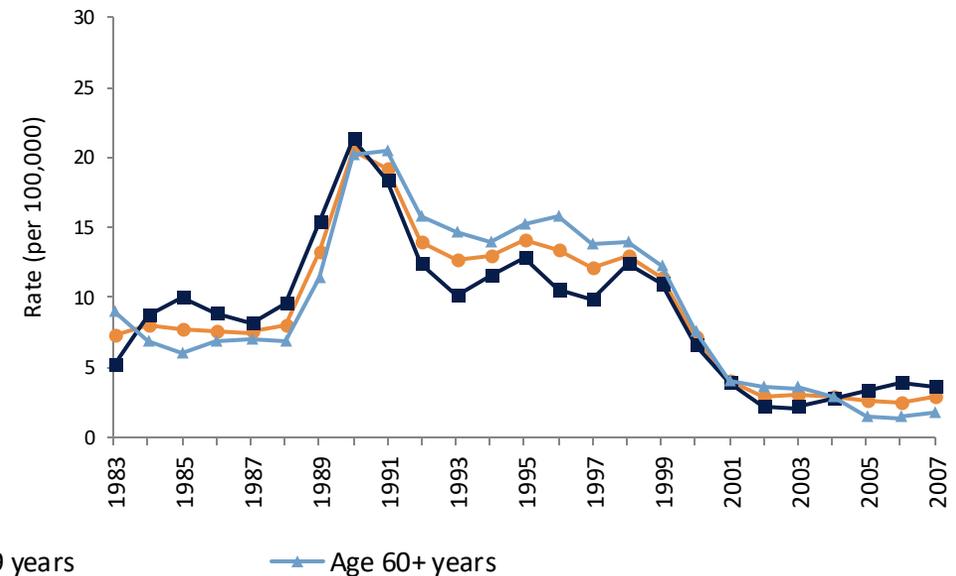


# Joint Surgery Incidence Among Patients with RA Before and Into the Early Biologics Era - California, USA 1983 - 2007<sup>1</sup>

## Ankle Surgeries



## Wrist Surgeries<sup>#</sup>

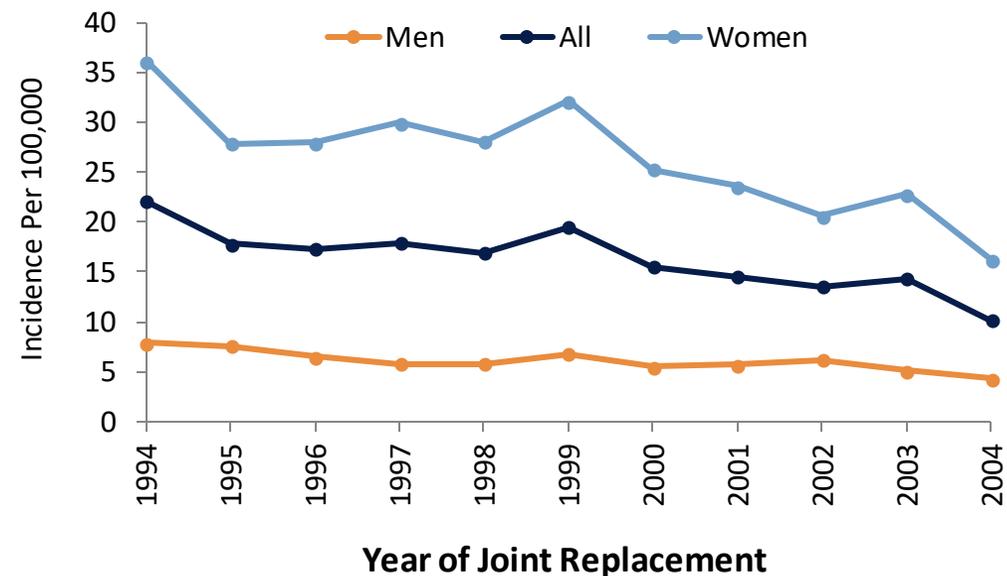


**“Rates of joint surgery in RA peaked in the 1990s and have declined thereafter, suggesting that long-term outcomes of RA are improving.”**

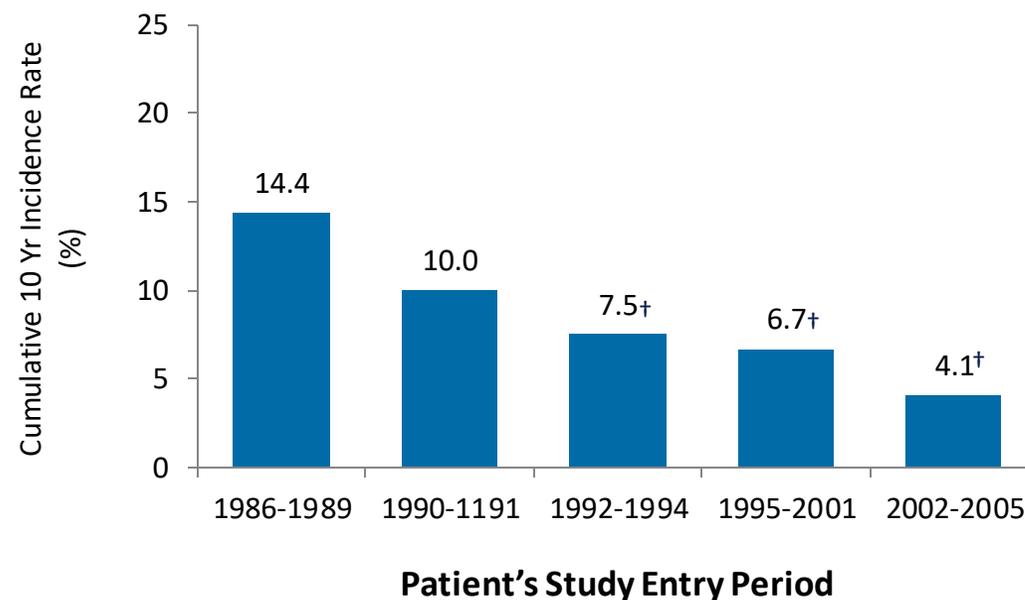
<sup>#</sup> Total wrist and ankle arthroplasty/arthrodesis.  
<sup>\*</sup> Total knee and hip arthroplasty.  
Louie G, et.al. Ann Rheum Dis. 2010;69(5):868-871.

# Joint Surgery Incidence Norwegian and United Kingdom Patients with RA Through Early Biologics Era

Fevang B, et.al. Norway NAR Registry<sup>1</sup>  
1994-2004



“Hand and Foot Surgery Rates in Rheumatoid Arthritis Have Declined From 1986 to 2011”<sup>1</sup>  
“Large-Joint Replacement Rates Remain Unchanged”<sup>2</sup>



2. Yr=year.

1. Fevang B, et.al. Arthritis Rheum. 2007;57(3):529-532.

2. Nikiphorou E, et.al. Arthritis Rheumatol. 2014;66(5):1081-1089.

# Summary



Tighter disease control leads to better clinical and disability related outcomes<sup>1</sup>

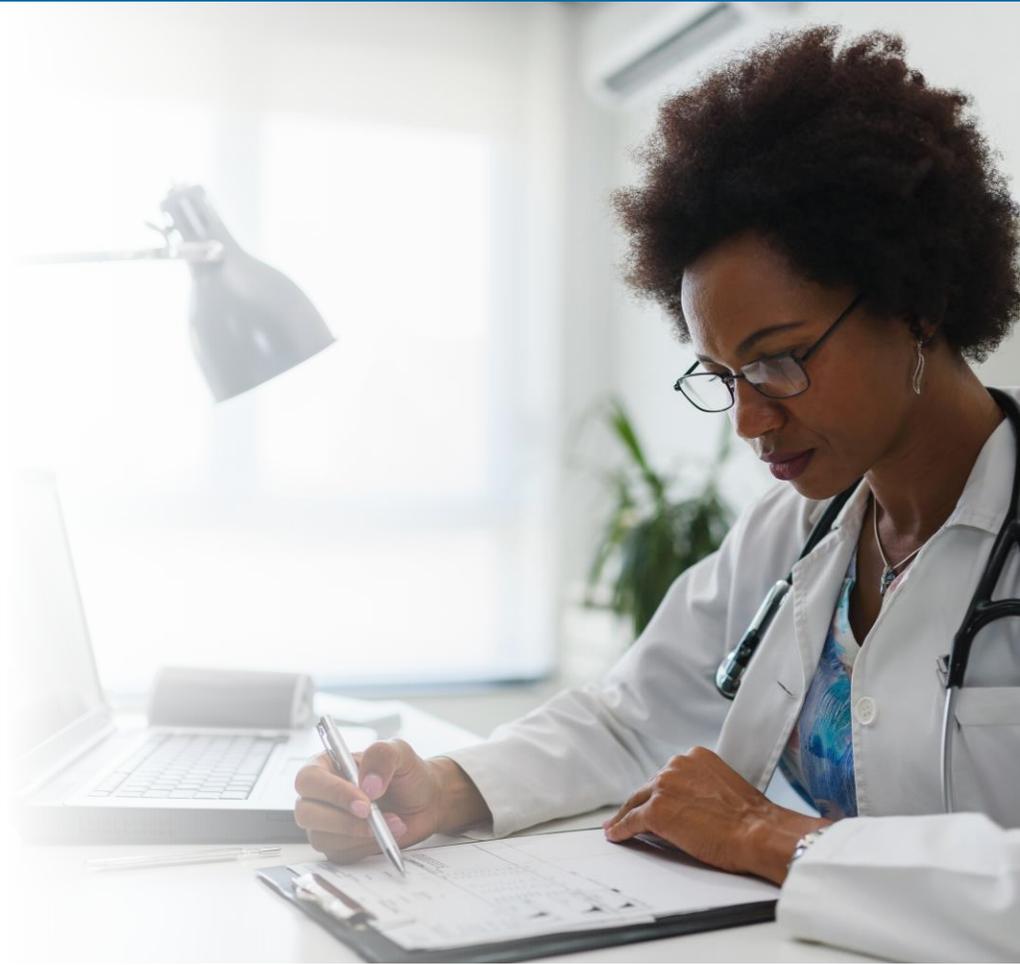


Better clinical outcomes are strongly associated with better work outcomes<sup>2,3</sup>

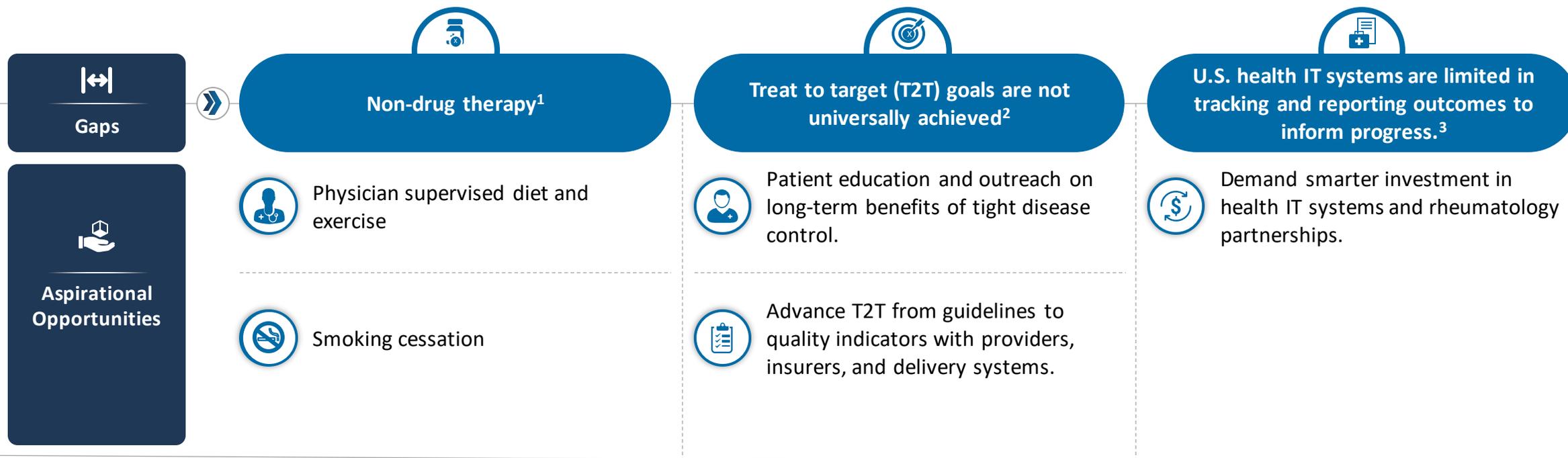


Total costs of RA are lower for patients in remission than other states of disease<sup>3</sup>

Medium joint surgery includes hand, foot, ankle and wrists.  
1.Smolen JS, et al. Ann Rheum Dis. 2010;69(4):631-637.  
2.Taylor P, et al. RMD Open. 2018;4(1):e000615.  
3.Radner et al. Arthritis Res Ther. 2014;16(1):R56.



# How Might We Get Better?



IT=information technology. T2T=treat-to-target.

1. American College of Rheumatology. Rheumatoid Arthritis: Living with Rheumatoid Arthritis. <https://www.rheumatology.org/I-Am-A/Patient-Caregiver/Diseases-Conditions/Rheumatoid-Arthritis>. Accessed October 24, 2020.
2. Harrold L, et.al Clin Rheumatol. 2020;39(2):391-400.
3. American College of Rheumatology. RISE Registry <https://www.rheumatology.org/I-Am-A/Rheumatologist/RISE-Registry>. Accessed September 11, 2020.

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# Disability Impacts of Inflammatory and Mechanical MSD

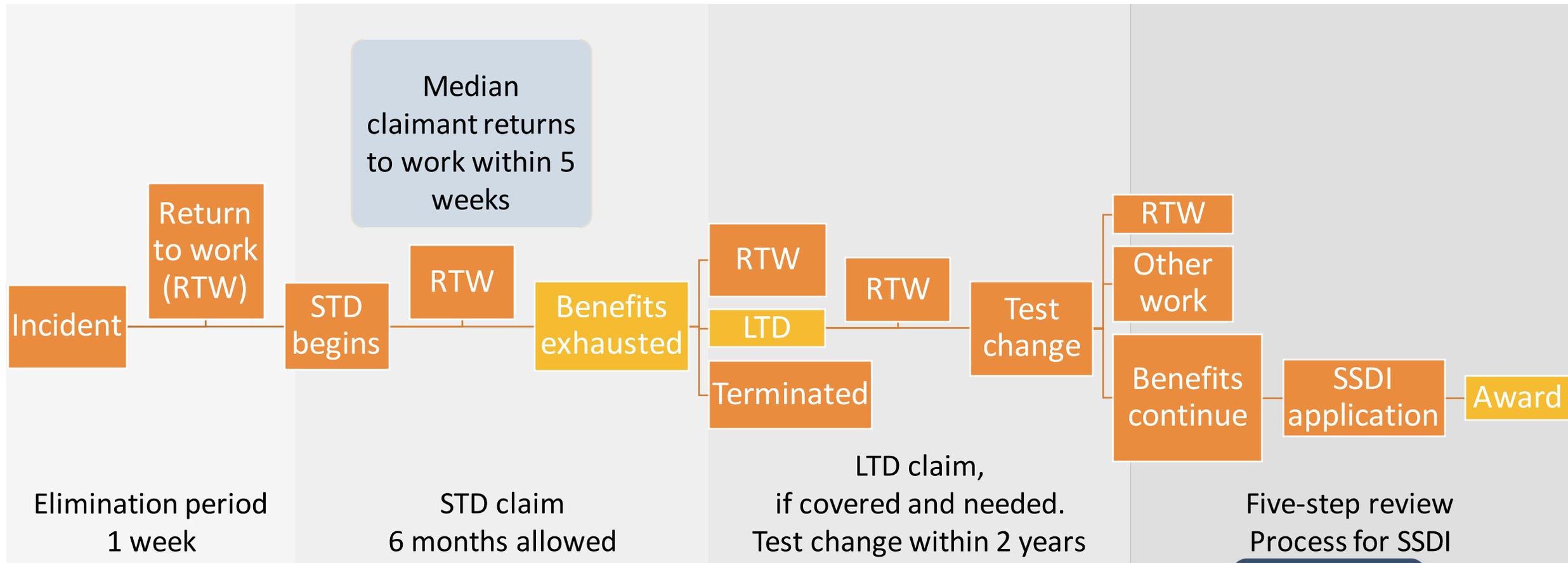
Brian Gifford, Ph.D.

Director, Research and Analytics

Integrated Benefits Institute

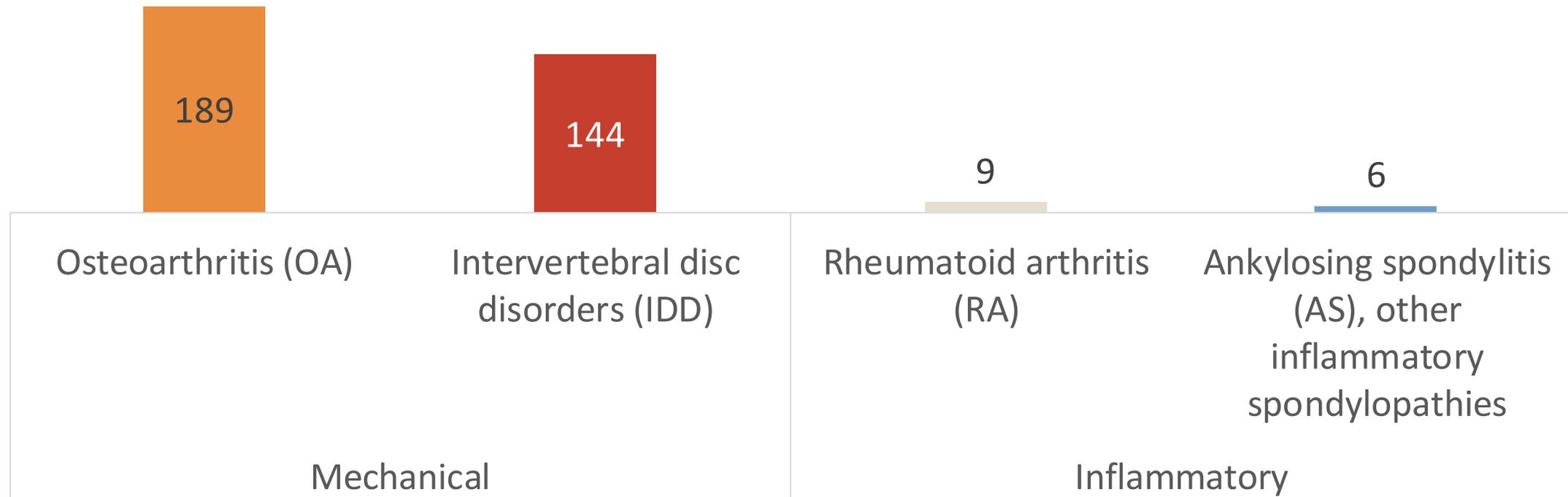


# The Life Cycle of a Disability Leave Event

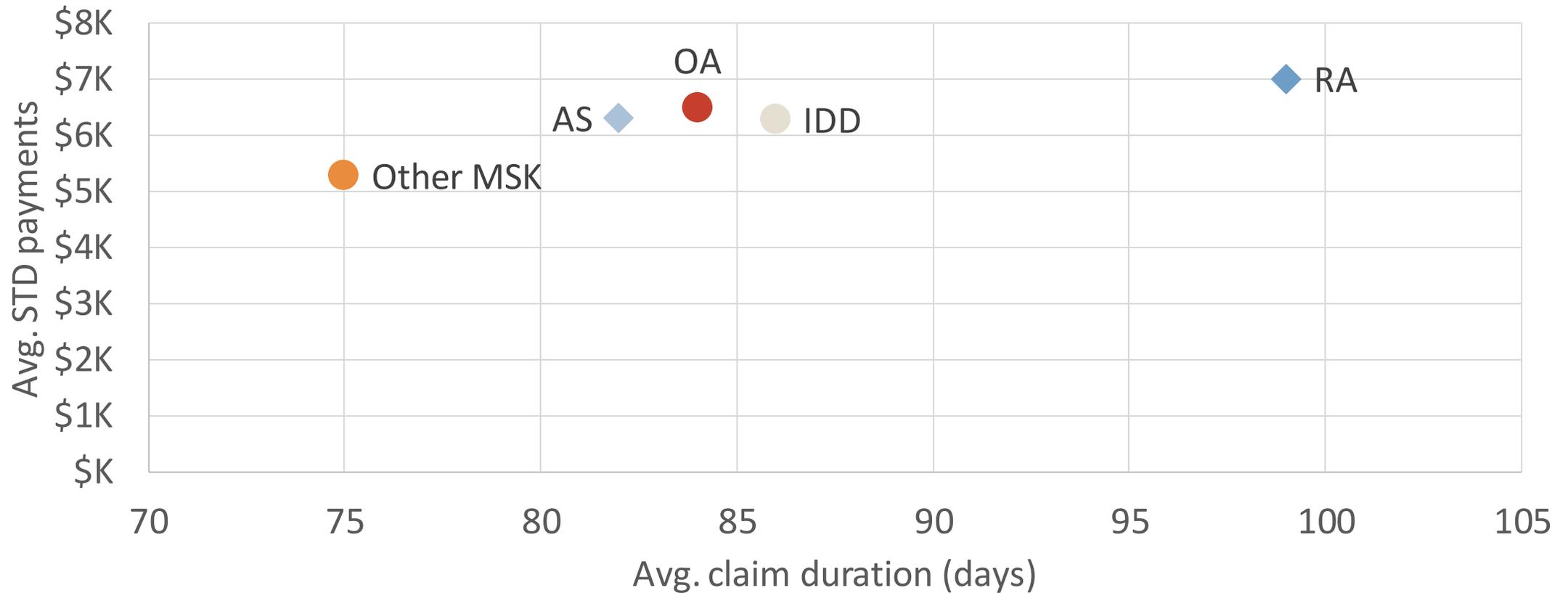


# Low Disability Incidence for Inflammatory Conditions

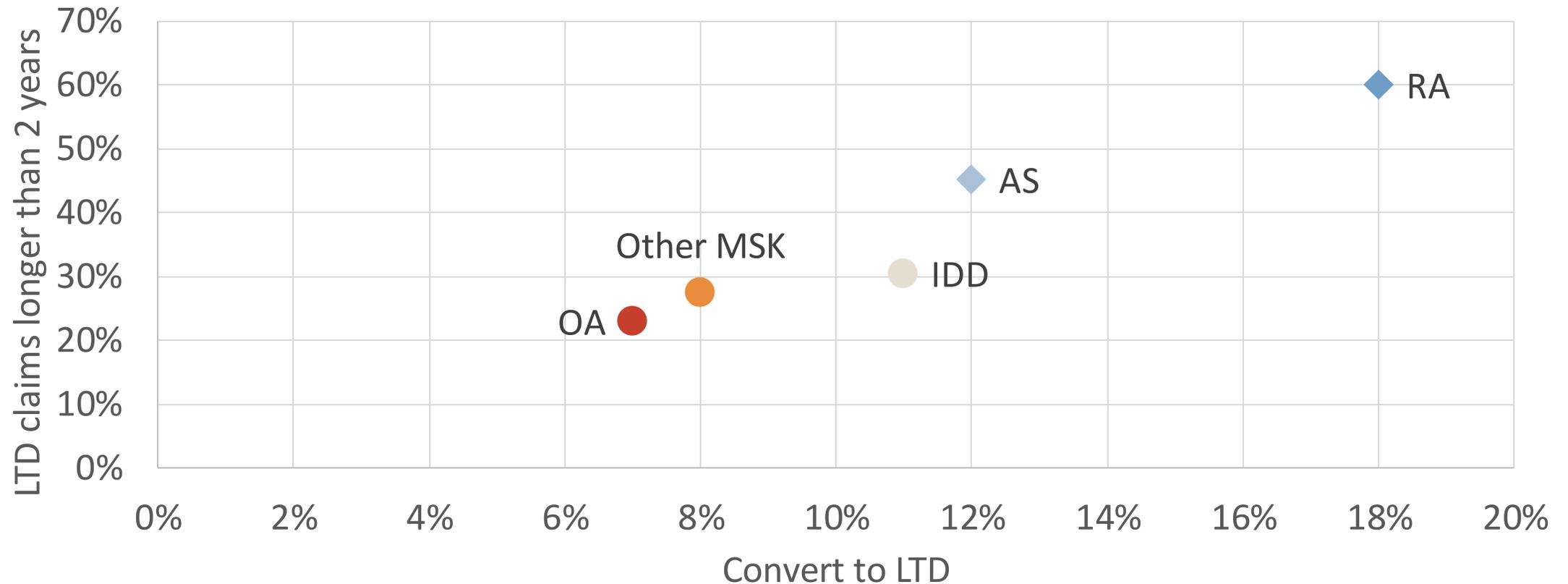
New STD Claims per 100,000



# Long Durations, High Costs

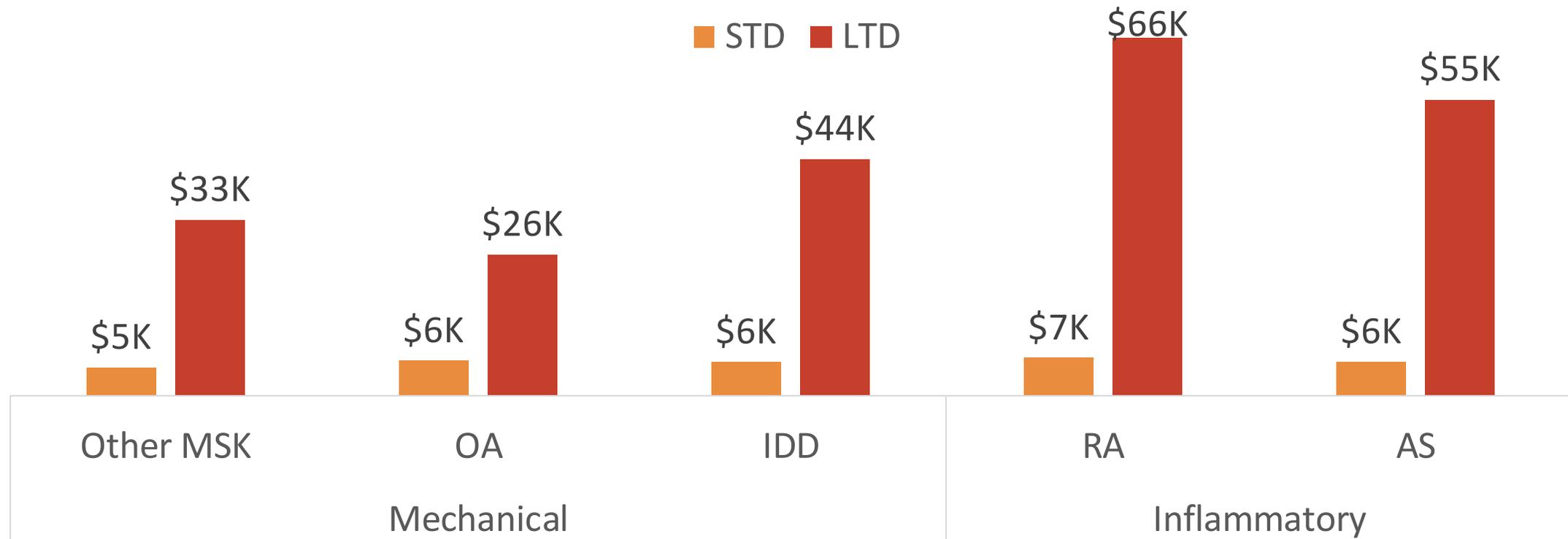


# High Risk of Entering the LTD System, Exiting the Labor Force



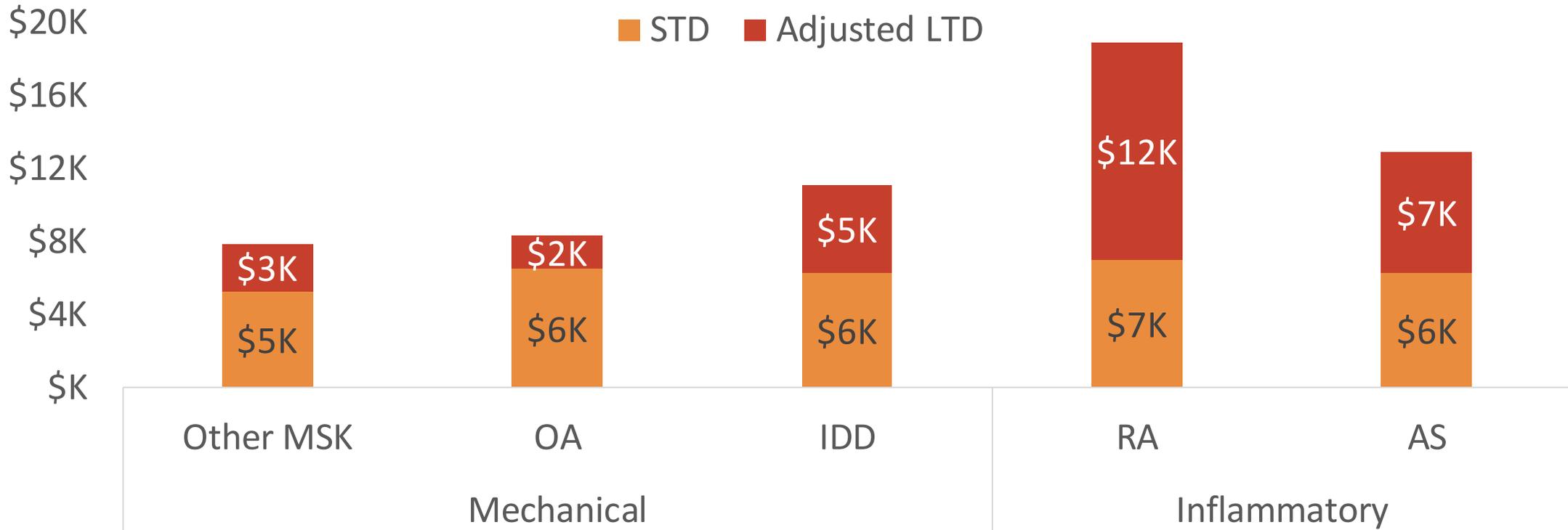
# High Total Costs for Disability Siloes

Average payments per claim



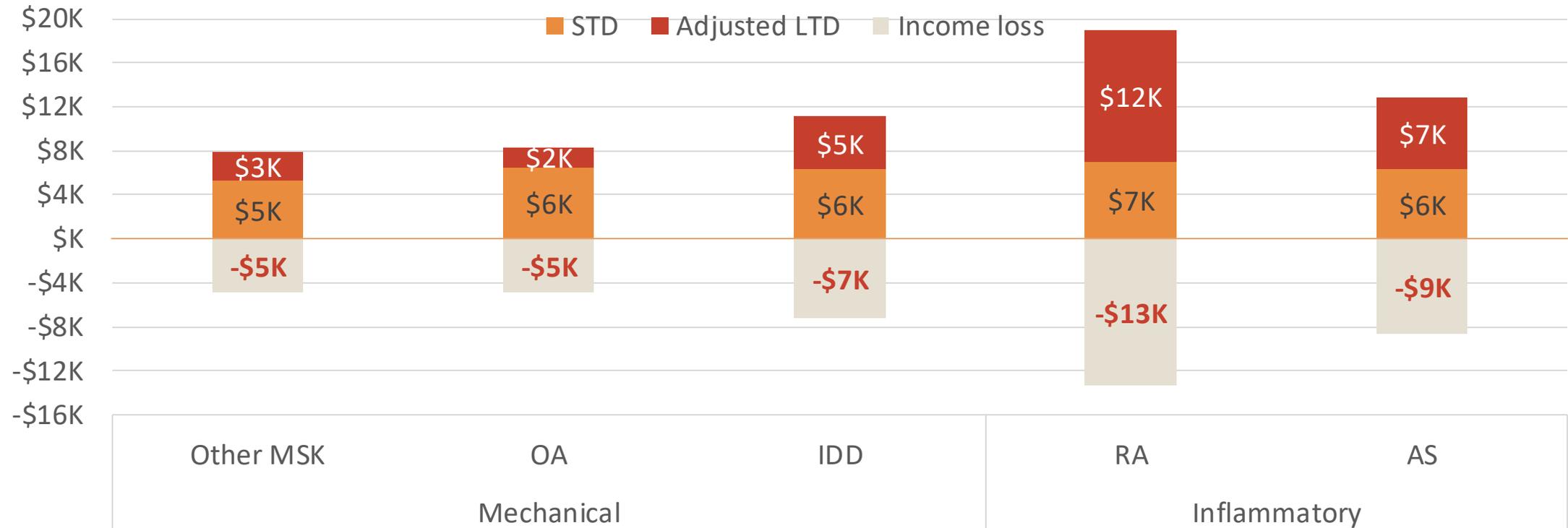
# High Total Costs for the Incident

Average payments per claim



# High Costs Shared by Employees, Employers and Carriers

Average payments per claim, income losses for employee



## Sources

IBI Disability and Leave Benchmarking, 2011-2019

- [ibiweb.org/benchmarking](http://ibiweb.org/benchmarking)

IBI Disability Diagnosis Analyzer

- [ibiweb.org/resource/disability-diagnosis-analyzer](http://ibiweb.org/resource/disability-diagnosis-analyzer)

## Questions?

[bgifford@ibiweb.org](mailto:bgifford@ibiweb.org)

[ibiweb.org](http://ibiweb.org)



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