CMS Transforming Clinical Practice Initiative- Cultivate Joy In Work

HMSA PT PO Collaborative,

CMS sponsors and supports a Transforming Clinical Practice Initiative (TCPI), which is kind of an excellent resource for interested providers/vendors. You can join communities based on subjects of interest. The site does require registration and log in. There's actually interesting stuff to be found. You get the occasional group emails from people looking for best practices or previous experiences that one can choose to ignore or respond to.

I found this thing called a Change Package the other day. I navigated to Sustainable Business Operations and there's a section titled "Secondary Drivers/Change Concepts" with a subsection titled "Workforce Vitality and Joy in Work." Well, if that's not what we're trying to do, what is?

The sections are organized in Change Tactics and related Documents. There's not a one-to-one relationship between the Tactics and Documents. I included active links for the Documents.

Section 3.2.3 Cultivate Joy: Cultivate joy in work

Change Tactics

Celebrate successes
Emphasize staff development and training
Make sure performance standards and expectations are clear
Implement reward and recognition systems for staff at all levels
Engage staff in redesign efforts
Communicate frequently and openly to all staff
Promote kindness to each other and to patients
Consider using gratitude practices in meetings
Get a masseuse to come give 15-minute chair massages every quarter
Patient stories, family stories, share in community
Practice joy in work committee
Institute for Healthcare Improvement (IHI) Joy in Work and Reducing Burnout series
Align compensation with team-based quality measures
Get staff and provider input at all levels
Hold fun social events together
Conduct staff health and wellness initiatives
Provide conflict resolution training
Provide nonviolence communicative training
Staff retreats

Include patient feedback in staff reviews
Use incentive plans to reward participation at multiple points, both data-driven and peer evaluated
Encourage each person to have a personal development that is updated annually
Use shout outs and "walls of success"
Post quality data and gains
Involve staff in developing training for other staff
Smile – it's contagious and makes people happier

Documents (The accompanying descriptions are from the TCPI web site.)

ACP Addressing Clinical Burnout

American College of Physicians - - The ACP Making the Case to Address Clinician Burnout resource will help start a conversation, articulate the reasons, and facilitate a constructive meeting with leadership about clinician burnout and wellbeing, This module will provide the user with the information and tools necessary to approach relevant stakeholders about clinician burnout. CME credit is available. Registration and login are necessary.
https://ethosce.acponline.org/practice-advisor

AMA Creating Foundation for Joy in Medicine

AMA - 2017 - This AMA Steps Forward module provides steps to create the organizational structures that can result in more satisfied and productive physicians and other health professionals. This module provides tools to guide in creating a joyful practice environment and thriving team. A more engaged, satisfied workforce will provide better, safer, more compassionate care to patients, which will, in turn, reduce the total costs of care. CME credits are available.
https://edhub.ama-assn.org/steps-forward/module/2702510

AMA Improving Physician Resiliency

Claudia Finkelstein, AMA STEPSforward - 2015 - Resiliency is the ability to adapt to and bounce back from the stress of the clinical environment. Physicians who are resilient are better equipped to handle the many challenges presented by patient care and therefore less likely to experience burnout. Promoting the well-being of physicians translates to benefits for patients and the practice as a whole.
https://edhub.ama-assn.org/steps-forward/module/2702556

IHI It Isn't Joy in Work; Joy IS the Work

IHI - 2017 - This IHI article describes how leaders can embrace their role as facilitators of joy in work by providing seven design principles.
http://www.ihi.org/communities/blogs/-it-isn-t-joy-in-work-joy-is-the-work-

IHI Joy in Work Video Series

Institute for Healthcare Improvement - - IHI is partnering with experts around the world to offer new thinking and resources around joy in work, to share principles and techniques that enable the workforce to truly thrive, not just persevere. This series of 4 videos covers a range of topics including what joy in work encompasses and why it's important, how does joy advance health care, how will we know when there's joy in the healthcare workforce and impediments of joy.
http://www.ihi.org/Topics/Joy-In-Work/Pages/default.aspx

IHI Restoring Joy in the Healthcare Workforce

Derek Feeley and Stephen J Swensen, MD, IHI - 2016 - This Institute for Healthcare Improvement (IHI) article provides fundamental reasons why focusing on joy in healthcare is important and a framework that can be followed to restore, foster and nurture joy in the healthcare workforce.
http://www.ihi.org/resources/Pages/Publications/Restoring-Joy-in-Work-Healthcare-Workforce.aspx
(Link is to an IHI publication, requires login. I've forgotten if I've registered in the past or not.)

Here's a link to another related IHI document that isn't in the TCPI Change Package about why focusing on professional burnout is not enough.
https://journals.lww.com/jhmonline/Fulltext/2018/04000/Why_Focusing_on_Professional_Burnout_Is_Not_Enough.3.aspx#pdf-link

NP SAN The Science of Joy and Burnout

Nurse Practitioner SAN - 2017 - On this 1 hour webinar, Joseph Reyes, MS.Ed, Research Program Specialist at the American Association of Nurse Practitioners discusses the following objectives: A review of scientific literature on clinician burnout, how joy can systematically improve health care, review workforce vitality improvement tactics, audience appraisal on joy-related measures. Recognizing the value of joy in systems maintenance, employee vitality, and patient satisfaction is paramount to business success.
https://vimeo.com/231744351

The following resource link was provided by the Director of CMS' Office of Provider Engagement:
"I think that the list of resources you provided is very good. I would definitely include the NAM Action Collaborative on Clinician Well-being and Resilience - there is an extraordinary amount of material including the "Knowledge Hub".
https://nam.edu/initiatives/clinician-resilience-and-well-being/

Lastly, here's a link to CMS' Data at Point of Care (DPC) pilot. This uses cumulative administrative/billing data to fill in gaps in history and EHR records like facility use, labs and prescription orders or immunization orders from other providers, procedures, diagnoses (No more MEAT!) from sources outside our practices. CMS anticipates accumulating 4 years of such data and making it accessible at points of care, without having to navigate outside of our EHRs for access. It holds promise for decreasing administrative burden. The pilot will be a sandbox environment without true PHI. You need experience with Blue Button 2.0 to play. I'm not going into a BB2.0 discussion unless someone really wants because at first glance it requires EHR vendor participation and Fast Healthcare Interoperability Resources (I don't know how to play with FHIR, haha.). That might be something to discuss with Elation because they're looking into BB2.0 and DPC.

https://dpc.cms.gov/

OK, that's it. And more than enough for now, I think.

Aloha,
Roger
Roger Kimura, MD
On behalf of PMAG and its Physician Wellness Committee (Galen Chock, MD (Chair), Emily Diep, MD, Vince Yamashiroya, MD, Roger Kimura, MD).
08/28/2019

Addressing Physician Burnout

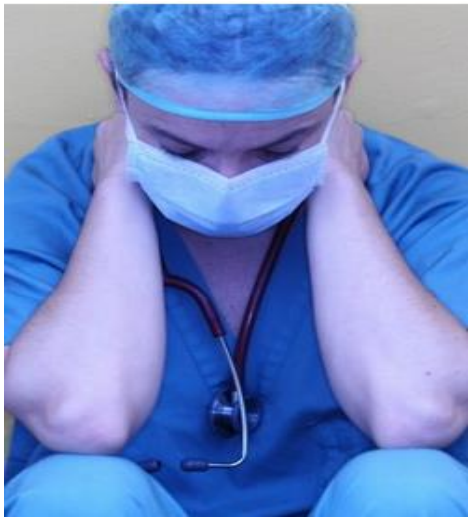
Karen Miotto, MD
UCLA Department of Psychiatry
Chair, UCLA Physician Wellness Program
Semel Institute for Neuroscience and Human Behavior

David Geffen School of Medicine

Burnout: Definition

- Burnout is a syndrome of:
  - **Emotional depletion** - Feeling emotionally depleted, frustrated, tired of going to work, hard to deal with others at work
  - **Detachment/cynicism** - Being less empathic with patients/others/self, detached from work, seeing patients as diagnoses/ objects/ sources of frustration
  - **Low personal achievement** - Experiencing work as unrewarding, "going through the motions"

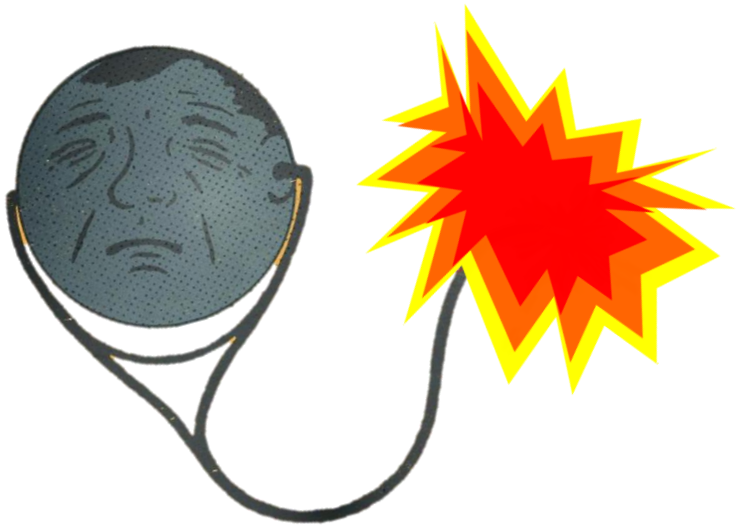
Burnout more likely to develop
when *job stress* is high and
personal autonomy is low



Maslach, 2006

Burnout: Stress-Related Process

- It is a response to the prolonged exposure to occupational stress which negatively affects the individuals, the organizations, and patients
- Burnout is an imbalance between job demands cognitive, emotional, situational demands and the resources



Maslach & Leiter, 2008 The Journal of Applied Behavioral Science

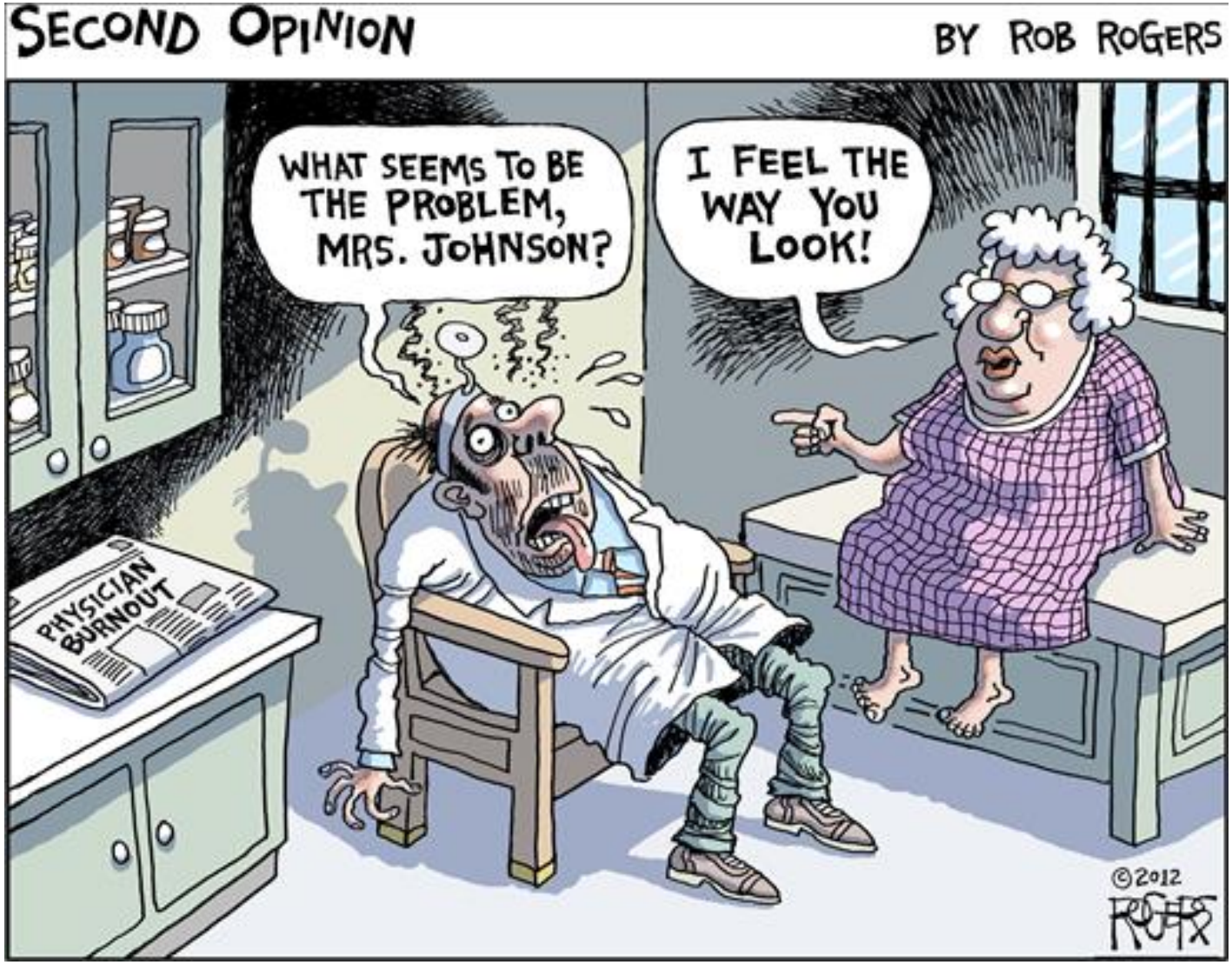
Drivers of Burnout and Engagement

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

Consequences of Burnout

- Patient satisfaction and adherence
- Medical errors [1-2]
- Professionalism[3]
- Patient Satisfaction[4]
- Reduce hours/turnover[5]
- Suicidal Ideation[6]

[1]West et al., 2006 *JAMA*
[2]West et al, 2009 *JAMA*
[3]Dyrbye, 2013 *JAMA*
[4] Shanafelt, 2009 *Ann Intern Med*
[5]Shanafelt, 2010 *Ann Surg*
[6]West, 2011 *JAMA*


SECOND OPINION
BY ROB ROGERS
WHAT SEEMS TO BE THE PROBLEM, MRS. JOHNSON?
I FEEL THE WAY YOU LOOK!
PHYSICIAN BURNOUT
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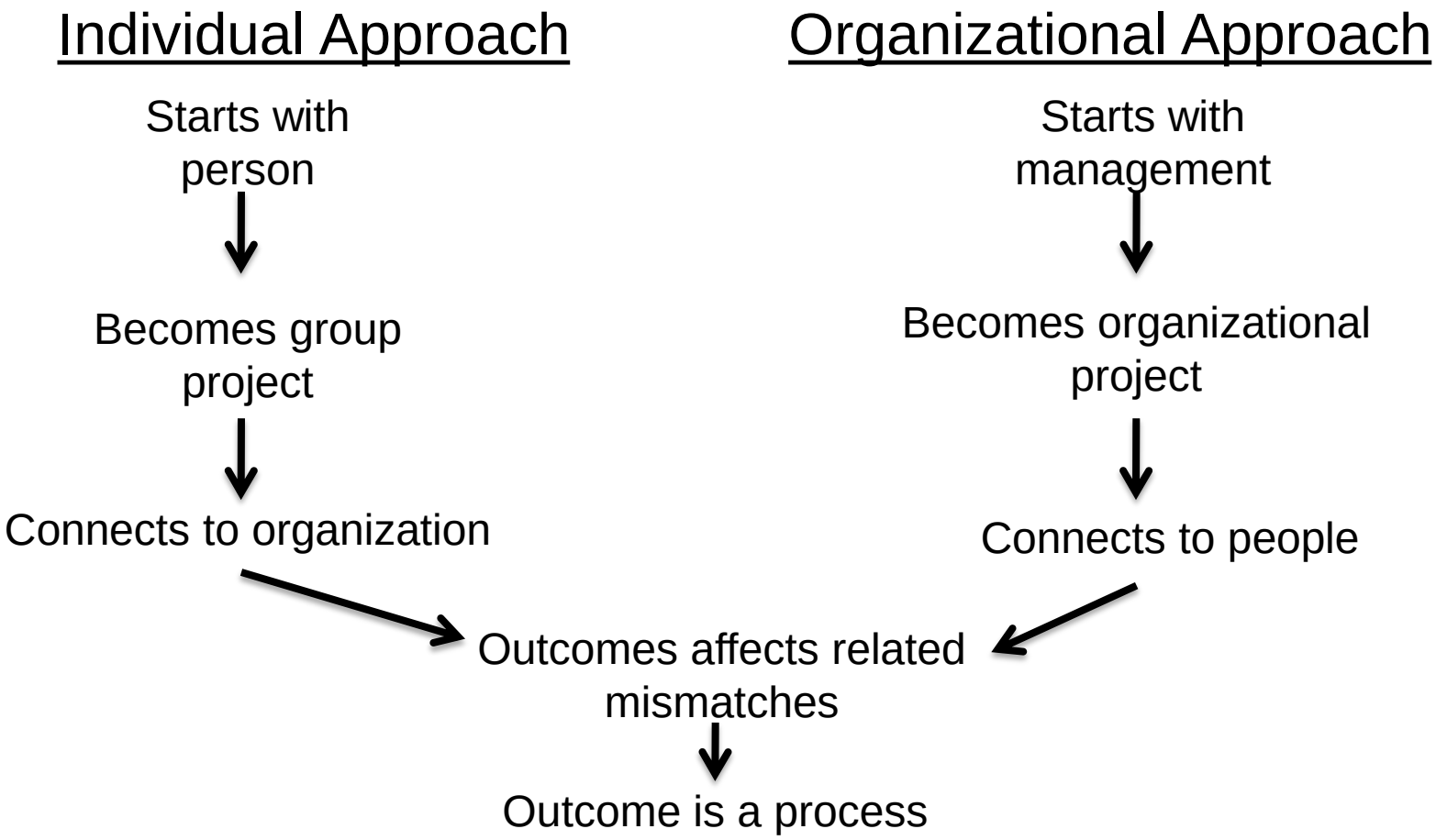
Preventing & Addressing Burnout



Maslach & Leiter, 1997 "The Truth About Burnout: How Organizations Cause Personal Stress and What to do About It."

Physician Well-Being: Approach Summary

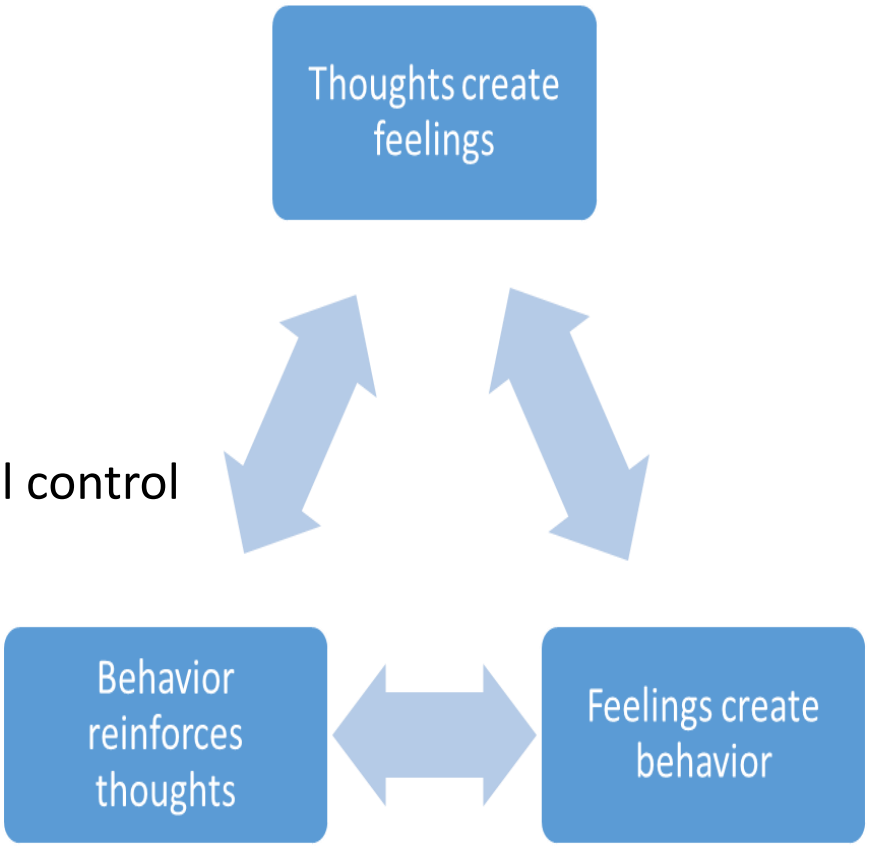
	Individual	Organizational
Workload	Part-time status	Productivity targets Duty Hour Requirements Integrated career development
Work Efficiency/ Support	Efficiency/Skills Training	EMR (+/-?) Staff support
Work-Life Integration/ Balance	Self-care Mindfulness	Meeting schedules Off-hours clinics Curricula during work hours Financial support/counseling
Autonomy/ Flexibility/ Control	Stress management/Resiliency Mindfulness Engagement	Physician engagement
Meaning	Positive psychology Reflection/self-awareness Mindfulness Small group approaches	Core values Protect time with patients Promote community Work/learning climate

West (2015) "Interventions to Reduce Physician Burnout and Promote Physician Well-Being"

Individual Steps to Take

- Time Out Time Off
  - Monitor energy and emotional levels
  - Delegate tasks
  - Make use of vacation days
- Cultivate an adaptive attitude
  - Appreciation of positive events
  - Identify issues that are out of personal control
  - Developing an adaptive attitude
    - Accepting each situation as it comes
  - Self compassion
- Resilience tools and techniques
- Seek mentors, consider a coach

peer exchange groups, mental health treatment when needed



Swetz et al., (2009) *Journal of Pallative Medicine*


Time for
a BREAK

Klick Health | AMA | STEPSforward

https://www.stepsforward.org/

Series of 35+ evidence-based online modules that help identify risk factors for burnout and adopt organizational and individual tool and techniques to alleviate excess stress and mitigate burnout

Current modules address four key areas:

- Practice efficiency and patient care
- Technology and innovation
- Patient health
- Physician health

CME Credits are granted upon completion of modules

Klick Health | AMA | STEPSforward

Preventing Physician Distress and Suicide

Recognize and respond to physician distress and suicidal behavior

CME AVAILABLE

Get started >

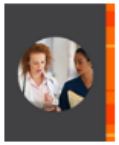
Physician wellness: preventing resident and fellow burnout

Learn how to foster and implement a culture of wellness focused on the unique experiences of residents and fellows.

CME AVAILABLE

In progress

NEW



Put MACRA Changes into Practice.

Start with the Payment Model Evaluator, developed by the AMA.

Go to tool >

Improving physician resiliency

Foster stress hardiness and protect against physician burnout.

CME AVAILABLE

In progress

Preventing physician burnout

Improve patient satisfaction, quality outcomes and provider recruitment and retention.

CME AVAILABLE

In progress

Nine Organizational Strategies


Acknowledge and assess the problem


Harness the power of leadership


Develop and implement targeted work unit interventions


Cultivate community at work


Use rewards and incentives wisely


Align values and strengthen culture


Promote flexibility and work-life integration


Provide resources to promote resilience and self-care

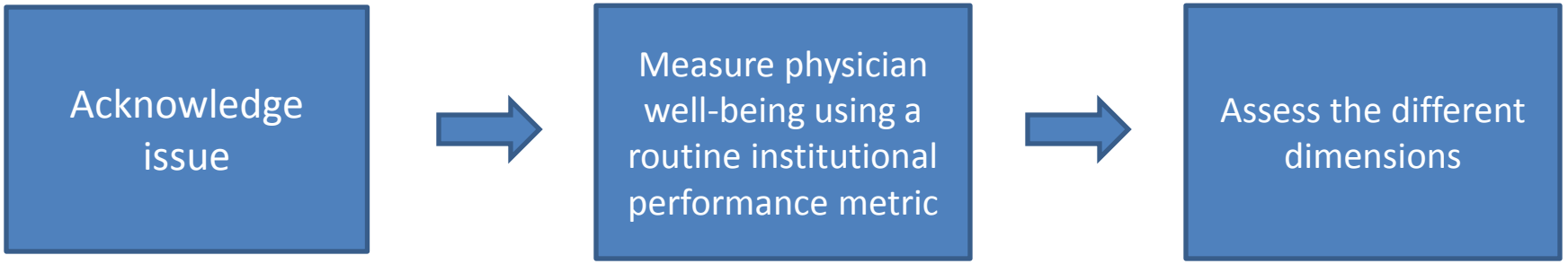

Facilitate and fund organizational science

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

Strategy 1

Acknowledge and Assess the Problem

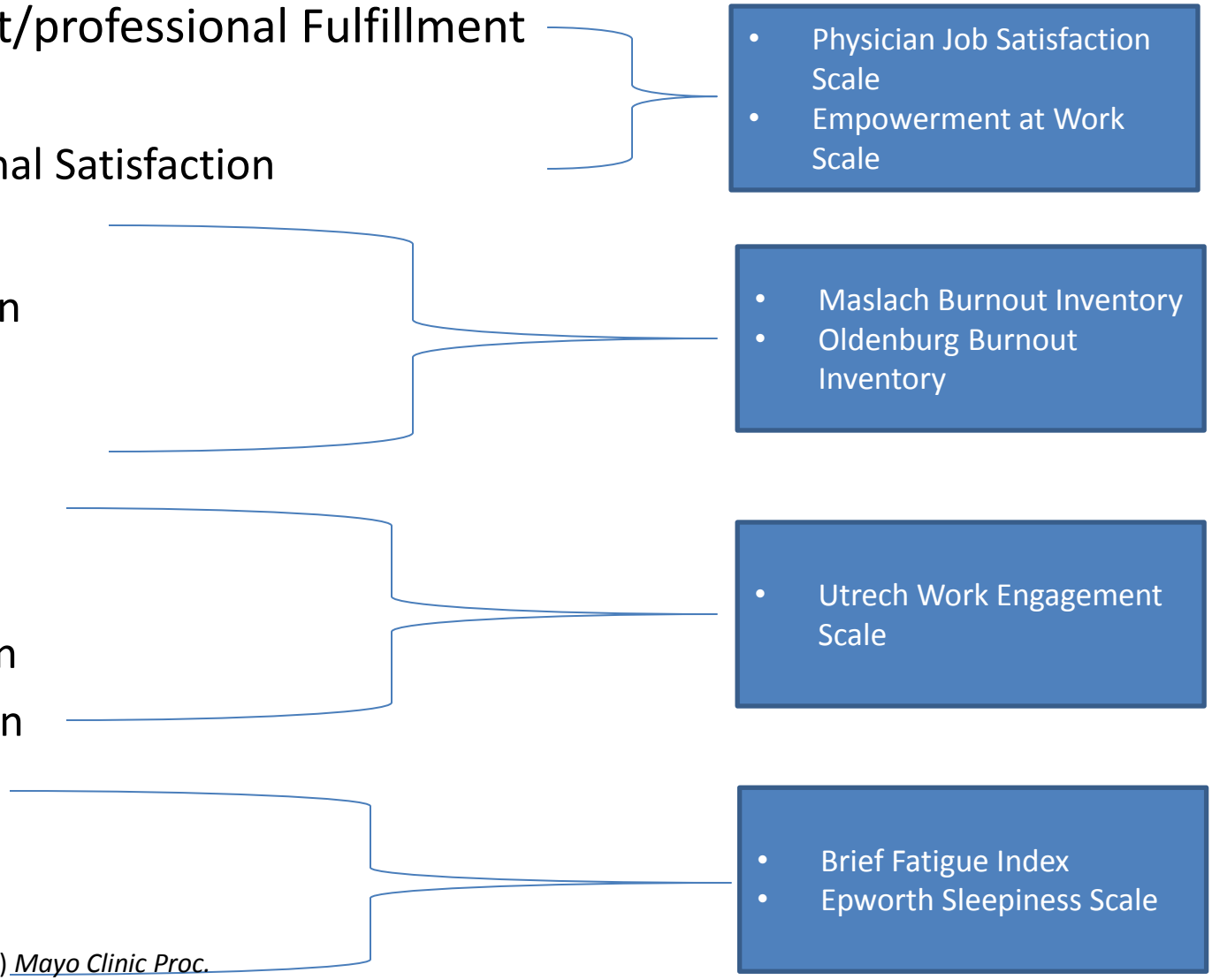
- Naming the issue and being willing to listen demonstrates that the problem is recognized at the highest level of the organization
  - Creates necessary trust for physicians and leaders to work together to make progress



Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

Assessing Dimensions of Physician Well-being and Instruments

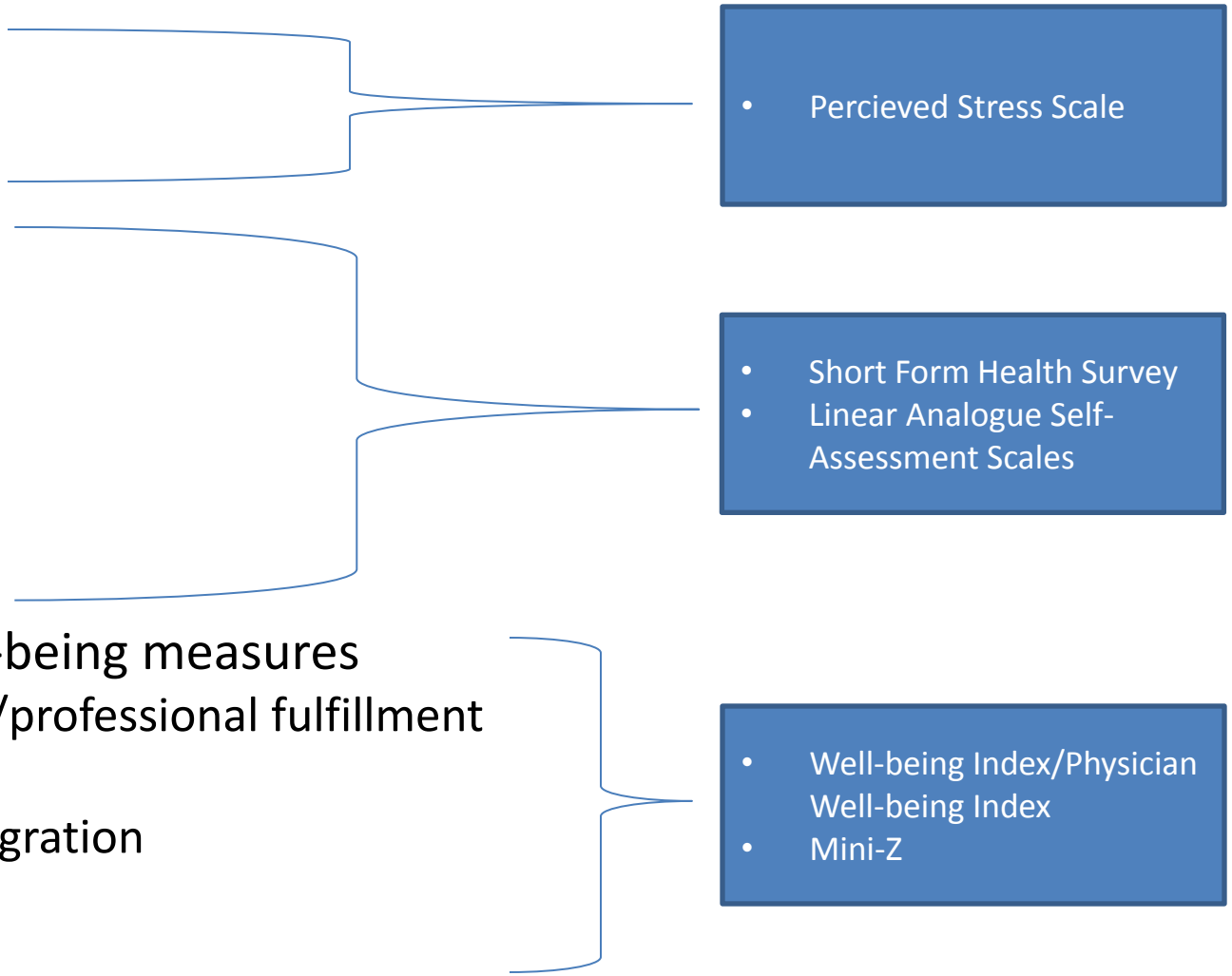
- Achievement/professional Fulfillment
  - Meaning
  - Professional Satisfaction
- Burnout
  - Exhaustion
  - Cynicism
  - Inefficacy
- Engagement
  - Vigor
  - Dedication
  - Absorption
- Fatigue
  - Energy
  - Sleep



Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

Assessing Dimensions of Physician Well-being and Instruments

- Stress
  - Work stress
  - Anxiety
- Quality of Life
  - Physical
  - Mental
  - Emotional
  - Social
  - Financial
  - Overall
- Composite well-being measures
  - Achievement/professional fulfillment
  - Burnout
  - Work-life integration
  - Stress
  - Fatigue



Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

Strategy 2

Harness the Power of Leadership

Leadership behaviors of the physician supervisor plays a critical role in the well-being of physicians they lead

Survey of physicians and scientists working at large healthcare organizations (n= 2813)

Results found that:

- Supervisor scores composite leadership scores (e.g. treats me with respect and dignity, is interested in my opinion) were strongly correlated with the burnout and satisfaction scores of individual physicians
- Each 1-point increase in composite leadership score associated with:
  - 3.3& decrease in likelihood of **burnout**
  - 9% increase in likelihood of **satisfaction**

Shanafelt et al. (2015) *Mayo Clinic Proc*

The secret of Mayo Clinic's physician-leader training program

By **Jessica Sweeney-Platt** | December 1, 2016

Performance Insight

Data Snapshot

53%

of healthcare organizations lack a physician leadership development program

Key Takeaways

1. Teamwork matters. Mayo trains and hires physicians for team-based care, and focuses on building social capital and interconnectedness within teams and across the organization.
2. Good leadership programs have demonstrable ROI. With Mayo, it comes through both "action-learning projects" and a strong bench of future physician-leaders
3. Maintaining a clinical connection is key. Mayo's leaders continue to practice medicine, and leadership positions rotate every 8 years.

Leadership Development Programs @ Mayo Clinic:

1. "**Leadership Prescription**" for division and department chairs and executive teams in the first year of their eight-year chairmanship stints
2. "**Leadership Challenge**" which invites physician/administrator dyads of people tapped for succession into leadership positions throughout the organization
3. "**Fresh Eyes**" for division leaders from 24 Mayo-affiliated hospitals.

Strategy 3

Develop and Implement Targeted Interventions

Stepwise Process:

1. Assemble leadership team of 2-3 physicians
2. Leadership team meets with work unit leaders to get insights on specific local challenges
3. Create focus groups to focus on specific issues/challenges in the local work unit
   - Identify, develop, and implement an initial intervention
   - "What changes could be made to address this problem rapidly if your work unit and its leader made it a priority?"
4. Passing the baton back to the work unit leader to propose changes and facilitate implementation
5. Work unit leader facilitates the change
6. Once change is implemented, assess the impact
7. Move on to the next dimension for improvement and repeat

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

TeamSTEPPS®
Team Strategies & Tools to Enhance Performance & Patient Safety

TeamSTEPPS® 2.0 Curriculum

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TeamSTEPPS Online Training

Sign up for online training in TeamSTEPPS.

https://www.ahrq.gov/teamstepps/index.html

Strategy 4

Cultivate Community at Work

Peer support has always been critical to learning how to navigate the ups and downs of a career in medicine

- Informal or formal support
  - Encompasses a wide range of activities:
    - Celebrating achievements (personal/professional)
    - Supporting each other (through medical errors, adverse events, malpractice suits)
    - Sharing ideas
- Benefits of peer support:
  - Increase productivity expectations, documentation requirements, clerical burden
  - Improvement in finding meaning in work
  - Reduction on burnout levels
  - Sense of belonging

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

UCLA HEALTH and DGSOM
Fitness Interest Survey

Collaboration between UCLA Recreation Center, UCLA Stroke Center, UCLA Occupational and Employee Health, UCLA Medical Staff Health Program, and UCLA Health System

- Assess physical resource interest survey
- Create networks of interested participants for different exercise activities
- Using exercise to promote community amongst healthcare providers across departments

Strategy 5

Use Rewards and Incentives Wisely

Productivity-based compensation can increase rates of burnout

- Attempts to increase productivity may erode quality of care and increase stress and other unintended consequences

Alternatives to productivity-based pay:

- Incentivizing quality rather than only productivity/volume
- Salaried compensation
- Incorporate dimensions of self-care and well-being as part of the formula to calculate productivity-based pay
  - May provide a safeguard to counter overworking
- Offer alternative rewards than pay:
  - Greater flexibility
  - Protected time to pursue personally meaningful aspects of work

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

Strategy 6

Align Values and Strengthen Culture

Most health care organizations have an altruistic mission statement that centers on serving patients and providing them the best possible medical care

- An organization's culture, values, and principles determine whether it will achieve its missions

It is critical for organizations to

- Be mindful of factors that influence culture
- Assess ways to keep values fresh
- Periodically take stock of whether actions and values are aligned

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

Goals of Healthcare Organizations

- Triple Aim - compass to optimize health system performance
  - Enhancing patient experience
  - Reducing costs
  - Improving population health
- The health care workforce reports widespread burnout and dissatisfaction
  - Lower patient satisfaction
  - Reduced health outcomes
  - Increasing costs
- Quadruple Aim: added the goal of improving the work life of health care providers

Bodenheimer & Sinsky (2014) *Annals of Internal Medicine*

The UCLA Experience

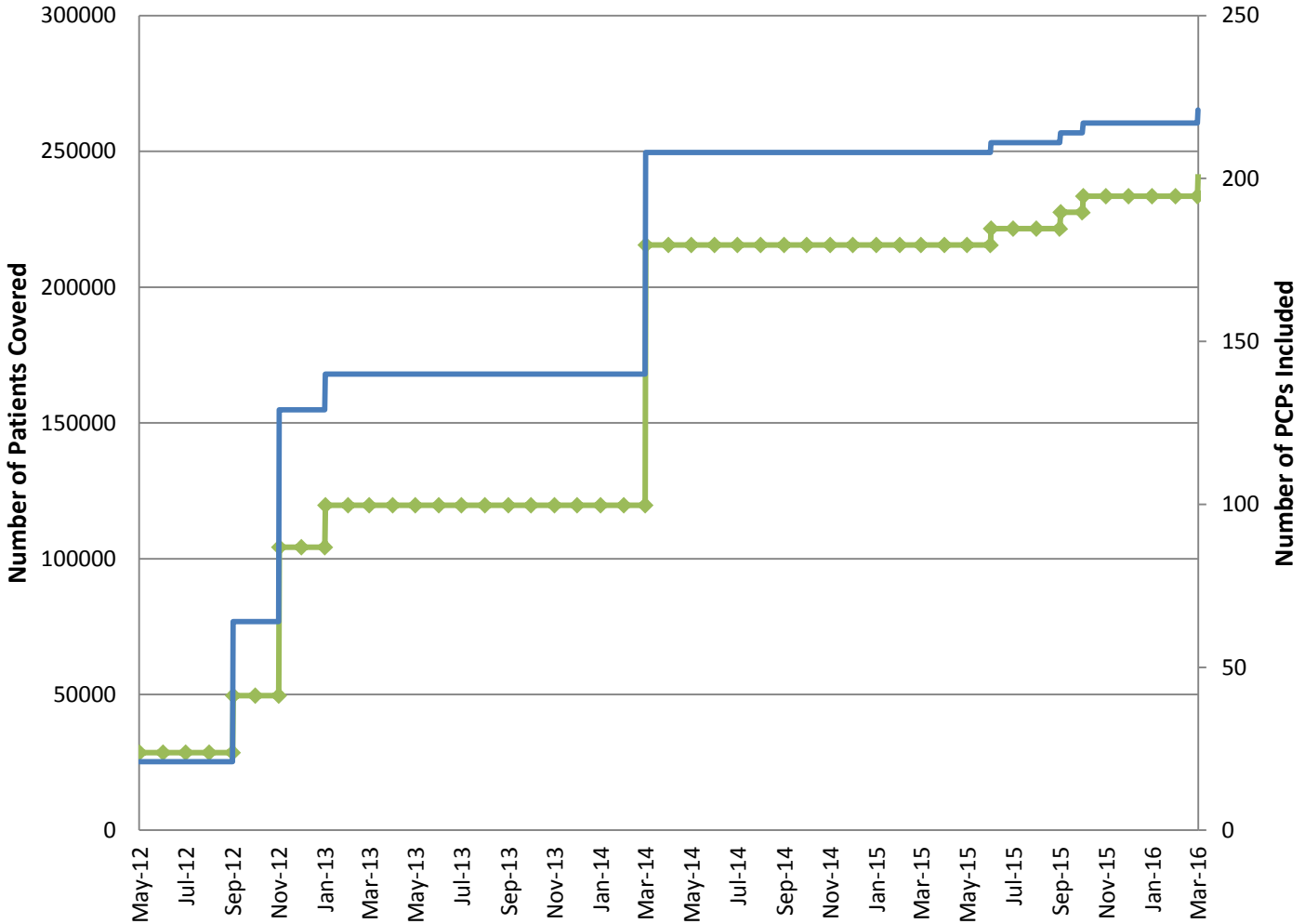
Triple Aim +1

How UCLA is working to support our Primary Care MDs:

- MyMeds
- Pharmacist Consultation
- Advanced Care Planning Support
- Comprehensive Care Coordinators
- Pharmacy Refill Support
- Valuing Opinions and observations of PCP
- Standardizing Support
- Increasing MA Role
- Scheduling and Compensation Experiments
- Use of Scribes
- Connecting PCP with Senior Leadership
- New On-Boarding Program
- After Hours Nurse Advice Line
- Ambulatory Care Protocols

The UCLA Experience

Timeline of Patient and PCP Growth



31 sites

5 sites

Strategy 7

Promote Flexibility and Work-Life Integration

Physicians are nearly twice as likely to be dissatisfied with work-life integration as US works in other fields

- Approximately 45% of physicians work more than 60 hours per week compared to less than 10% of workers in other fields
  - High work hours make it difficult for physicians to integrate their personal and professional lives

Organizations can develop strategies to provide physicians with:

- Options to tailor their work hours
- Flexibility in when and how they work
- Vacation benefits, coverage for life events, approach to scheduling, strategy for coverage for nights and weekends

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

The UCLA Experience

Context/Determinants of Physician Personal Satisfaction

- **Autonomy and work control**
  Independence and ability to control pace and content of clinical care
- **Practice Leadership**
  Satisfaction is high when values and clinical experience are well aligned with leaders. Satisfaction increased when leadership took a balanced approach to new practice-wide initiatives, maintaining physician professional autonomy when possible.
- **Collegiality, fairness, and respect**
  Relationships with colleagues (including leadership), outside providers, patients, and finally relationships with payers all added to satisfaction.

Friedberg MW, Chen PG, Van Busum KR, Aunon FM, Pham C, Caloyeras JP, Mattke S, Pitchforth E, Quigley DD, Brook, RH, Crosson FJ, Tutty M. Factors affecting physician professional satisfaction and their implications for patient care, health systems, and health policy. Santa Monica, CA; RAND, 2013.Publication RR-439-AMA.

Strategy 8

Provide Resources to Promote Resilience and Self-care

Organizations should provide resources that make it easier for physicians to implement individual strategies to prevent burnout, deal with distress, and promote well-being

Self-calibration resources:

- Work-life integration
- Exercise/fitness
- Sleep habits
- Diet
- Personal financial health
- Relationships
- Hobbies
- Preventive medical care

Skills training resources:

- Cultivating resilience
- Positive psychology and mindfulness exercise
- Narrative medicine
- Approaches to work-life integration

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

UCLA Mindfulness Awareness Research Center (MARC)

- Offers classes and workshops to the general public, teaching the skills of mindfulness across the lifespan
- Fosters and publicizes research to support the scientific benefits of mindful awareness
- Brings mindfulness to professionals through UCLA's medical education program-including doctors, medical students, staff and faculty
- Offer mindfulness tools and classes to support mental health professionals

C-Space (For UCLA Medical Center Staff)

- C_Space is a room for calm, creativity, connectedness and compassion solely dedicated to the faculty, staff and academic personnel of UCLA.
- C Space offers FREE yoga and tai chi/qigong for UCLA Medical Center staff and employees

Strategy 9

Facilitate and Fund Organizational Science

- Develop evidence-based strategies to reduce burnout and promote engagement that other institutions can implement through organizational science
  - Develop new metrics
  - Establish national benchmarks
  - Implement practice analytics
  - Conduct intervention studies and randomized trials
  - Publish results in peer-reviewed publications

Shanafelt, T. & Noseworthy, J. (2017) *Mayo Clinic Proc.*

The UCLA-NASA study

Are you a UCLA Health student, resident, or faculty?

Are you feeling stressed, worried, or down?

UCLA Health

Principal Investigator: R. D. Rose, Ph.D.

- UCLA Researchers are conducting a NASA-funded study to evaluate a behavioral health program for possible use on future space missions (e.g., Mars).
- UCLA Health *students, residents, and faculty* feeling *stressed, worried, or down* may be eligible

Participation involves:

- Online/phone eligibility screener (up to 30 minutes)
- Six 50-minute behavioral health treatment sessions, either:
  - Via a web-based program, or
  - Via videoconference with a therapist
- Two 60-90 minute assessments before and after completing treatment
- 3-month follow-up online questionnaire
- Earn up to $215 for your participation

For more information, contact study coordinator Aurora Oftedal:

auroraoftedal@ucla.edu

Phone: 310-206-9191

Protocol ID:IRB#16-001234 UCLA IRB Approved Approval Date: 1/17/2017 Through: 8/3/2017 Committee: North General IRB

There is a Crisis: There are Solutions for Healing the Healers

Thank you!

kmiotto@ucla.edu

The Problems With Burnout Research

Jodie Eckleberry-Hunt, PhD, ABPP, Heather Kirkpatrick, PhD, ABPP, MSCP, and Thomas Barbera, PhD

Abstract

Burnout among physicians and physicians-in-training is well established as a potential threat to the health and well-being of health care providers and patients. However, there are myriad problems with current burnout research and its ongoing measurement that threaten the validity of the conclusions. For example, researchers have used differing ways of defining and measuring burnout. Those who have used the Maslach Burnout Inventory vary in recommended use of the instrument and cutoff scores. As a result, the authors suggest that the term "burnout" may be misused and recommend some reconsideration of the meaning of burnout. The measurement and discussion of burnout have strong implications for interventions and policy alike. In this article, the authors review the problems with burnout research and ask important questions about the future directions of research efforts. The authors recommend a consistent measurement approach and perhaps moving toward a focus on physician wellness from a positive psychology perspective.

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Burnout among physicians and physicians-in-training, as well as other health care team members, is an important issue with numerous potential effects and consequences for professionals, patients, organizations, and society.[1–9] The research and commentary literature on burnout has exploded over the last 40 years, attesting to the strong interest in exploring a lived phenomenon. However, there are some serious conceptualization and measurement issues associated with medical student, resident, and attending physician burnout studies that deserve consideration as research continues. The purpose of this Perspective is to draw attention to the problems with the dominant conceptualization of physician burnout, both in how it is being used to describe the experience and how it is measured. A more clear conceptualization of burnout and associated measurement strategy during medical school, residency training, and post residency will improve efforts to increase trainees' and physicians' resilience and wellness and reduce burnout.

J. Eckleberry-Hunt is director of health psychology, executive health and wellness, Beaumont Health Department of Executive Health, Royal Oak, Michigan.

H. Kirkpatrick is director of behavioral science, Department of Internal Medicine, Genesys Regional Medical Center, Flint, Michigan.

T. Barbera is a clinical psychologist, Department of Family Medicine, St. Vincent Family Medicine Residency Program, Indianapolis, Indiana.

Correspondence should be addressed to Jodie Eckleberry-Hunt, Beaumont Health Medical Office Building, Suite 447, 3601 W. Thirteen Mile Rd., Royal Oak, MI 48073; telephone: (810) 348-8470; e-mail: jeckleberryhunt@att.net.

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The Concept of Burnout and Early Research

In the mid-1970s, both Herbert Freudenberger, PhD[10] (a psychologist who worked in substance abuse) and Christina Maslach, PhD[5] (a social psychologist) were exploring a phenomenon experienced by those in the helping professions that would come to be known as burnout. Maslach systematically studied and defined burnout over the next 40 years and developed the Maslach Burnout Inventory (MBI)-Human Services Survey (HSS),[11] now considered to be the gold standard measure. The MBI defines burnout as scoring in the high range (27 or more points) on emotional exhaustion (EE), in the high range (13 or more points) for depersonalization (DP), and in the low range (31 or fewer points) for personal accomplishment (PA) among professionals who serve people who suffer. EE is a feeling of being emotionally depleted and distraught to the extent that there is nothing left to give. As a result of high EE, caregivers begin to distance themselves from patients and develop high DP. High DP is a strong sense of disconnect, cynicism, and even resentment toward patients. Theoretically, as exhaustion increases and empathy decreases, one's sense of personal accomplishment also suffers. Although burnout was initially thought to be solely associated with the caregiving professions, Maslach and her team later developed two other versions of the MBI, the MBI-ES (Educators Survey)[11] and the MBI-GS (General Survey),[11] to measure exhaustion, cynicism, and efficacy among those who do not work with patients or recipients of care.

The work of Maslach and colleagues has consistently supported a theory of burnout that must include both high EE and DP, although there has been recent work that calls into question the centrality of low PA.[12,13] Maslach believes that the critical component of burnout among caregivers is the experience of distress within a helping relationship.[5] EE and DP are inextricable, and DP may be an even bigger contributor to the overall construct of burnout than EE.[14] In contrast, Maslach notes that clinical researchers mistakenly prefer to focus on EE as the primary definition of burnout, and this appears to be the focus of much of the physician and physician-in-training research.[13]

Issues With Burnout Measurement

Because the majority of burnout research uses the criteria outlined by the MBI, the way in which Maslach conceptualizes burnout is central to how we view that research. If burnout involves at least EE *and* DP when using the MBI-HSS, then

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research that classifies participants with *either* high EE or DP as having burnout is not technically accurate. Studies that label participants as burned out if they score within the high range on EE or DP and deviate from the published cutoff scores may contribute to overestimation error.

Although the extent of overestimation error is difficult to determine without access to raw data, the minimum amount of error can be ascertained by comparing the difference between reported burnout defined as a high EE *or* DP score versus burnout defined by a high score on *both* EE and DP. For example, in a study of 6,880 physicians, 46.9% scored high on EE, 34.6% high on DP, and 54.4% high on at least EE or DP.[15] The authors used a definition based on high EE or DP scores and reported a 54.4% burnout rate. Yet, the maximum percentage who would be classified as burned out using the recommended combination of high scores on both EE and DP would be 34.6%, assuming that all of those scoring high on DP also scored high on EE. In this case, defining burnout by the use of high scores on either DP or EE (instead of using both) resulted in 57% more physicians (54.4% compared with 34.6%) being classified as burned out. This study also used a lower cutoff score from that recommended in the MBI manual on DP, which may result in more physicians being labeled as depersonalized. Given the sample size and scope of the authors' conclusions (over half of all U.S. physicians are burned out), clear conceptualization and accurate measurement of burnout are critical.

Other studies that ask participants to self-rate with a single question, such as "Are you burned out?" or self-rate "your burnout," without defining the components, also seem to violate an underlying shared definition of burnout. In a convenience sample of 88 physicians, 45.8% reported moderate to high burnout as measured by a single-item question asking participants if they thought they were burned out.[16] Similarly, an e-mail survey of 266 hospitalists found that 23% were classified as burned out when burnout was measured by a single question in which subjects rated their burnout on a five-point Likert scale.[17] Consequently, participants used their own definition of burnout and were classified as experiencing burnout if they endorsed a 3 or higher. We are unaware, at the time of this writing, of a study that has investigated the correlation between the MBI and a single question asking about burnout. This type of assessment presumes that each individual conceptualizes burnout in the same way. We cannot help but compare this against the psychological literature, which has moved beyond "are you depressed?" without using at least a few validated questions to define "depression" for the individual.[18] Although we sympathize with the need for brief measures when studying busy physicians, it is most respectful of their time to use the shortest *valid* measures.

Maslach has long argued against the tendency among clinical researchers to classify individuals as "burned out" or "not burned out."[19] She believes that burnout ranges along a continuum of low to high, and she provides cutoffs for those classifications. However, many studies classify physicians as burned out versus not burned out using the MBI-HSS as a primary study measure. A better way to describe the sample would be to state the percentage of participants with high, moderate, and low EE, DP, and PA. As with other psychological variables, like personality, that are classified on a continuous scale, with some individuals falling into extreme ranges of both, perhaps there are individuals who are at such a low risk of burnout that we would term them "well." Others might be at such a high risk of burnout that is justifiable to classify them as "burned out." How do we capture those in the middle who are neither well nor burned out in a dichotomous system? Are there environments that push an individual from a moderate risk to an extreme? Without continuous scaling, we cannot answer these questions.

Another violation of the MBI application in research is the tendency to use the MBI-HSS among first- and second-year medical students, who do not regularly have helping relationships with patients. This research has been used to conclude that burnout increases among medical students as they progress in training. However, this is a flawed conclusion. If medical students are not regularly seeing patients, how can they feel cynical about the recipients of their care? How can they feel proud of their accomplishments with patients? Increases in EE and DP in the clinical third and fourth years would be expected because these students actually see patients as a routine.

There are other measurement issues that are specific to the MBI itself. First, the MBI doesn't consider nonprofessional confounders of burnout, such as child care demands, the schedule and support of spouse or partner, life events, and financial concerns. Second, the MBI was not normed on physicians-in-training and included only a small normative sample of 43 attending physicians. Most of the normative data were made up of teachers, postsecondary educators, and social service workers. The convergent and discriminant validity studies were based on mental health workers, legal aid employees, attorneys, police officers, probation officers, ministers, librarians, and agency administrators. Medical students' and residents' professional lives, in particular, are dictated by frequent scheduling changes, rotational shifts, and evaluations. Their lives can be described as unpredictable, and at times, physicians-in-training lack control over many details of their lives. Further, one can score high on DP by simply stating that each of the five items occurs as little as once a month. If a physician feels a lack of empathy for or disconnected from patients once a month or less, does that mean the physician is depersonalized? Given this, it would seem reasonable that specific burnout norms for these groups are essential.

Finally, it is worth noting that in the instruction for the MBI-HSS, participants should not know that the instrument is meant to measure burnout.[11] Maslach, Jackson, and Leiter[11] suggest that participants may be oversensitized to the concept of burnout such that their responses will be unduly affected. It is not clear from research methodologies whether researchers have taken care to follow this instruction. It is at least worth considering that some participants have been overly sensitized. It is worth asking whether the noted increases in physician burnout over time are related to oversensitivity to the construct.

An Evolving Conceptualization of Burnout

When physician burnout was initially theorized, it was considered to be a reaction on the part of the caregiver to seeing challenging, struggling, suffering patients day after day. Current literature

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suggests that burnout is related to excessive technology and clerical work either not related to or in addition to patient care that is adding to the workday.[20] Is this distress related to change in the work that physicians do perhaps different from caregiver burnout as originally constructed? If so, then new measures are needed to assess this distress. Perhaps it is not just seeing difficult patients or just having too many nonclinical responsibilities. Perhaps it is both and more. Perhaps it is the societal changes that pressure everyone, including patients who need more help in less time with fewer resources. Perhaps trainee-related burnout risk changes with demands of differing rotations, whereas attending burnout is more enduring. Perhaps it is as Maslach and Leiter[14] suggest in the Areas of Worklife model—that is, there is a mismatch between a physician and workload, control, reward/recognition, community, fairness, and values. Much more work is needed. A more comprehensive review of the burnout literature can be found elsewhere.[21]

Improving Burnout Measurement and Research

The impact of failing to address the methodological and conceptual problems of measuring burnout in physicians is large. Accurately capturing the patient-related distress physicians experience at different developmental levels is the first step in identifying who is at risk of burnout. How can one ameliorate a phenomenon when it is not reliably and validly measured? How can we identify those at risk? How can we design appropriate prevention programs? Are there nuances to the distress that physicians experience that call for specific interventions? The Accreditation Council for Graduate Medical Education[22] recently released requirements that graduate medical education programs monitor burnout and have wellness promotion programs. Therefore, we need to work toward consensus regarding how physician burnout is defined in order to be most effective. We believe that the distress physicians feel when burned out reflects a component of caregiver distress that is unique to the physician–patient relationship. If we are simply saying that burnout is distress (i.e., EE), then we consider the work of physicians to be similar to any other profession. Equating burnout with general distress distracts from the experience of suffering due to work-related caregiving demands that may, in the end, affect patient care.[23] It is a moral imperative that we address physicians' lack of engagement in their work because they have tremendous influence on the lives of the patients they serve. If physicians are disengaged (i.e., DP), how can they effectively engage their patients to achieve better outcomes?

We wholeheartedly believe that physician and physician trainee burnout is a critical issue and one worth further intensive study. We also believe that high levels of exhaustion are concerning, and there are clearly shifts in the workplace and training environments that do not prioritize the best interests of physicians or patients. What we suggest, however, is that research on burnout be more thoughtful of the underlying construct and faithful to the measurement principles associated with the burnout measure chosen. We should also be careful about drawing conclusions about causation of burnout when causal studies do not exist. If the research on physician and physician-in-training burnout is to be taken seriously, it needs to be done well so that we clearly know what steps to take next.

Finally, it is worth considering that it is time to move beyond burnout into positive psychology that focuses on strength, resilience, growth, and happiness rather than the absence of burnout. We need to ask ourselves if the end goal is to reduce burnout or to promote wellness. The study of positive psychology[24] examines what factors contribute to an individual thriving in an environment in order to nurture those factors. The study of burnout focuses on pathology and what is bad and failing. Although both approaches provide valuable data, there are times that we are not able to fix the things that contribute to burnout; yet we might be able to promote wellness in the face of those circumstances. For example, difficult patients have been noted to be associated with work dissatisfaction,[6] but we will not eliminate difficult patients. What we can do is examine what is protective when working with difficult patients to assist physicians in feeling effective and fulfilled. In the end, we need some standardized data to inform ways to optimize physicians' worklives to have the highest level of patient safety, provider engagement, and appropriate professionalism modeling for our trainees. To keep attracting our brightest and most talented to medicine, we need to understand the components of physician wellness and satisfaction and design interventions that will help physicians recover from the major causes of their fatigue and dissatisfaction with medicine. We need interventions that are responsive to distress that has accumulated gradually over time, as can occur during medical school, on challenging rotations during residency, or during difficult months post residency. We also need interventions to address acute distress associated with negative evaluations or distressing patient interactions.

In summary, we are suggesting that the research highlighting physician and medical student burnout has been valuable in drawing attention to an important occupational hazard. We are not minimizing the value of this line of study. However, we are concerned that the term is becoming overused and mismeasured to the extent that we risk not having a valid construct. Moreover, the pathology-based approach of burnout research alone limits what we can do to ensure that medical practice remains a profession of allure and growth. We recommend a new approach to the study of the very real stress of medical practice: the positive, strength-based approach of positive psychology, which emphasizes resilience and the ability to thrive rather than just survive. The most useful next steps for the field to take are to use the MBI as it was intended, work to publish an MBI physician normative group, and continue to seek new measures that are specific to physicians. We recommend that medical leaders spend time asking medical professionals what is working and finding ways to transform the workplace into a place that is healing for the healer as well as the patient.

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Institute *for* Healthcare Improvement

Restoring Joy in Work for the Healthcare Workforce

It's more than just reducing burnout.

If burnout in healthcare were described in clinical or public health terms, it might well be called an epidemic. The numbers are alarming. In a 2015 study published in *Mayo Clinic Proceedings*, Tait D. Shanafelt, MD, and colleagues found that as many as 50 percent of physicians report being burned out ("Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General U.S. Working Population Between 2011 and 2014"). Nearly three in four people know someone who has left the healthcare profession because of burnout, according to the Lucian Leape Institute report *Through the Eyes of the Workforce: Creating Joy, Meaning, and Safer Health Care*, published in 2013 by the National Patient Safety Foundation, Boston. Turnover is up, and morale is down.

Burnout affects both the business side of providing care and the quality of patient care. It leads to lower levels of staff engagement, which correlate to lower customer (patient) satisfaction, lower productivity and an increased risk of workplace accidents. The impact on patient care is even more worrying. Lower levels of staff engagement correlate to lower quality patient care, and burnout limits providers' empathy—a crucial component of effective and person-centered care.

So, what can leaders do to counteract this epidemic? The Institute for Healthcare Improvement, Cambridge, Mass., believes an important part of the solution is to focus on restoring joy to the healthcare workforce.

Why Joy?

Some may think focusing on joy in healthcare—a physically, intellectually and emotionally demanding profession—is a distant goal for many. But focusing on joy is important for three fundamental reasons.

First, focusing on joy, as opposed to focusing only on burnout or low levels of staff engagement, accords with an approach applied to solving many intractable problems in health and healthcare. It's tempting to analyze a problem by only paying attention to deficits or gaps. But, to get to solutions, it is essential to identify, understand and leverage all the assets that can be brought to bear, and joy is one of healthcare's greatest assets. Healthcare is one of the few professions that regularly provides the opportunity for its workforce to profoundly improve lives. Caring and healing should be naturally joyful activities. The compassion and dedication of healthcare staff are key assets that, if nurtured and not impeded, can lead to joy as well as to effective and empathetic care. This assets-based approach to improvement enables people to look at issues from different perspectives, which often leads to designing more innovative solutions.

The sociologist Aaron Antonovsky, PhD, taught us to think of health as more than merely the absence of disease. Health is about coherence, he said—a sense that life is comprehensible, manageable and meaningful. Following Antonovsky's lead, the second reason to focus on joy in healthcare is because joy is about more than the absence of burnout. Joy, like Antonovsky's conception of health, is about connections to meaning and purpose. By focusing on joy through improving and enhancing the connections to meaning and purpose, healthcare leaders can reduce burnout while simultaneously building the resilience healthcare workers rely on each day. Again, the goal of this approach is to design innovative solutions by looking at issues from a different perspective.

The third reason for focusing on joy takes us back to W. Edwards Deming. His 14 points for management, first presented in his book *Out of the Crisis*, published in 1982, address joy, but use different terms. Consider, for example, point 11,

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"Remove barriers that rob the hourly worker of his right to pride of workmanship," and point 12, "Remove barriers that rob people in management and in engineering of their right to pride of workmanship." For Deming, "pride of workmanship" and "joy" were highly related, if not interchangeable. Later in life, Deming promoted the importance of joy with increasing emphasis. In his final lectures, he routinely stated that "Management's overall aim should be to create a system in which everybody may take joy in [their] work." Ensuring joy is a crucial component of the "psychology of change," one of the cornerstones of Deming's scientific approach to improvement. The concept here is simple: If most people are naturally predisposed to resist change, they will be much more likely to engage in improvement activities if they see that change will lead to joy. In addition to being a core part of his theory of improvement, joy in work, to Deming, was also a fundamental right. It is up to leaders to ensure that workers can enjoy that right.

A Path Forward

As IHI engaged with partners and colleagues in thinking about how to restore, foster and nurture joy in the healthcare workforce, the Institute began to see an evolving path forward, with four key steps.

Step No. 1: Ask staff, "What matters to you?" This step is about asking the right questions and really listening to the answers to identify what contributes to—or detracts from—joy in work for staff. For years now, IHI has been promoting the transformative provocation, which first appeared in *The New England Journal of Medicine* in a 2012 article written by Susan Edgman-Levitan and Michael J. Barry, MD, to ask patients, "What matters to you?" in addition to "What's the matter?" Healthcare leaders need to ask the healthcare workforce the same question. Only by understanding what truly matters to staff will senior management be able to identify and remove barriers to joy.

Step No. 2: Identify the unique impediments to joy in work in the local context. Just as answers to the question "What matters to you?" will vary depending on the individual, the system-level impediments to joy will also vary depending on the organization, department, unit or team. Some barriers to joy need to be addressed before others. For example, if physical and psychological safety are not ensured first, then it's more difficult to improve important elements of joy such as camaraderie, autonomy and connection to purpose.

Step No. 3: Commit to making joy in work a shared responsibility at all levels. Deming said that "quality is everyone's responsibility." So, too, is joy. It is everyone's duty to seek out the impediments to joy and then intervene if possible. One of the best articulations of this idea comes from a video created by LTG David Morrison of the Australian Army and posted on the Army's official YouTube channel. In the video, Morrison addresses an incident in which demeaning material was distributed among his staff. He uses this incident to teach a larger lesson: "The standard you walk past is the standard you accept." Seeing behavior or a situation that prevents staff from experiencing joy in work requires leaders to act. Each allowance, each turning away and ignoring the problem, each instance of explaining, "Well, that's just the way it is around here," is an act of approval or acceptance. This third step could aptly be called, "Don't walk past."

Step No. 4: Use improvement science to test validated approaches in your organization. There are many validated approaches to restoring joy in work. But, as steps 1 through 3 make clear, context is key. Using the principles of improvement science—creating logic models; implementing small-scale testing of changes using plan-do-study-act cycles—is the key to real and lasting improvements.

The path forward that IHI is proposing is a simple framework that underpins a complex pursuit of joy in work. As with all frameworks, it needs testing. IHI invites organizations to test these four steps and share improvements made and lessons learned. ▲

Feeley

Swensen

Derek Feeley is president/CEO of the Institute for Healthcare Improvement (dfeeley@ihi.org). Stephen J. Swensen, MD, is the medical director of leadership and organization development at the Mayo Clinic and a senior fellow at IHI (swensen.stephen@mayo.edu).

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ORIGINAL ARTICLES

Managed Care, Time Pressure, and Physician Job Satisfaction: Results from the Physician Worklife Study

Mark Linzer, MD, Thomas R. Konrad, PhD, Jeffrey Douglas, PhD, Julia E. McMurray, MD, Donald E. Pathman, MD, MPH, Eric S. Williams, PhD, Mark D. Schwartz, MD, Martha Gerrity, MD, PhD, William Scheckler, MD, JudyAnn Bigby, MD, and Elnora Rhodes for the Society of General Internal Medicine (SGIM) Career Satisfaction Study Group (CSSG)

OBJECTIVE: **To assess the association between HMO practice, time pressure, and physician job satisfaction.**

DESIGN: **National random stratified sample of 5,704 primary care and specialty physicians in the United States. Surveys contained 150 items reflecting 10 facets (components) of satisfaction in addition to global satisfaction with current job, one's career and one's specialty. Linear regression–modeled satisfaction (on 1–5 scale) as a function of specialty, practice setting (solo, small group, large group, academic, or HMO), gender, ethnicity, full-time versus part-time status, and time pressure during office visits. "HMO physicians" (9% of total) were those in group or staff model HMOs with >50% of patients capitated or in managed care.**

RESULTS: **Of the 2,326 respondents, 735 (32%) were female, 607 (26%) were minority (adjusted response rate 52%). HMO physicians reported significantly higher satisfaction with autonomy and administrative issues when compared with other practice types (moderate to large effect sizes). However, physicians in many other practice settings averaged higher satisfaction than HMO physicians with resources and relationships with staff and community (small to moderate effect sizes). Small and large group practice and academic physicians had higher global job satisfaction scores than HMO physicians ($P < .05$), and private practice physicians had quarter to half the odds of HMO physicians of intending to leave their current practice within 2 years ($P < .05$). Time pressure detracted from satisfaction in 7 of 10 satisfaction facets ($P < .05$) and from job, career, and specialty satisfaction ($P < .01$). Time allotted for new patients in HMOs (31 min) was less than that allotted in solo (39 min) and academic practices (44 min), while 83% of family physicians in HMOs felt they needed more time than allotted for new patients versus 54% of family physicians in small group practices ($P < .05$ after Bonferroni's correction).**

CONCLUSIONS: **HMO physicians are generally less satisfied with their jobs and more likely to intend to leave their practices than physicians in many other practice settings. Our data suggest that HMO physicians' satisfaction with staff, community, resources, and the duration of new patient visits should be assessed and optimized. Whether providing more time for patient encounters would improve job satisfaction in HMOs or other practice settings remains to be determined.**

KEY WORDS: **job satisfaction; time pressure; HMO, managed care**

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Received from the Departments of Medicine (ML, JEM), Family Medicine (WS), and Biostatistics (JD), University of Wisconsin, Madison, Wis; the Program on Primary Care and Health Professionals, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, NC; (TRK, DEP) Department of Marketing and Management, University of Alabama, Tuscaloosa, Ala (ESW); Department of Medicine, Primary Care Division, New York University, NY (MDS); Department of Medicine, Oregon Health Sciences University, Portland, Ore (MG); Division of General Internal Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, Mass (JB); and the SGIM (ER), Washington, DC.

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Address correspondence and reprint requests to Dr. Linzer; Department of Medicine, University of Wisconsin Medical School, 2870 University Ave., Suite 106, Madison, WI 53705.

Health Maintenance Organizations have introduced new working conditions into the professional lives of American physicians. Group and staff-model HMOs are seen by many physicians as organizations that provide a more controllable lifestyle and freedom from administrative hassles. What is less clear is the trade off that may be inherent in these benefits, i.e., what is the physician giving up in exchange for these freedoms? Remarkably, there have been few studies of physician satisfaction with practice in HMOs until recently.[1–3]

A related issue that has received little attention is the time pressure that physicians may face during patient visits under different practice arrangements. One article from New Zealand in 1995 defined time pressure as a crucial issue for specialists,[4] and a recent article[5] noted a trend for physicians to prescribe inappropriate medications during shorter office visits. But few, if any, articles

have specifically addressed the following key questions: (1) How does time pressure impact upon physician job satisfaction and the quality of care physicians feel they are able to provide?, and (2) Does time pressure vary among different systems of care?

The Physician Worklife Study, conducted between 1996 and 1997, was designed to assess aspects of physician job satisfaction that are relevant to policy. In this analysis, we addressed the association between HMO practice, time pressure, and physician job satisfaction. We also examined the impact of time pressure on numerous components of job satisfaction.

METHODS

Development Phase

Qualitative analysis in the *development phase* of the study that resulted in the survey instrument has been described in detail elsewhere.[6] In brief, we performed a formal content analysis of open-ended data from a national survey of 7,000 physicians in large group practices from 1988.[7] We merged the findings of this analysis with findings from previous studies (especially the work of Stamps and Cruz,[8] and Lichtenstien[9]) to develop a working model of physician job satisfaction.[6] The model was then refined with input from 4 focus groups conducted in 1995 and 1996 with women (Madison, Wis), minority (Boston, Mass), inner city (New York, NY), and managed care (Portland, Ore) physicians. The final model was then used to develop a measure of physician job satisfaction with 10 hypothesized factors. This measure was pilot tested on 2,000 physicians (n = 888 respondents, adjusted response rate = 55%) and was divided into two samples for development purposes. Factor and reliability analyses supported the hypothesized 10-factor structure for both samples.[10] Each facet was comprised of 2 to 5 items and used a 5-point, agree-disagree Likert scale. Psychometric scales for these facets were formed by averaging corresponding items. The hypothesized 10-factor structure was tested for reliability through factor analyses using oblique rotations.[10] Reliability coefficients (sample 1, sample 2) calculated for job facets in each sample included autonomy (0.70, 0.68), personal time (0.79, 0.78), relationships with patients (0.70, 0.68), patient care issues (0.74, 0.73), relationships with colleagues (0.72, 0.72), relationships with staff (0.71, 0.69), relationships with the community (0.80, 0.77), income (0.79, 0.75), administrative support (0.72, 0.75), and resources (0.69, 0.55). Global measures of satisfaction with current job (0.86, 0.82), career (0.88, 0.85), and specialty (0.82, 0.80) were also developed and tested. The instrument for the national survey was designed based on the facets identified in these analyses.

The items comprising each of the 10 facets and the 3 global measures are shown in the Appendix, and the derivation of the final item list is provided in reference 10.

The National Survey

A national sample of physicians in primary care specialties (family medicine, general internal medicine, and general pediatrics) and in medical and pediatric subspecialties was selected from the American Medical Association (AMA) Masterfile. Generalists were sampled only if they reported no secondary specialty in the Masterfile. Respondents were asked to specify their practice setting as either solo, small group (2–9 MDs), large single specialty group (10+ MDs), large multispecialty group (10+ MDs), group/staff-model HMO, academic group, or other (e.g., urgent care, emergency department). Stratified sampling with disproportionate weighting[11] was used to assure both ethnic diversity and representation of physicians in geographic areas known to have a relatively high penetration by managed care plans in each of these specialty groups. The selected final sample was 5,704 physicians. Endorsements were obtained from national organizations (e.g., the Society of General Internal Medicine, the American College of Physicians, the American Academy of Family Practice, and the Ambulatory Pediatric Association), and cover letters from local leadership of these organizations were included in each mailing. A letter from prominent minority physicians in the Doctors of Color Caucus of the Society of General Internal Medicine also was sent to minority physicians. Surveys were mailed up to 4 times along with telephone follow-up to nonrespondents in subgroups with the lowest response rates. Application of sampling weights permitted generalizability to a relevant national population of approximately 171,000 primary care and medical and pediatric subspecialist physicians.

Analysis

Response rate was assessed by determining the inaccurate address rate in the AMA Masterfile with telephone calls to 200 nonrespondents. This showed an inaccurate address rate of 18%. This information allowed us to construct sampling weights using the Lessler and Kalsbeek technique.[11] To assess nonresponse bias, we searched for trends between survey variables and the time until the questionnaire was returned, calculating Spearman correlation coefficients. Of 140 assessed items, only 4 had coefficients >0.10 in absolute value, suggesting only a modest impact of late (or non) response.

In all analyses, the data were weighted to adjust for differing response rate and sampling probabilities. The software package STATA (STATA, Version 5.0, College Station, Tex) was used for weighted statistical analysis incorporating the weights and strata. STATA uses Taylor series linearization to adjust for the complex sample design when computing from its weighted linear and logistical regression procedures.

Linear regression was used to model satisfaction, measured on scales ranging from 1 to 5, for facets of satisfaction depending on specialty, practice setting, gender,

work status (full-time/part-time), underrepresented minority status, age, and a dummy variable (time stress) which took the value 1 for those reporting needing more time for office visits than allocated. Effect sizes were calculated by dividing coefficients by variable standard deviations (small effect size = 0.2; medium = 0.5; large = 0.8). Multiple linear regression models for the respondent-estimated percentages of patients with complex medical or psychosocial problems (case mix) were constructed using the same independent variables listed above, excluding the indicator of time pressure (which would not be expected to have a major impact on case mix). Logistic regression was used for modeling the probability of citing a moderate or greater chance of leaving the current practice situation within 2 years with the following independent variables: specialty, practice setting, gender, work status (full-time/part-time), underrepresented minority status, age, and the indicator variable for time stress. A multiple linear regression model was developed for global job satisfaction using the specific facets of satisfaction as the independent variables. "Time pressure" was assessed in two ways. One was to tabulate a ratio of reported time needed and the time allotted. The "time pressure ratio" was defined as:

$$\frac{(\text{time needed to provide quality care} - \text{time allotted})}{\text{time allotted}} \times 100 .$$

The result of this ratio can be stated as "*x* percent additional time needed to provide quality care." The second way of looking at time pressure was to calculate the percent of physicians experiencing any "time stress" as defined above (i.e., physicians reporting needing *any* more time than allotted).

Underrepresented minority physicians were those who were black (African American or African), Hispanic (Puerto Rican or Mexican), Native American, or Alaskan Native. Minority physicians included these groups plus Asian or Pacific Islanders, other Hispanic physicians, and those endorsing an "other" category (nonwhite and none of the other groups). We defined our referent group of "HMO physicians" as those who practiced in a group or staff model HMO and acknowledged having >50% of their patients in capitated or other managed care arrangements.

RESULTS

Usable responses were received from 2,326 physicians. After accounting for refusals (n = 58), ineligibles (those sampled physicians who were later found not to meet entry criteria, n = 91), returned surveys (n = 224), and an inaccurate address rate of 18%, the adjusted response rate was 52%. As shown in Table 1, females comprised 32% of the respondents, and minority physicians were 26% of the total sample. About 20% were in each specialty strata (general medicine, general pediatrics, family medicine, and grouped medical and pediatric subspecialties.) Most physicians were in group practices. Nine percent (n = 203) were in HMO practice as defined above. The adjusted percentages of respondents due to weighting are also shown in Table 1.

Table 1. Respondents (*N* = 2,326) to the Physician Worklife Study

Characteristic	n (%)	Weighted %
Mean age, (SD)	47 (9.6)	
Female	735 (32)	27
Any minority	607 (26)	17
Underrepresented minority	108 (5)	4
Specialty		
General pediatrics	590 (25)	18
Family medicine	502 (22)	38
General internal medicine	451 (19)	32
Internal medicine subspecialty	438 (19)	10
Pediatric subspecialty	345 (15)	3
Practice setting		
Solo	411 (18)	19
Small group	778 (34)	40
Large single specialty group	120 (5)	5
Large multispecialty group	304 (13)	12
Academic	300 (13)	8
Group or staff model HMO	203 (9)	6
Other	173 (8)	9

Satisfaction Facets and Global Job Satisfaction

The 10 facets explained 60% of the variance in global job satisfaction. Variables with the largest coefficients of association with job satisfaction were patient care issues ($\beta = 0.32$), income ($\beta = 0.21$), and relationships with patients ($\beta = 0.15$), colleagues ($\beta = 0.15$) and nonphysician staff ($\beta = 0.13$).

Satisfaction Components and Global Satisfaction Measures

Table 2a shows mean satisfaction scores by specialty, practice setting, gender, and ethnicity. Some of the highest satisfaction scores were seen in the area of patient relationships, and the lowest satisfaction was with administration. Global job and career satisfaction was relatively high, averaging from 3.5 to 3.8 on summed and averaged item scales from 1 to 5. Specialty satisfaction was lowest for general internists (3.17) and solo practitioners (3.22). Table 2b shows effect sizes for the 10 satisfaction facets and 3 global measures by practice type and specialty. The table also shows the impact of time stress on satisfaction. The referent groups are HMO physicians (for practice type) and family medicine (for specialty). Coefficients greater than zero imply that the practice type or specialty was more satisfied than the referent group. Coefficients less than zero imply that the specialty or practice type was less satisfied. The most striking findings here are that HMO physicians were considerably more satisfied on

Table 2a. Satisfaction Scores by Specialty, Practice Setting, Gender, and Ethnicity

	Autonomy (SE)	Personal Time (SE)	Patient Relationships (SE)	Patient Care Issues (SE)	Colleague Relationships (SE)	Staff Relationships (SE)
Family medicine	3.37 (.04)	2.92 (.04)	3.90 (.04)	3.08 (.04)	3.64 (.04)	3.79 (.04)
General internal medicine	3.27 (.05)	2.84 (.06)	3.77 (.06)	3.01 (.06)	3.59 (.04)	3.69 (.04)
General pediatrics	3.42 (.04)	2.96 (.05)	3.92 (.04)	3.31 (.05)	3.72 (.04)	3.81 (.04)
Internal medicine subspecialty	3.34 (.05)	2.69 (.05)	3.89 (.05)	3.26 (.05)	3.80 (.04)	3.75 (.04)
Pediatric subspecialty	3.50 (.04)	2.66 (.05)	3.75 (.05)	3.45 (.04)	3.77 (.04)	3.81 (.04)
Solo practice	3.12 (.06)	2.76 (.07)	4.01 (.06)	3.07 (.06)	3.44 (.04)	3.71 (.05)
Small group	3.37 (.04)	2.86 (.04)	3.93 (.04)	3.15 (.04)	3.70 (.03)	3.83 (.03)
Large single specialty group	3.45 (.12)	2.85 (.11)	3.69 (.09)	3.11 (.11)	3.84 (.08)	3.65 (.10)
Large multispecialty group	3.41 (.07)	2.77 (.08)	3.80 (.08)	3.08 (.07)	3.64 (.06)	3.84 (.04)
HMO	3.74 (.09)	2.95 (.10)	3.65 (.14)	2.98 (.11)	3.65 (.09)	3.54 (.07)
Academic	3.50 (.06)	2.85 (.07)	3.77 (.10)	3.36 (.07)	3.94 (.05)	3.80 (.07)
Male	3.38 (.03)	2.88 (.02)	3.84 (.03)	3.13 (.03)	3.65 (.02)	3.76 (.02)
Female	3.26 (.04)	2.86 (.05)	3.88 (.05)	3.11 (.05)	3.67 (.04)	3.75 (.04)
Nonminority	3.38 (.03)	2.86 (.03)	3.84 (.03)	3.13 (.03)	3.66 (.02)	3.79 (.02)
Minority	3.18 (.05)	2.95 (.05)	3.91 (.05)	3.14 (.05)	3.62 (.04)	3.59 (.04)
Underrepresented minority	3.41 (.09)	2.98 (.11)	3.95 (.11)	3.38 (.10)	3.71 (.09)	3.68 (.10)

	Community (SE)	Income (SE)	Administration (SE)	Resources (SE)	Global (SE)	Career (SE)	Specialty (SE)
Family medicine	3.84 (.05)	3.13 (.05)	2.57 (.05)	3.73 (.04)	3.77 (.04)	3.79 (.05)	3.69 (.05)
General internal medicine	3.59 (.06)	2.92 (.06)	2.62 (.06)	3.62 (.05)	3.52 (.06)	3.55 (.07)	3.17 (.07)
General pediatrics	3.73 (.06)	3.02 (.06)	2.66 (.05)	3.76 (.04)	3.81 (.05)	3.80 (.05)	3.76 (.06)
Internal medicine subspecialty	3.70 (.06)	2.97 (.06)	2.58 (.05)	3.70 (.04)	3.71 (.05)	3.77 (.06)	3.47 (.07)
Pediatric subspecialty	3.62 (.05)	3.08 (.06)	2.79 (.04)	3.62 (.04)	3.69 (.05)	3.74 (.05)	3.60 (.05)
Solo practice	3.77 (.07)	2.70 (.06)	2.27 (.06)	3.82 (.05)	3.57 (.06)	3.56 (.07)	3.22 (.09)
Small group	3.85 (.05)	3.23 (.05)	2.53 (.04)	3.82 (.04)	3.83 (.04)	3.78 (.05)	3.63 (.05)
Large single specialty group	3.82 (.10)	2.98 (.14)	2.61 (.11)	3.77 (.11)	3.80 (.10)	3.90 (.13)	3.61 (.11)
Large multispecialty group	3.86 (.07)	3.14 (.08)	2.70 (.06)	3.63 (.07)	3.71 (.08)	3.74 (.09)	3.51 (.10)
HMO	3.39 (.13)	3.05 (.13)	3.19 (.10)	3.49 (.07)	3.37 (.13)	3.50 (.12)	3.46 (.12)
Academic	3.51 (.09)	2.84 (.09)	2.68 (.09)	3.38 (.09)	3.70 (.10)	3.94 (.09)	3.88 (.10)
Male	3.79 (.03)	3.07 (.03)	2.59 (.03)	3.75 (.03)	3.71 (.03)	3.73 (.04)	3.46 (.04)
Female	3.55 (.05)	2.90 (.06)	2.64 (.05)	3.54 (.05)	3.65 (.05)	3.65 (.05)	3.64 (.05)
Nonminority	3.76 (.03)	3.07 (.03)	2.60 (.03)	3.73 (.03)	3.72 (.03)	3.71 (.03)	3.50 (.04)
Minority	3.52 (.05)	2.79 (.07)	2.65 (.05)	3.56 (.05)	3.59 (.06)	3.71 (.06)	3.54 (.06)
Underrepresented minority	3.81 (.10)	3.01 (.16)	2.73 (.11)	3.62 (.14)	3.89 (.12)	4.06 (.11)	3.98 (.13)

average with autonomy and administrative issues (moderate to large effect sizes) than all other practice types, while they were less satisfied with resources and relationships with staff and community (small to moderate effect sizes) than many practice types. Global job satisfaction favored other (non-HMO) practice types. Small group, large group, and academic physicians had significantly greater job satisfaction (effect sizes 0.38 to 0.51) when compared with HMO physicians ($P < .05$ to $P < .01$).

With regard to specialty, family physicians had greater satisfaction than internists with community relationships and lower satisfaction than general pediatricians with patient care issues, although effect sizes were small. General internists and internal medicine subspecialists had lower specialty satisfaction than family physicians (effect sizes −0.49 and −0.27; $P < .001$ and $P < .01$, respectively).

Time stress was significantly correlated with lower satisfaction in 7 of 10 facets. While the more "intrinsic" patient relationship facet was not affected by time stress, the more "operational" facet patient care issues, which included an item concerning time pressure, was affected (effect size −0.43, $P \leq .001$). Global job, career and specialty satisfaction were also diminished by time stress (effect sizes −0.22 to −0.33; $P < .01$).

Time Pressure, Setting, and Specialty

Time allotted for new and comprehensive patient visits in HMOs (31 min) was significantly less than time allotted in solo (39 min) and academic practices (44 min) (Table 3). The time pressure ratio for new patient visits was highest in HMOs (32% more time needed than allotted), although there were no statistically significant differ-

Table 2b. Effect Sizes for Satisfaction Components, and Global Job, Career, and Specialty Satisfaction

	Autonomy	Personal Time	Patient Relationships	Patient Care Issues	Colleague Relationships	Staff Relationships
General internal medicine	−.14	−.16	−.18	−.09	−.03	−.14
General pediatrics	.01	−.09	−.01	.20†	.07	.02
Internal medicine subspecialty	−.10	−.33†	−.05	.16	−.20†	−.08
Pediatric subspecialty	.09	−.44*	−.16	.38*	−.03	.05
Solo	−.91*	−.37‡	.35	.05	−.43‡	.19
Small group	−.57*	−.15	.32	.22	.05	.42*
Large single specialty group	−.47*†	−.11	.08	.16	.33	.19
Large multispecialty group	−.51*	−.19	.19	.16	−.05	.47*
Academic	−.36†	−.09	.07	.49‡	.43‡	.36†
Time stress	−.31*	−.31*	−.11	−.43*	−.05	−.11

	Community	Income	Administration	Resources	Global	Career	Specialty
General internal medicine	−.26‡	−.18*	.00	−.18	−.28*	−.27‡	−.49*
General pediatrics	−.12	−.09	−.04	.04	−.04	−.07	.02
Internal medicine subspecialty	−.20*	−.15	−.04	−.07	−.14	−.12	−.27‡
Pediatric subspecialty	−.14	.03	.14	.00	−.17	−.21†	−.25‡
Solo	.23	−.43‡	−1.2*	.31†	.14	−.12	−.28
Small group	.44‡	.13	−.80*	.38†	.48‡	.25	.13
Large single specialty group	.46‡	−.17	−.70*	.37†	.51†	.44†	.15
Large multispecialty group	.50‡	.05	−.57*	.15	.38†	.24	.04
Academic	.07	−.24	−.54*	−.19	.41†	.52*	.35†
Time stress	−.18‡	−.27*	−.24*	−.19‡	−.33†	−.26*	−.22†

Effect sizes 5 regression coefficient divided by standard deviation of dependent variable. Effect sizes >0 imply that row titles (e.g., small group practice) are more satisfied than referent group. The referent group for specialties is family medicine; for practice setting it is group/staff-model HMO. All satisfaction facets measured on scales from 1 to 5. Time stress defined in text. *P ≤ .001; †P < .05; ‡P < .01. *Regressions controlled for specialty, practice setting, gender, age, ethnicity, and part-time status. For effect sizes, 0.2 = small, 0.5 = moderate, 0.8 = large.*

ences with other practice settings. The percent of physicians who reported *any* time stress (i.e., those who said they needed any additional time over that allotted) was highest in HMOs (61%), which was significantly greater than the number of time-stressed physicians in solo practice (37%). Time pressure ratios did not differ markedly by specialty, although there were large differentials in time available. For example, general internal medicine had significantly more time allotted than family medicine and general pediatrics for new patients, but significantly less time available for a new or comprehensive patient than the time allotted by internal medicine subspecialists for such patients.

Table 4 shows the association between group and staff-model HMO practice and time pressure within individual specialties. Compared with physicians in small groups, family physicians and pediatric subspecialists in HMOs had significantly less time allotted for new patients. HMO primary care physicians had high time pressure ratios (30%–41% more time needed than allotted), although the differences between physicians in different practice settings failed to reach statistical significance. A very large proportion of family physicians in HMOs (83%) reported being stressed for time with new patient visits. This was significantly greater than the percent of time-stressed family physicians in small group practices (54%, $P < .05$ after Bonferroni's correction).

Case Mix

Table 5 shows regression analyses of physician case mix estimates for complex medical and complex psychosocial patients. Aside from academic practices, physicians in all practice settings reported similar case mix when compared with HMO physicians. Both general and subspecialty internists reported significantly more complex medical and psychosocial patients than did family physicians ($P < .001$ for both comparisons).

Intent to Leave the Current Practice

Table 6 shows regression analyses of intent to leave the current practice situation within 2 years. Private practice (solo, small and large group) physicians had quarter to half the odds of intending to leave their current practice compared with HMO physicians ($P < .05$ to $P < .001$). In a separate analysis (data not shown), intent to leave was found to be highly correlated with job and career satisfaction (Spearman correlation coefficients −0.37 and −0.25, respectively).

DISCUSSION

In this national survey of 2,326 physicians, job satisfaction in group and staff-model HMOs was a trade-off:

Table 3. Time Pressure and Its Relationship to Specialty and Practice Setting

	Time Allotted (Min) (SE)	Time Needed (Min) (SE)	Time Pressure Ratio (SE)	Percent Time Stressed (SE)
New or comprehensive patient				
Solo	39.4 (1.3)*	44.1 (1.4)*	18% (3.6)	37 (4.2)*
Small group	35.5 (0.8)	41.2 (0.8)	23% (2.0)	48 (2.8)
Large single specialty group	32.1 (1.6)	39.1 (1.9)	31% (7.8)	51 (8.2)
Large multispecialty group	35.0 (1.3)	40.4 (1.3)	22% (3.9)	44 (4.8)
Academic	43.6 (2.3)*	49.8 (2.3)*	27% (6.6)	42 (5.7)
HMO	31.1 (1.6)	37.9 (1.5)	32% (5.5)	61 (6.6)
Follow-up patient				
Solo	15.0 (0.4)	15.8 (0.5)	7% (2.7)	28 (3.9)
Small group	14.4 (0.2)	15.6 (0.4)	11% (2.0)	31 (2.7)
Large single specialty group	14.4 (0.5)	15.7 (0.7)	11% (3.8)	31 (7.5)
Large multispecialty group	14.9 (0.3)	16.4 (0.5)	11% (2.3)	31 (4.2)
Academic	19.2 (0.9)*	22.2 (1.0)*	23% (4.3)	46 (5.9)
HMO	15.4 (0.4)	17.0 (0.7)	16% (6.2)	39 (6.4)
New or comprehensive patient				
Family practice	34.1 (0.8)*	40.7 (0.9)*	25% (2.5)	50 (3.1)
General internal medicine	39.4 (1.0)	45.6 (1.0)	25% (4.2)	45 (3.6)
General pediatrics	25.6 (1.1)*	30.3 (1.1)*	29% (3.3)	49 (3.5)
Internal medicine subspecialty	51.2 (1.2)*	56.0 (1.3)*	17% (2.9)	34 (3.4)
Pediatric subspecialty	39.5 (1.6)	47.1 (1.9)	24% (3.0)	48 (4.2)
Follow-up patient				
Family practice	14.1 (0.2)*	15.1 (0.3)*	9% (1.7)	33 (2.8)
General internal medicine	15.7 (0.3)	18.0 (0.5)	20% (4.3)	36 (3.5)
General pediatrics	13.3 (0.5)*	14.1 (0.5)*	8% (3.0)	22 (2.7)*
Internal medicine subspecialty	19.1 (0.5)*	20.6 (0.5)*	13% (2.2)	35 (3.3)
Pediatric subspecialty	18.1 (0.7)*	19.3 (0.7)	12% (3.1)	33 (4.0)

*$P < .05$, *comparing HMO to other practice settings and general internal medicine to other specialties, using Bonferroni-corrected P values. For definitions of "time pressure ratio" and "percent time stressed," see text.*

more satisfaction with autonomy and administrative issues versus less satisfaction with resources and relationships with nonphysician staff and community. Time allotted for new patients in HMOs was significantly less than in 2 other practice settings (solo and academic), and 83% of family physicians practicing in HMOs felt stressed for time during new patient visits. HMO doctors had significantly less global job satisfaction and a higher intent to leave their current practice within 2 years when compared with physicians in most other settings. Finally, we found that time pressure, independent of practice setting, significantly detracted from 7 of 10 satisfaction components and from satisfaction with current job, career and specialty.

Why study physician satisfaction? Crucial medical outcomes have been linked to physician satisfaction, including prescribing behavior, patient adherence to medications, patient satisfaction and quality of care.[12–16] Burnout of physicians is an expensive and unfortunate outcome,[3] and the career choices of medical students and residents may be influenced by stressed and dissatisfied teachers.[17]

HMOs were less satisfying globally than many other practice types. HMO physicians, more satisfied with their overall autonomy and freedom from administrative issues, appear to feel unencumbered but still relatively dissatisfied. Their lower satisfaction with resources and with staff and community relationships provide areas for assessment and intervention. The impact of the relatively smaller amount of time allotted for patient visits requires further investigation, as time stress had a broad and negative impact on job satisfaction.

The potential impact of shortened patient visits has been studied by Levinson et al., who described physician-patient encounters and the risk of a malpractice suit.[18] Primary care physicians who had been sued spent an average of 15 minutes with each patient while physicians who had not been sued spent 18.6 minutes, a difference of 3.6 minutes. Researchers from Cleveland and Cincinnati have likewise shown that patient satisfaction is strongly associated with visit time, especially for visits over 15 minutes,[19] and several other recent articles[20–23] and an editorial[24] have echoed the importance of adequate time for patient visits. The amount of additional time that respondent physicians said they would need to provide quality care ranged from 1 to 6 minutes (Table 3). What remains to be tested is whether providing physicians with these small increments of time would increase job satisfaction and the quality of care.

It may be that HMOs allot less time for patient visits because they provide other resources (e.g., nonphysician

Table 4. Influence of Practice Setting and Specialty on Time Allotted, Time Needed, Time Pressure Ratios, and Time Stress for New Patient Visits

	Time Allotted (Min) (SE)	Time Needed (Min) (SE)	Time Pressure Ratio (SE)	Percent Time Stressed (SE)
HMOs (*n*)				
Primary care				
Family practice (34)	29.4 (1.6)	39.8 (2.5)	41% (8.6)	83 (9.1)
General internal medicine (49)	34.2 (2.8)	41.1 (2.4)	30% (10.0)	53 (12.0)
General pediatrics (89)	24.3 (2.5)	28.1 (2.1)	32% (7.8)	55 (9.4)
Subspecialty				
Internal medicine subspecialty (30)	47.8 (3.3)	51.2 (2.9)	16% (6.3)	58 (16.5)
Pediatric subspecialty (21)	23.0 (2.5)	28.4 (2.3)	32% (10.7)	45 (13.4)
Small groups (*n*)				
Primary care				
Family practice (197)	35.4 (1.2)*	41.9 (1.4)	24% (3.4)	54 (4.6)*
General internal medicine (131)	41.6 (1.6)	46.0 (1.4)	15% (3.1)	40 (6.1)
General pediatrics (216)	21.1 (0.7)	26.2 (1.1)	31% (4.2)	55 (5.3)
Subspecialty				
Internal medicine subspecialty (142)	48.5 (1.9)	54.8 (1.8)	23% (6.0)	34 (5.6)
Pediatric subspecialty (92)	40.2 (3.5)*	44.0 (3.3)*	11% (4.5)	32 (7.6)
Large multispecialty groups (*n*)				
Primary care				
Family practice (66)	30.5 (1.1)	39.9 (1.8)	35% (7.0)	60 (8.6)
General internal medicine (74)	38.8 (2.7)	41.4 (2.5)	12% (5.2)	37 (8.6)
General pediatrics (69)	24.5 (2.8)	29.3 (2.8)	29% (12.8)	40 (9.4)
Subspecialty				
Internal medicine subspecialty (71)	48.8 (2.2)	51.5 (2.5)	7% (2.8)	26 (7.7)
Pediatric subspecialty (24)	42.6 (8.2)	48.1 (8.6)	18% (10.5)	59 (14.4)

*$P < .05$, comparing each of 5 specialities in HMOs to corresponding specialties in other settings, using Bonferroni-corrected P values.

staff) to oversee disease management programs for chronic illnesses. However, the HMO physicians in our study reported relatively lower satisfaction with resources and with their relationships with nonphysician staff than did many other respondents. A less complex patient mix would be another potential explanation for less time availability in HMOs, but according to the respondents, case mix in HMOs was comparable to that seen in nonacademic settings.

Doctors felt time pressure in all settings, not just in HMOs, and acknowledged needing up to 41% more time than allotted to provide quality care during new patient

Table 5. Regression Analyses of Case Mix by Practice Setting, Specialty, and Gender

	% of Patients with					
	Complex Psychosocial Problems			Complex Medical Problems		
	Coefficient	95% CIs	*P*	Coefficient	95% CIs	*P*
Setting*						
Solo	−5.6	−12.4 to 1.2	.108	−5.7	−13.1 to 1.7	.134
Small group	−5.6	−11.8 to .6	.078	−5.7	−12.5 to 1.1	.103
Large single specialty group	−4.1	−12.6 to 4.4	.340	−1.5	−10.5 to 7.5	.738
Large multispecialty group	−5.3	−12.1 to 1.6	.130	−6.8	−14.1 to .5	.068
Academic	13.2	5.2 to 21.2	.001	8.6	−0.4 to 17.6	.062
Specialty†						
General internal medicine	6.3	2.5 to 10.1	.001	17.2	12.9 to 21.5	<.001
General pediatrics	−9.4	−13.0 to −5.9	< .001	−16.3	−19.8 to −12.8	<.001
Internal medicine subspecialty	11.1	6.9 to 15.3	< .001	37.3	33.1 to 41.5	<.001
Pediatric subspecialty	−6.7	−10.8 to −2.6	.001	11.4	6.3 to 16.6	<.001

**vs HMOs as referent group.*

†*vs family practice as referent group.*

Regressions controlled for specialty, practice setting, gender, ethnicity, age, and part-time status. Coefficients mean that physicians in certain settings and specialities reported x percent fewer or more patients with complex problems than reported by physicians in the referent group.

Table 6. Intent to Leave the Practice: Impact of Practice Setting

	Odds Ratio*	95% CI	p
Solo	0.45	0.24 to 0.84	.012
Small Group	0.36	0.21 to 0.64	<.001
Large Single Specialty Group	0.24	0.10 to 0.57	.001
Large Multispecialty Group	0.33	0.17 to 0.62	.001
Academic	1.31	0.68 to 2.55	.422

**vs HMO as referent group, controlling for specialty, gender, age, ethnicity, time pressure, and part-time status.*

visits. Our data do not make clear *who* is allotting less than adequate time for doctors and patients to spend together. While it could be organizations attempting to streamline care, another plausible explanation is that it is physicians themselves who have shortened the duration of patient visits to maintain panel sizes and access to care.

The odds of intending to leave the practice were high among HMO physicians and is a troublesome finding, particularly since it is correlated with job and career dissatisfaction. Prior research[25,26] shows a strong correlation between intent to leave and actually leaving a practice. This high intent to leave, coupled with the low odds of global satisfaction, suggests that group and staff-model HMO physicians may be a relatively unstable group. Periodic surveying of HMO physicians concerning sources of satisfaction and dissatisfaction could allow timely interventions that would maintain continuity and preserve the quality of care.

Our data also show some interesting findings outside the HMO setting. That is, time pressure in patient visits is a source of dissatisfaction in many domains and requires attention. General internal medicine has low specialty satisfaction and, at least by self-report, a complex patient mix among primary care specialties. Finally, our study provides "normative" data on time allotted and time needed in patient visits by specialty and practice setting. These data can be used by physicians and health care organizations to assess their own visit times.

There are several strengths and weaknesses to our study. We surveyed a large representative national random sample of physicians emphasizing diversity within our respondents. We had an extensive developmental process resulting in a highly validated survey instrument[10] that is available for use by other researchers and health care organizations. The weaknesses include the less than optimal 52% response rate, although this is comparable to the reported response rate average of 54% in national physician surveys.[27] Interestingly, our "wave analysis" of late versus early responders showed that fourth (last) wave respondents had higher time pressure than all others, with a gradual increase with each successive wave. Thus, our study may actually have underestimated the impact of time pressure on physicians. Another weakness was the difficulty we encountered in defining an "HMO physician." Many physicians practice in settings which accommodate multiple types of managed care plans, and group and staff-model HMO physicians vary in the number of their patients that are capitated or under managed care contracts. (Our HMO physician respondents ranged from a few who noted that none of their patients were capitated or in managed care to many who noted >75%.) By defining HMO physicians as those who practice in a group or staff-model HMO and have the majority of their patients in capitated or other managed care arrangements, we believe we have identified a clearly defined and homogeneous group. Indeed, a recent article showed substantial heterogeneity between group or staff-model HMO physicians and other office-based physicians with 1 or more contracts with an HMO or Independent Practice Association.[14] Thus, we have chosen to limit our analysis to the former group. Finally, despite sampling only generalists with no secondary AMA specialty classification, some physicians sampled as generalists still claimed to be practicing as specialists. We chose to analyze physicians based upon the category (specialty) in which they were sampled and acknowledge some uncertainty in specialty classification.

In summary, while some aspects of daily practice are viewed positively by physicians practicing in group or staff-model HMOs, the balance is tipped in the direction of less global satisfaction and a significantly higher intent to leave the practice within 2 years when compared with physicians in many other practice settings. Potential explanatory factors include resource availability, staff and community relationships, and insufficient time allotted for new patient visits. To improve satisfaction and stability in HMO physicians, all of these factors require attention and further investigation.

Other members of the CSSG include John Frey, MD, Department of Family Medicine, University of Wisconsin, Madison, Wis; Kathleen Nelson, MD, Department of Pediatrics, University of Alabama at Birmingham, Birmingham, Ala, Richard Shugerman, MD, Department of Pediatrics, University of Washington, Seattle, Wash; and David Karlson, PhD, SGIM, Washington DC.

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APPENDIX

Items in Final Satisfaction Measure

	Item Text	Scoring
Autonomy	Clinical guidelines restrict my freedom to practice.	−
	Outside reviewers rarely question my professional judgments.	+
	Formularies or prescription limits restrict the quality of care I provide.	−
	I am able to refer patients or receive referrals when necessary.	+
	Gatekeeping requirements seldom conflict with my clinical judgment.	+
Personal time	Work rarely encroaches on my personal time.	+
	My work schedule leaves me enough time for my family life.	+
	The interruption of my personal life by work is a problem.	−
	The amount of call I am required to take is not excessive.	+
Relationships with patients	I feel a strong personal connection with my patients.	+
	The gratitude displayed by my patients keeps me going.	+
Patient care issues	My relationship with patients is more adversarial than it used to be.	−
	I am overwhelmed by the needs of my patients.	−
	Many patients demand potentially unnecessary treatments.	−
	Time pressures keep me from developing good patient relationships.	−
Relationships with colleagues	My physician colleagues are a good source of professional stimulation.	+
	I get along well with my physician colleagues.	+
	My physician colleagues value my unique perspective in practice.	+
	My physician colleagues are an important source of personal support.	+
Relationships with staff	Nonphysicians in my practice support my professional judgment.	+
	My nonphysician colleagues are a major source of personal support.	+
	Nonphysician staff in my practice are not accommodating.	−
	Nonphysicians in my practice reliably carry out clinical instructions.	+
Relationships with community	I do not feel at home in the community where I practice.	−
	I feel a sense of belonging to the community where I practice.	+
	My family and I are strongly connected to the community where I work.	+
Income	My total compensation package is fair.	+
	I am not well compensated given my training and experience.	−
	I am not well compensated compared to physicians in other specialties	−
Administration	My role in managing the business aspects of my practice is not a burden to me.	+
	Paperwork required by payers is a burden to me.	−
	I have too much administrative work to do.	−
Resources	Medical supplies are available when I need them.	+
	I have sufficient exam room space to see my patients.	+
	I have adequate equipment for office procedures.	+
	There are not enough support staff in my practice.	−
Global job satisfaction	I find my present clinical work personally rewarding.	+
	Overall, I am pleased with my work.	+
	Overall, I am satisfied in my current practice.	+
	My current work situation is a major source of frustration.	−
	My work in this practice has not met my expectations.	−
Career satisfaction	If I were to choose over again, I would not become a physician.	−
	All things considered, I am satisfied with my career as a physician.	+
	In general, my medical career has met my expectations.	+
	I would recommend medicine to others as a career.	+
Specialty satisfaction	My specialty no longer has the appeal to me it used to have.	−
	If I were to start my career over again, I would choose my current specialty.	+
	I would recommend my specialty to a student seeking advice.	+