

Resident and Fellow Burnout

Create a Holistic, Supportive Culture of Well-Being



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How Will This Toolkit Help Me?

Learning Objectives:

1. Describe elements needed to create a well-being framework
2. Determine the STEPS needed to develop a well-being program
3. List key aspects of personal well-being
4. Recognize the importance of personal empowerment and a sustainable culture of well-being





Introduction

The increasing number of residents and fellows who describe experiencing burnout highlights a growing crisis within the medical workforce.¹ Among physicians, rates of suicide, depression, and burnout are higher than the rest of the population, while levels of personal and professional satisfaction are low.² It is becoming more important to identify ways to create a well-being program within graduate medical education (GME) programs. Resident burnout is also impacted by concern of career choice regret.

Physician burnout is a long-term stress reaction characterized by depersonalization, including cynical or negative attitudes toward patients, emotional exhaustion, a feeling of decreased personal achievement, and a lack of empathy for patients. Conversely, well-being consists of multi-dimensional variables that interact to positively impact levels of health and emotional and social functioning. Residents and fellows who attend programs that emphasize and prioritize well-being are more likely to transform into physicians that are less stressed and better able to engage with patients to provide quality care.

Five STEPS to Create a Well-Being Culture

1. Create a Framework

2. Gather a Team

3. Develop a Well-Being Program

4. Foster Individual Well-Being

5. Confront Burnout and Create a Culture of Well-Being

Create a Well-Being Framework

To create a sustainable and engaging well-being program, you need to develop the framework first. This requires the time and dedication of key people, especially residents and fellows who can lead their program and organization to make a commitment to the well-being of fellow trainees and potentially the entire medical care team.

Enlist trainees and faculty to serve as well-being advocates and champions. Many programs involve individuals with a particular interest in well-being, such as:

- Chief residents
- The program director
- Faculty members
- Social workers
- Psychiatrists

After you have identified well-being champions, schedule a meeting with the program director to gain leadership support. An organizational commitment to well-being leads to better chances of achieving a healthy workforce; the responsibility of well-being must be shared across the program. Use the meeting with leadership to discuss how your organization defines well-being, the benefits of a well-being program, and the accomplishments of other successful initiatives.

Defining well-being should be a team effort. Discussion prompts to define well-being include:

- What does it mean to be well?
- What aspects of well-being should be addressed as part of the well-being program's scope?

- What well-being initiatives are currently in place and working well?
- What are the consequences for patients and physicians if well-being is not prioritized?

After developing a definition for well-being, it is important to understand the program's current state of well-being. At the beginning of the year, administer a survey to assess well-being within your program. Encourage trainees to respond to the survey honestly and reflectively, emphasizing that individual responses will remain confidential. Plan to reassess well-being as interventions are introduced to determine whether the changes are making a positive impact.

After the surveys are completed, the well-being team should analyze the results and develop action plans to address any concerning themes. Many programs find this as an opportunity to decide if more well-being activities are needed. You may want to display well-being scores on the department dashboard or scorecard, so everyone is reminded to think about well-being as a quality indicator.

The AMA currently offers multiple assessment options for health systems and residency programs to measure physician burnout. AMA's Residency Assessment Program uses the validated Mini-Res assessment tool to equip residency programs with data on the drivers of burnout for their residents and fellows and offers insights for actionable change. To learn more about the Residency Assessment Program, please click [here](#). If you are interested in speaking to someone to learn more, please email Practice.Transformation@ama-assn.org.

Q&A

Why is well-being important?

Employers have found that happy, engaged workers are more productive. Years ago, companies such as Goldman Sachs and Google made an organizational commitment to create well-being programs for their employees.^{3 R4 R5} Since then, the cultural shift has been dramatic, resulting in a more productive and satisfied workforce with happier clients and better outcomes. The same programs implemented by Goldman Sachs and Google can be used to impact the field of medicine.

What can we do to help our leaders better understand the value of well-being?

The more data you can show leaders, the better. Some useful information to present to leadership includes:

- Integrating well-being within a program enhances trainees' ability to fulfill the 6 core competencies as described by the Accreditation Council for Graduate Medical Education (ACGME)
- Practice-Based Learning and Improvement
- Patient Care and Procedural Skills
- Systems-Based Practice
- Medical Knowledge
- Interpersonal and Communication Skills
- Professionalism
- Work-related exhaustion is one of the many variables contributing to increased medical errors; a physician whose health is compromised is more likely to provide suboptimal care

What if we have concerns about the time and energy required for regular well-being assessments?

Data is important when developing a framework for a well-being program. Regular surveys emphasize your program's commitment to well-being concerns. Additionally, confidential surveys could offer an opportunity for trainees to identify colleagues who may need help. Understanding your program's data will help you be more strategic in designing and implementing your initiatives.

What if we think a member of our training program is burned out or in distress?

It is important to rely on multiple sources to determine if burnout exists. Trainees should be aware of the available resources to address burnout, including the support of well-being leaders within the training program. If a trainee reaches out for help, leaders should find resources that the individual can use to seek confidential help.

Gather Your Team

For your program to succeed, you must create a team with representation of all of those who are invested in its success. These include residency leadership, GME office team members, one or more residents, a residency coordinator, and social work or psychiatry backup. If you are not the program director, you must have the cooperation of either the program director or the associate program director. Both will be integral to your well-being program, as some resources will be required and will impact resident time commitments and scheduling. Your GME office and director will be important to both support your program and provide resources in the form of counseling or organization-wide house staff activities. You will need a resident champion, preferably a senior resident who has credibility with their peers. Create a job description and a title, perhaps “Well-Being Lead” to increase the resident champion’s buy-in and the buy-in of their peers. By creating a leadership position for a resident or fellow, they will be more likely to perceive the program as being internally driven and representing the needs and interests of the current group of residents.

Q&A

How do we convince the residents that it's safe to ask for help?

It is essential to normalize the opportunity to seek counseling and/or psychiatric help. At the beginning of each academic year, and periodically, residents should be informed as a group of the procedure to request confidential counseling, with the assurance that a provider will be identified whom they will not encounter during their clinical work. They will need to be reassured that regardless of the rotation they are on, opportunities will be ensured to receive counseling and time away from clinical duties permitted without reprimand.

What resources should I request from the GME office?

Your organization needs to be invested in the well-being of all residents and fellows in the organization. Providing confidential counseling and psychiatric services for all house staff may already be available, and if not, should be requested. Some organizations with multiple training programs have leadership programs for house staff participation, such as those provided by residencies managed by the Council on Interns and Residents (CIR). Providing additional leadership opportunities for residents is one opportunity to reduce burnout.

Develop a Well-Being Program

Innovate and design custom interventions that meet the needs of both individual trainees and the training program. You can begin this process by assessing the results from the initial well-being survey. Consider holding a brainstorming session with the well-being team to determine which interventions or activities could increase well-being among trainees. Based on the survey results, you may want to consider some of the following interventions:

- If trainees are not transitioning well into their new roles, offer peer support with a “buddy” program where they can be paired with a resident or fellow that is a year ahead. The more advanced resident or fellow may offer actionable advice as they recently experienced the same transition.
- If the threats to well-being involve working too many hours, the well-being team can work with program leaders to manage the amount of time trainees work over the different clinical rotations or rearrange clinical schedules to alternate more demanding schedules with electives or consult services.
- If trainees express that the program lacks a strong team culture, schedule group well-being events. These are an opportunity for everyone to have fun and connect with one another outside of the workplace. Plan activities such as:
 - Movie nights or dinners
 - Holiday potlucks
 - Ballroom dancing classes including spouses and significant others
 - Local charity work (eg, volunteer at a soup kitchen)

- Lunchtime exercise or yoga classes
- Participation in a local 5k, such as a [Color Run™](#)
- Sporting events (eg, playing in a recreational league, watching a televised match, or attending a university game)
- Watching popular shows as a team
- Painting or pottery classes
- Exploring the local environment
- A yearly or bi-yearly resident retreat may be an important way for the residents to feel empowered to focus on their team-building and camaraderie. This will need the support of the program director, with some financial support, and can be an opportunity for the faculty to show their appreciation of the residents by covering some clinical services.

Wellness Activities and Workshop Topics

Consult this guide for a more comprehensive list of interventions.

(MS WORD, 36 KB)

Literature and examples from other organizations can also be useful starting points.⁶ Here are a few examples of successful well-being programs and activities for fellows and residents at other organizations:

- [Balance in Life within the Stanford Department of General Surgery](#)
- [Fellows' and Residents' Health and Wellness Initiative \(FERHAWI\) at the Mayo School of Graduate Medical Education](#)
- [Student Wellness Program at Vanderbilt University](#)
- [The Resident Wellness Committee within the University of Alabama at Birmingham Tinsley Harrison Internal Medicine Residency Program](#)
- [Resident and Fellow Wellness Initiative at Johns Hopkins University](#)
- [Ice Cream Rounds at ChristianaCare](#)

After you establish interventions, educate trainees, staff, and faculty on what well-being is and how you plan to achieve it. Incorporate well-being into the fabric of the training program by offering well-being learning sessions or interactive workshops, or by integrating well-being practices into grand rounds. The well-being team should strive to develop a holistic, engaging curriculum that exposes all trainees to important well-being practices to improve each trainee's life as a physician. The cyclical nature of residency and fellowship training programs requires constant innovation. Continuously re-evaluate your initiatives to ensure that they are aligned with the well-being program's priorities. The preliminary assessment can serve as a benchmark. Keep track of the activities that the well-being program hosts or sponsors and how well trainees respond to them at the event and on post-event surveys. Use this feedback to establish which events should be continued. To learn more about the impact the interventions have had on well-being, use open-ended survey questions asking whether the interventions have made an impact and request information on other activities that they would be interested in. The well-being team will likely need to tailor the program every year to meet the needs of the current residents and fellows.



“The most important patient we have to take care of is the one in the mirror.”

—Robert Wah, MD, Former President (2014-2015), American Medical Association; Reproductive Endocrinology, National Institutes of Health (NIH) and Walter Reed National Military Medical Center



Foster Individual Well-Being

In addition to providing residents and fellows with a supportive environment that is committed to well-being, it is important to ensure that they have the tools and resources to develop individual well-being. To ensure individual well-being is established, you may consider incorporating the following components to shape the well-being program's curriculum:

- Nutrition (eg, healthy food options and scheduled time to eat)—The well-being team can sponsor department meetings to ensure that healthy food is available.⁷
- Fitness—Make sure residents have free access to a gym located in or near the medical center.
- Emotional health—Relax, renew, and re-energize through hosted events (eg, retreats with team-building and self-awareness exercises, stress management approaches, etc.).
- Preventive care (eg, dental care and provisions to see a primary care physician)—Program leadership can commit to giving trainees an occasional weekday afternoon off for personal meetings or doctor appointments.
- Financial health (eg, debt management, retirement planning, and emergency fund support)—Bring in a financial counselor to have informal discussions with interested residents.
- Mindset and behavior adaptability—Assign faculty and trainee “well-being partners” who will engage in goal-oriented discussions on emotional, spiritual, physical, and social aspects of well-being to help trainees develop a personal well-being approach.

Resources from the American Medical Association[Article: Want to eat healthy on a budget? 5 student-friendly tips](#)[Article: 3 tips for a successful medical marriage](#)[Resident & student finance webpage](#)[Articles and webpages on preventing burnout and reducing the impact of burnout](#)**Q&A****What are some effective individual strategies to achieve well-being?**

There are many strategies that residents and fellows can use to take well-being into their own hands.⁸ They can engage with other trainees and leaders in the program to create an environment where the well-being tactics can be applied on an individual level.

Balance personal and professional goals:

- Clarify what is most important in your personal and professional life
- Identify conflicts
- Learn techniques to adapt your daily routine around factors that are out of your control (eg, your work schedule)

Shape your career and identify stressors:

- Determine whether you need to make career changes
- Identify what energizes you and what drains you
- Decide how stressors can be modified

Nurture well-being strategies:

- Relationships
- Self-care
- Eat
- Sleep
- Exercise
- Take vacations
- Mindfulness
- Personal interests

Our physicians and staff are overwhelmed. How can we find time to implement well-being initiatives?

The fact that faculty members are overwhelmed is justification for taking the time to engage in well-being activities. With strong leadership support of well-being initiatives, time can be found for well-being. Whether through annual faculty retreats or at one of the many faculty meetings held each month, well-being activities and discussions can be integrated into existing training program events. Helping trainees find time for self-care should be an institutional priority. Prioritizing self-care is often natural after well-being is discussed in grand rounds or highlighted at a department meeting.

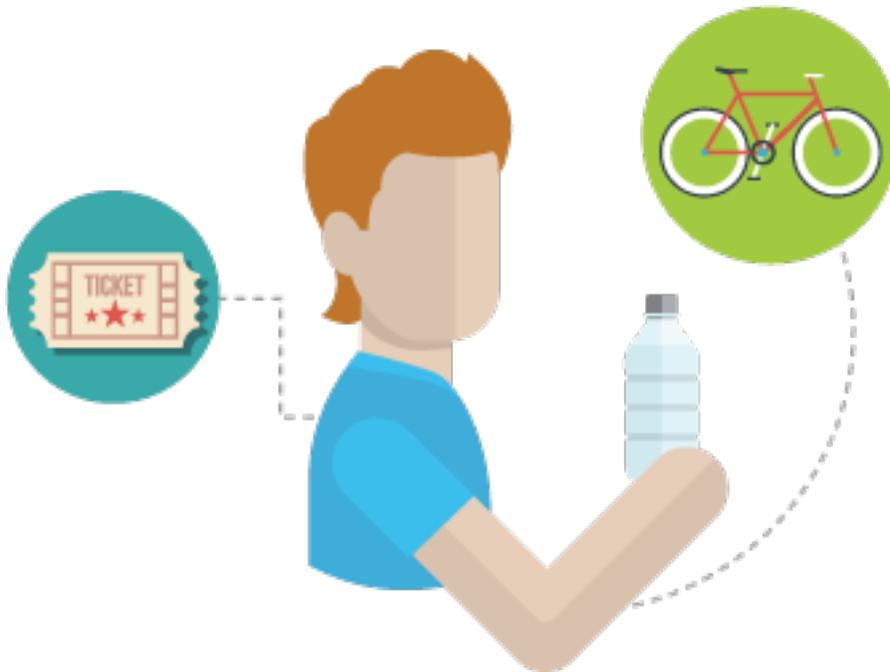
Confront Burnout and Create a Sustainable Culture of Well-Being

Maintain a strong well-being program through agility and leadership involvement. Be open to adapting strategies to fit the needs of the trainees and strive to survey residents and fellows on a regular basis, often every 4 to 6 months as new residents and fellows enter the program while others graduate. Provide opportunities for all team members to become involved in the well-being program. Continue to include faculty advisors and foster frequent collaboration. The hierarchy of the medical profession can make residents and fellows feel uncomfortable approaching a more senior member of the medical staff about well-being issues. While creating an anonymous reporting system can be helpful, trainees should be encouraged to seek and offer help as needed. Most importantly, create a community that is empowered to identify and act on signs of burnout. The combined agility and leadership involvement will help to ensure the longevity and success of the well-being program.

Q&A

What is the long-term goal of the well-being program?

In time, residents and fellows will have built a community where everyone prioritizes well-being. New trainees will be welcomed into a robust framework where physicians are resilient, engage in well-being activities, and are in tune with their level of well-being throughout their training. This increased self- and environmental awareness will become an important part of learning during crucial developmental years for physicians-in-training. These lessons will help keep the residents and fellows well enough to care for themselves and their patients as they continue to prepare for a successful career in medicine. In the future, physicians should experience longer, more fulfilling careers due to their ability to remain resilient and combat [physician burnout](#).



Conclusion

A commitment to well-being will help ensure that residents and fellows are involved and engaged in their training program as well as in their care of patients. Equipping trainees with skills to foster their own well-being will serve them, their families, and their patients throughout their careers. The strategies, tools, and

resources in this toolkit can assist you in creating a well-being culture that fits your training program's needs.



AMA Pearls

Even small changes can make a big difference.

There is no change too small when it comes to addressing burnout and improving the well-being and resilience of residents and fellows. Programs that prioritize their trainees' well-being will produce more engaged physicians who can provide quality care to their patients. If your training program is hesitant to commit to developing a well-being program, align with others who are interested in well-being and create a special interest group or club. Host a grand rounds speaker and invite your colleagues and faculty to well-being events. Your involvement may make a big difference to someone who needs it, and in time your activities will gain support to create a larger program.

Further Reading

Journal Articles and Other Publications

- Aggarwal R, Deutsch JK, Medina J, Kothari N. Resident wellness: an intervention to decrease burnout and increase resiliency and happiness. *MedEdPORTAL*. 2017;13:10651. doi:[10.15766/mep_2374-8265.10651](https://doi.org/10.15766/mep_2374-8265.10651)
- Hale AJ, Ricotta DN, Freed J, Smith CC, Huang GC. Adapting Maslow's Hierarchy of Needs as a framework for resident wellness. *Teach Learn Med*. 2019;31(1):109-118. doi:[10.1080/10401334.2018.1456928](https://doi.org/10.1080/10401334.2018.1456928)
- Raj KS. Well-being in residency: a systematic review. *J Grad Med Educ*. 2016;8(5):674-684. doi:[10.4300/JGME-D-15-00764.1](https://doi.org/10.4300/JGME-D-15-00764.1)
- Tang OY, Dunn KA, Yoon JS, Ponce FA, Sonntag VKH, Lawton MT. Neurosurgery resident wellness and recovery from burnout: a 39-year single-institution experience. *World Neurosurg*. 2020;138:e72-e81. doi:[10.1016/j.wneu.2020.01.236](https://doi.org/10.1016/j.wneu.2020.01.236)
- Berg DD, Divakaran S, Stern RM, Warner LN. Fostering meaning in residency to curb the epidemic of resident burnout: recommendations from four chief medical residents. *Acad Med*. 2019;94(11):1675-1678. doi:[10.1097/ACM.0000000000002869](https://doi.org/10.1097/ACM.0000000000002869)
- Eckleberry-Hunt J, Van Dyke A, Lick D, Tucciarone J. Changing the conversation from burnout to wellness: physician well-being in residency training programs. *J Grad Med Educ*. 2009;1(2):225-230. doi:[10.4300/JGME-D-09-00026.1](https://doi.org/10.4300/JGME-D-09-00026.1)
- Bayer ND, Capucilli PS. Small steps to address medical resident burnout. *JAMA Pediatr*. 2018;172(2):113-114. doi:[10.1001/jamapediatrics.2017.4166](https://doi.org/10.1001/jamapediatrics.2017.4166)
- Ironside K, Becker D, Chen I, et al. Resident and faculty perspectives on prevention of resident burnout: a focus group study. *Perm J*. 2019;23:18-185. doi:[10.7812/TPP/18-185](https://doi.org/10.7812/TPP/18-185)
- Lefebvre DC. Perspective: Resident physician wellness: a new hope. *Acad Med*. 2012;87(5):598-602. doi:[10.1097/ACM.0b013e31824d47ff](https://doi.org/10.1097/ACM.0b013e31824d47ff)
- Ahmed N, Devitt KS, Keshet I, Spicer J, Imrie K, Feldman L, Rutka J. A systematic review of the effects of resident duty hour restrictions in surgery: impact on resident wellness, training, and patient outcomes. *Ann Surg*. 2014;259(6):1041-1053. doi:[10.1097/SLA.0000000000000595](https://doi.org/10.1097/SLA.0000000000000595)
- Hategan A, Riddell T. Bridging the gap: responding to resident burnout and restoring well-being. *Perspect Med Educ*. 2020;9(2):117-122. doi:[10.1007/s40037-020-00567-3](https://doi.org/10.1007/s40037-020-00567-3)
- Fainberg J, Lee RK. What is underlying resident burnout in urology and what can be done to address this?. *Curr Urol Rep*. 2019;20(10):62. doi:[10.1007/s11934-019-0925-1](https://doi.org/10.1007/s11934-019-0925-1)

- Rubin R. Recent suicides highlight need to address depression in medical students and residents. *JAMA*. 2014;312(17):1725–1727. doi:[10.1001/jama.2014.13505](https://doi.org/10.1001/jama.2014.13505)
- Milling TJ. Drug and alcohol use in emergency medicine residency: an impaired resident's perspective. *Ann Emerg Med*. 2005;46(2):148–151. doi:[10.1016/j.annemergmed.2005.03.012](https://doi.org/10.1016/j.annemergmed.2005.03.012)
- Cedfeldt AS, Bower E, Flores C, Brunett P, Choi D, Girard DE. Promoting resident wellness: evaluation of a time-off policy to increase residents' utilization of health care services. *Acad Med*. 2015;90(5):678–683. doi:[10.1097/ACM.0000000000000541](https://doi.org/10.1097/ACM.0000000000000541)
- Shapiro J. Perspective: Does medical education promote professional alexithymia? A call for attending to the emotions of patients and self in medical training. *Acad Med*. 2011;86(3):326–332. doi:[10.1097/ACM.0b013e3182088833](https://doi.org/10.1097/ACM.0b013e3182088833)
- Baiu I, Titan A, Kin C, Spain DA. Caring for caregivers - resident physician health and wellbeing. *J Surg Educ*. 2020;77(1):13-17. doi:[10.1016/j.jsurg.2019.08.007](https://doi.org/10.1016/j.jsurg.2019.08.007)
- Stevens K, Davey C, Lassig AA. Association of weekly protected nonclinical time with resident physician burnout and well-being. *JAMA Otolaryngol Head Neck Surg*. 2020;146(2):168-175. doi:[10.1001/jamaoto.2019.3654](https://doi.org/10.1001/jamaoto.2019.3654)
- Drolet BC, Rodgers S. A comprehensive medical student wellness program—design and implementation at Vanderbilt School of Medicine. *Acad Med*. 2010;85(1):103–110. doi:[10.1097/ACM.0b013e3181c46963](https://doi.org/10.1097/ACM.0b013e3181c46963)
- Mendoza D, Holbrook A, Bertino F, Theriot D, Ho C. Using wellness days to mitigate resident burnout. *J Am Coll Radiol*. 2019;16(2):221-223. doi:[10.1016/j.jacr.2018.09.005](https://doi.org/10.1016/j.jacr.2018.09.005)
- Moonesinghe SR, Lowery J, Shahi N, Millen A, Beard JD. Impact of reduction in working hours for doctors in training on postgraduate medical education and patient's outcomes: systematic review. *BMJ*. 2011;342:d1580. <https://www.ncbi.nlm.nih.gov/books/NBK81802/>
- Chen PW. A medical school more like Hogwarts. *The New York Times*. December 22, 2011. Accessed August 11, 2021. http://well.blogs.nytimes.com/2011/12/22/a-medical-school-more-like-hogwarts/?_r=0
- Hobson K. New medical school programs help students battle burnout. *U.S. News & World Report*. March 21, 2013. Accessed August 11, 2021. <http://www.usnews.com/education/best-graduate-schools/top-medical-schools/articles/2013/03/21/new-medical-school-programs-help-students-battle-burnout>
- Daskivich TJ, Jardine DA, Tseng J, et al. Promotion of wellness and mental health awareness among physicians in training: perspective of a national, multispecialty panel of residents and fellows. *J Grad Med Educ*. 2015;7(1):143–147. doi:[10.4300/JGME-07-01-42](https://doi.org/10.4300/JGME-07-01-42)
- Vassar L. How one program achieved resident wellness, work-life balance. American Medical Association. July 7, 2015. Accessed August 11, 2021. <https://www.ama-assn.org/residents-students/resident-student-health/how-one-program-achieved-resident-wellness-work-life>
- Sklar DP. Fostering student, resident, and faculty wellness to produce healthy doctors and a healthy population. *Acad Med*. 2016;91(9): 1185–1188. doi:[10.1097/ACM.0000000000001298](https://doi.org/10.1097/ACM.0000000000001298)
- Dyrbye LN, Burke SE, Hardeman RR, et al. Association of clinical specialty with symptoms of burnout and career choice regret among US resident physicians. *JAMA*. 2018;320(11):1114–1130. doi:[10.1001/jama.2018.12615](https://doi.org/10.1001/jama.2018.12615)
- Herrin J, Dyrbye LN. Notice of retraction and replacement. Dyrbye et al. Association of clinical specialty with symptoms of burnout and career choice regret among US resident physicians. *JAMA*. 2018;320(11):1114-1130. *JAMA*. 2019;321(12):1220-1221. doi:[10.1001/jama.2019.0167](https://doi.org/10.1001/jama.2019.0167)
- Tawfik DS, Profit J, Morgenthaler TI, et al. Physician burnout, well-being, and work unit safety grades in relationship to reported medical errors. *Mayo Clin Proc*. 2018;93(11):1571-1580. doi:[10.1016/j.mayocp.2018.05.014](https://doi.org/10.1016/j.mayocp.2018.05.014)

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The AMA Professional Satisfaction and Practice Sustainability group has been tasked with developing and promoting innovative strategies that create sustainable practices. Leveraging findings from the 2013 AMA/RAND Health study, “Factors affecting physician professional satisfaction and their implications for patient care, health systems and health policy,” and other research sources, the group developed a series of practice transformation strategies. Each has the potential to reduce or eliminate inefficiency in broader office-based physician practices and improve health outcomes, increase operational productivity, and reduce health care costs.

References:

1. Low ZX, Yeo KA, Sharma VK, et al. Prevalence of burnout in medical and surgical residents: a meta-analysis. *Int J Environ Res Public Health*. 2019;**16**(9):1479. doi:[10.3390/ijerph16091479](https://doi.org/10.3390/ijerph16091479)
2. Bradley M, Chahar P. Burnout of healthcare providers during COVID-19. *Cleve Clin J Med*. Published online July 9, 2020. doi:[10.3949/ccjm.87a.ccc051](https://doi.org/10.3949/ccjm.87a.ccc051)
3. Lebowitz S. The surprising way Goldman Sachs employees maintain their ‘competitive edge’. *Business Insider*. July 21, 2015. Accessed August 11, 2021. <https://www.businessinsider.com/goldman-sachs-resilience-programs-2015-7>
4. Krapivin P. How Google's strategy for happy employees boosts its bottom line. *Forbes*. September 17, 2018. Accessed August 11, 2021. <https://www.forbes.com/sites/pavelkrapivin/2018/09/17/how-googles-strategy-for-happy-employees-boosts-its-bottom-line/?sh=1c23773422fc>
5. Elias J. Google is tackling mental health challenges among employees through ‘resilience training’ videos. *CNBC*. November 27, 2020. Accessed August 11, 2021. <https://www.cnbc.com/2020/11/27/google-tackling-mental-health-among-staff-with-resilience-training.html>
6. Walsh AL, Lehmann S, Zabinski J, et al. Interventions to prevent and reduce burnout among undergraduate and graduate medical education trainees: a systematic review. *Acad Psychiatry*. 2019;**43**(4):386–395. doi:[10.1007/s40596-019-01023-z](https://doi.org/10.1007/s40596-019-01023-z)
7. Mari S, Meyen R, Kim B. Resident-led organizational initiatives to reduce burnout and improve wellness. *BMC Med Educ*. 2019;**19**(1):437. doi:[10.1186/s12909-019-1756-y](https://doi.org/10.1186/s12909-019-1756-y)
8. Shanafelt TD, Kaups KL, Nelson H, et al. An interactive individualized intervention to promote behavioral change to increase personal well-being in US surgeons. *Ann Surg*. 2014;**259**(1):82–88. doi:[10.1097/SLA.0b013e3182a58fa4](https://doi.org/10.1097/SLA.0b013e3182a58fa4)