Burnout is increasing, warranting awareness of resilience. This will nurture a sustainable culture of continuous learning, collaboration, and purpose-oriented innovation. Herein, we provide a definitional framework and practical strategies for resilience based on a model comprised of five anchors: Well-Being, Self-Awareness, Brand, Connection, and Innovation. More than ever, at this time while the world is faced with unprecedented challenges by the COVID-19 pandemic, we offer a call for action to scientists and leaders to practice resilience.

The past decade has witnessed a sea change in the biomedical research and development ecosystem, with a growing recognition of the value of stakeholder engagement across multiple sectors of practice. Traversing the path from idea to medicine has become increasingly dynamic and iterative, as exemplified by the Drug Discovery, Development, and Deployment Map, which provides a network view of the process. Accordingly, agility, continuous learning, and an unprecedented level of cross-sector collaboration are important success factors for the discovery and development of transformative medicines.

The incredible amount of innovation and transition in biomedical research, drug discovery, and development is creating many unpredictable stressors. Projects have grown more collaborative and global, spanning across sectors of practice (e.g., academia, biotechnology and pharmaceutical industry, global regulatory and payer governmental organizations, patient and disease advocacy organizations, and consultancy and contract research organizations). This requires more coordination, meetings, and conference calls across multiple intercontinental time zones. Many employees find roles and deliverables increasing with limited resources. Enhancing literacy and working knowledge of emerging technologies (e.g., artificial intelligence) will require creative integration of learning opportunities.

Although data specific to biomedical researchers or pharmaceutical scientists are currently lacking, studies conducted in broader professional contexts indicate that many highly engaged employees are now seeing the signs of burnout and the implications can be substantial, with one study identifying employee burnout as an independent risk factor for coronary heart disease. Burnout of academic clinicians who need to balance across clinical, research, education, and administration responsibilities can affect both the quality of care and the quality of training provided to others. In May 2019, the World Health Organization reclassified burnout in the 11th Revision of the International Classification of Diseases-11 as an occupational syndrome, characterizing it as “feelings of energy depletion or exhaustion; and increased mental distance from one’s job.” Moeller and colleagues surveyed over 1,000 US employees from all 50 states to assess their engagement (based on self-reported measures of physical, cognitive, and affective engagement) and burnout (based on the Burnout Measure, Short Version, a 10-item questionnaire assessing physical, mental, and emotional measures of burnout). This was coupled with a demands-resources analysis of the participants’ jobs to enable an intersectional analysis of intra-individual engagement-burnout profiles and demands-resources profiles. The data showed that almost one of five employees reported both high engagement and high burnout—the engaged-exhausted group. Nearly two-thirds of the engaged-exhausted individuals reported being in “demanding jobs” (i.e., high demands—low resources). These engaged-exhausted workers were passionate about their work and with a high level of on-the-job skill acquisition, but also reported high levels of stress and frustration and high turnover intentions—a collective phenotype, which can present itself as unexpected turnover.

A scientist can be passionate about their career and still become burnout. The question becomes is one surviving or thriving? Surviving in a career is when one is managing but experiencing many of the red flags of burnout. These include exhaustion, sleep issues, and a feeling of not making the impact one wants in their career. When a scientist thrives in an organization, they have the energy for not only their career but other important areas of their life.

We have developed habits in our career of being addicted to urgency. Stephen Covey’s time management model offers a practically applicable framework and solution space. He proposed categorizing all activities on a four-quadrant matrix of apparent urgency and ultimate importance (Figure 1). As Covey observed, we almost always do the things in quadrant I (activities that are both important and urgent), however, we also spend too much time on quadrant III (urgent but not important things), like spending too much time on reading unimportant emails that waste valuable time. Examples of quadrant III triggers include an email alert pop-up, beckoning need for an immediate response to a question related to a project on which the recipient has no involvement,
or an invitation as a required attendee at short notice to a meeting without a clearly stated objective or agenda. Covey suggests we should be spending more time on quadrant II (important, not urgent). Integration of quadrant II initiatives at the individual, team, and organizational levels is crucial for sustaining an innovative biomedical research enterprise. Quadrant II activities help build resilience. Foundational to prioritizing quadrant II activities is connecting to a sense of purpose and putting the WHY in everything we do as the basis for goal-setting at the individual, team, and organizational levels. For example, a patient-centered sense of purpose will ensure proactive and timely incorporation of the patient voice into asset strategies in pharmaceutical research and development to ultimately drive discovery and development of truly transformative therapies with differentiated value for patients. A deep commitment to continuous learning and development is another important quadrant II anchor. Although project-related objectives (quadrant I activities) are a major focus of goal-setting, sustainability of today’s biomedical research enterprise demands an equally important emphasis on quadrant II initiatives aimed at enhancing organizational literacy and preparing for the future. For example, through engagement in consortia (e.g., Foundation for the National Institutes of Health Biomarkers Consortium, International Consortium for Innovation and Quality in Pharmaceutical Development, and Medical Device Innovation Consortium), pre-competitive collaborative knowledge integration and best practice development can boost research efficiency. Furthermore, carving out time and resources for such initiatives will enhance visibility and reputation at both the individual scientist and organization levels, thereby fostering retention and attraction of current and future talent, respectively. Authentic individual development plans enabled by meaningful conversations with not only managers but importantly a network of mentor(s) from both within and outside of one’s immediate organization can be extremely valuable to mindfully integrate these and other similar quadrant II activities into the professional lives of biomedical researchers.

We need to learn how to manage our energy and have the productivity we want by focusing on our resilience. Resilience is an essential skill for employees in our volatile, uncertain, complex, and ambiguous work environments. Decision making in the face of ambiguity and uncertainty is a critical skill. Importantly, this skill is of increasing importance in the practice of translational medicine. It is crucial for generation and pursuit of hypotheses in drug discovery and development, and, ultimately, in the practice of evidence-based medicine. This demands commitment to continuous recalibration of a scientist’s and clinician’s prior beliefs, resistance to cognitive biases, and willingness to challenge the status quo. We will need to hold each other accountable to principled decision making, going beyond the confines of one’s organization and sector of practice, traversing interfaces with regulators, payers, healthcare providers, and of course patients. All of this requires an exceptional level of resilience. Resilient employees manage transition, stay productive, and are less likely to disengage. Rather than complain about changes and challenges, they manage both and continue to develop their careers and look for opportunities to make a positive contribution to their organizations, pivoting to their broader sense of purpose.

The Benatti Resiliency Model (Figure 2) addresses five key areas that will enhance one’s resilience and prevent burnout. These are Well-being, Self-awareness, Brand, Connection, and Innovation. Many organizations require their employees to focus on specific competencies every year as part
of a development plan. Resilience is a key competency that organizations should emphasize for enhanced productivity and engagement. We posit that organizations and leaders of teams and line functions should catalyze development planning with encouragement for employees to recharge themselves and be proactive in their careers. For example, Google has an internal training “Search Inside Yourself” to teach mindfulness and prevent burnout.7 Sabbaticals and secondments represent important avenues for fostering Connection, Self-Awareness, and Innovation—three key anchors of the Benatti model. When cross-regional/international, these assignments can particularly go a long way in building cultural awareness and promoting overall self-awareness, including awareness of one’s purpose, key to providing a sense of stability, and continuity in one’s career. Adam and colleagues surveyed over 1,800 participants regarding the relationship between living abroad and “self-concept clarity,” with the results indicating that living

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**Figure 2** Benatti resiliency model with examples of questions to allow inquiry and self-assessment on the five dimensions of resilience.
abroad leads to a clearer sense of self because it prompts self-discerning reflections on whether parts of one’s identity truly define who they are or merely reflect their cultural upbringing. Another avenue for enhancing resilience is through active engagement in the work of professional organizations (e.g., through (co)-leadership of symposia, participation on committees, and task forces) and cross-sector/multi-institutional research projects. The synergy achievable via the connection enabled in such settings will ultimately enhance quality and diversity of thought and enable cross-functional upskilling, thereby elevating self-confidence and productivity. The ultimate purpose of course is to enable development of one’s brand that pivots to a foundational sense of purpose. Particularly insightful for reflection in this context is the Japanese concept of Ikigai that represents the source of value in one’s life or the things that make one’s life worthwhile, with the goal being to maximize the intersectional area between one’s passions and talents with the things that the world needs and is willing to pay for. We ask our readers to take a tour of Figure 2, using the questions offered against each dimension of the model as a starting point to reflect upon their own anchors for resilience and opportunities to enhance this key competency moving forward in their careers.

There are many interesting questions about burnout that are being studied around the world. The biggest question is how best to ameliorate burnout in terms of treatment and prevention. The Job Demand-Control-Support (JDCS) model has dominated research on occupational stress. According to the JDCS model, having control in our careers can moderate the negative effects of high demands on well-being. The question becomes, how to prevent burnout in so many careers that have high demands yet low control or social support? We posit that those who spend time in quadrant II of the Covey time management matrix and practice the five areas of the Benatti resiliency model will benefit in the three key areas of the JDCS model that data suggest will reduce or prevent burnout.

In summary, a mindful focus on enhancing resiliency in the workplace as a core component of talent management and organizational culture can be critically important to elevate innovation and efficiency. In our opinion, this will be particularly valuable for fostering effective propulsion along the path from idea to medicine in today’s dynamic ecosystem of biomedical research and development. The authors trust that this commentary will raise awareness of this topic and offer some practical frameworks and resources for scientists, leaders, and organizations across all sectors of practice—academia, industry, consulting, and government.

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