

Sleep is Healthy: A Simple, Old Idea with Big Consequences

By Alison Chopel

Introduction

When we think of a healthy lifestyle, the first things that come to mind are diet and exercise. Sleep is the third, and often overlooked, essential ingredient of healthy behavior, as demonstrated by emerging and established research. Sleep has a role in many health outcomes, including traffic-related and occupational injuries, obesity, and depression and suicide. ^{1;2;3;4;5}

Americans value “hard work and hard play” over rest.⁶ This prioritization has bolstered powerful industries dedicated to providing artificial energy in place of sleep and creating drug-induced sleep when we can’t “turn off.” According to a Global Industry Analysts report, sleeping pills will be a \$9 billion industry by 2015. ⁷ In order to change these priorities, decision makers who care about health must work to increase general awareness around the importance of sleep and its connection to major health outcomes and cognitive functioning.⁸ Increased awareness of the strong association between sleep and health will likely motivate people to identify barriers to getting a sufficient amount of high quality sleep in their own lives, and inspire further creative thinking around the societal changes necessary to surmount or dismantle such barriers.

Resources

Changing public understanding around the importance of sleep for health will be a labor-intensive effort, requiring financial and human resources to conduct research on messaging, fund communications campaigns, and develop detailed policy and advocacy strategies. Collaboration between existing organizations, such as the National Sleep Foundation and the Ford Foundation, could meet these needs. The National Sleep Foundation (NSF) is a not-for-profit organization dedicated to improving sleep health through education and advocacy. The Ford Foundation funds health advocacy and is much larger than the National Sleep Foundation. A cooperative grant made by the two foundations as partners would combine the benefits of Ford’s size and NSF’s specialization. The two foundations should fund collaborative partnerships of individuals and organizations that possess the necessary mix of skills and the ability to work together across fields for the common goal of enabling healthy amounts of sleep for all our citizens. Rather than establishing an award that parties can compete for, the foundations should issue a request for proposal (RFP) that would establish the objectives to be reached, allowing bidders to compete on both the quality of the team and the cost of the contract.

Government Action

There are at least three policy changes that will assist in the prioritization of sleep: 1) healthcare policy requiring the inclusion of sleep questions on health service intake forms and health provider prompts, in much the same way that smoking or exercise are routinely discussed; 2) education policy mandating school start times no earlier than 9 a.m. for adolescents; and 3) medical education policy limiting the hours of medical interns’ and residents’ shifts.

The first change is a clear way to frame sleep as an integral component of a healthy lifestyle, as many see healthcare providers as the experts on health in their lives. As Dr. Haponik et al. demonstrated, providers do not currently initiate discussions with patients about sleep, but they would do so if they were trained to. ⁹

Changing school start times is especially vital given the physiological changes that adolescents undergo. Adolescents need at least as much sleep as children, and their changing circadian rhythms make it extremely difficult to sleep earlier, even when required to wake earlier. ^{10;11} Myriad risks of inadequate sleep to health and cognition include increased ADHD symptoms, suggesting that improved adolescent sleep could result in marked educational improvements. ^{12;13} Given the lack of fit between adolescents’ biological needs and their societal requirements—secondary schools start as early as 7 a.m., with the majority before 8 a.m.¹⁴—mandating later school start times is a reasonable solution. In 2005, Representative Lofgren (D-CA) introduced a bill in U.S. congress requiring high schools to begin the school day no earlier than 9 a.m., but unfortunately it did not get out of committee.¹⁴ If the public fully appreciated the importance of sleep for health, a similar bill could garner more bipartisan support in the future.

Lastly, research has shown that long shifts for medical interns decrease sleep hours and increase medical errors.^{15;16} In order for the health field to make progress on this issue, they must lead by example. The twenty-four hour shift may support continuity of care and rapid intensive learning, but as attentional failures were halved when shifts were reduced to less than eighty hours per week, and sleep-deprived interns experienced temporary psychopathological problems, the risks far outweigh those benefits. ^{15;16} In 2004 the Accreditation Council for Graduate Medical Education (ACGME) limited work hours to 80–88 hours per week,¹⁶ and that has remained unchanged since.¹⁷ Change is now overdue.

These three proposed policy changes are not new; however, they have all received relatively little support. If the general public perceives the importance of sleep for health and performance, it will increase support for the above proposed policy changes. This support will lead to the development and advocacy of other institutional changes supporting improved quantity and quality of sleep.

Widespread Changes in Behavior

The widespread changes in behavior that such policies and changes in public perception will support include the following: 1) Parents will prioritize teaching their children to value and monitor their sleep and engage in good sleep hygiene, establishing lifelong habits. 2) Individuals will monitor their own and their partners' sleep. If an individual's sleep quality or quantity is diminished, she will consider it a health risk to discuss with a healthcare provider. 3) Healthcare providers will reinforce the importance of sleep, especially in prevention of chronic diseases like diabetes and cardiovascular disease, mental illness, and obesity. ^{18,19} 4) Citizens will protect their right to adequate and high quality sleep by advocating for reasonable work and education schedules and against hazards to sleep, such as noise pollution.

Awareness and Advocacy Campaigns

The recipients of the NSF and Ford grants would be well-placed to conduct awareness and advocacy campaigns that could enable widespread behavior changes by reshaping perceptions and implementing new policies. While raising awareness is almost entirely a mass communications project, advocacy also requires a communications component. Messaging that “goes viral” with lay audiences is qualitatively different from messaging that sways policy makers. The suggested strategy is to direct awareness communications to lay audiences that encourage advocacy action to get policymakers' attention. In order to do this, the message should contain unexpected and humorous elements to break through what Malcolm Gladwell refers to as “immunity.” ^{20,21}

One strategy to ignite such a breakthrough is using multi-media to tell stories that capture the importance of sleep. For example, Dr. Ronald Dahl's story of the connection between sleep and humanity's social nature is engaging and persuasive. This story explains how social phobias such as public speaking evolved from the need to be accepted by groups that could offer protection during crucial sleep hours. An entertaining video dramatizing this story, and connecting it to modern life and the current global sleep epidemic, would increase attention on the issue and frame the connection between sleep and health as a social issue. Framing sleep as a social issue would bypass the individual choice/individual blame trap that policy solutions to behavioral health issues have struggled against in the past.

Just as important as the message are the messengers. To capitalize on the social media revolution, social media “mavens” should identify and recruit “connectors” and “salesmen” (Gladwell's terms) through websites that measure an individual's ability to both connect and influence online (such as klout.com or kred.com).²¹ Once identified, influencers would disseminate information on sleep as a neglected health behavior. For example, Arianna Huffington, an accomplished and well-known journalist who has given a TED Talk on sleep and health, would be an excellent advocate for a “sleep is healthy” campaign. ²⁷ In addition to the online world, television remains an important influence. The Center for Hollywood, Health, and Society could facilitate collaboration with screenwriters in increasing the profile of sleep by inserting storylines around sleep into popular television shows. The objective would be to open conversations about sleep and health, and also to subtly remind people of the pleasure of sleeping.

As mentioned above, communications is key for advocacy. One policy advocacy strategy is to cluster communications around a time for action, and publicizing May as Better Sleep Month. The above communications strategies could be planned to coincide around May, while at the same time other efforts, such as letters to the editors and press conferences at schools and hospitals, could provide opportunities for citizens to sign petitions and contact their legislators about this important and mostly invisible issue. Advocates would then encourage Rep. Lofgren to re-introduce the school start times bill with the promise of increased support, and similar allies from within the ACGME would work to change their work hours recommendations in time for the ACGME guidelines revisions.

Decision Markets

In order to affect policies of health organizations, a decision market could be created, whereby every employee of the organization can

buy futures, betting on whether the policy change will achieve desired outcomes. 22 Decision markets have been used to tap into the “wisdom of crowds”²³ in the corporate world since 1990, and were temporarily facilitated in the Department of Defense. A well-known decision market, the Iowa Electronic Markets, gained much publicity for the high level of accuracy of the political predictions made during the last presidential election. According to economist Robin Hanson, “Decision markets can directly advise our important policy decisions, by giving us more accurate estimates of the aggregate consequences of those decisions.”²²

First, the organization would convene a panel of health professionals and administrators to determine reasonable expected outcomes from adding sleep questions to routine office visits; the outcomes should be some combination of cost savings and health improvements measurable in the near future. Second, futures would be offered for sale so that all employees could bet on what they believe will be the outcome of such a policy change, using their own knowledge and information to make calculations. Such decision markets should be established in at least three mid-to-large-sized healthcare organizations as a way to test the outcomes assumptions and to build awareness of and gain support for the proposed policy change.

If these pilots demonstrated positive changes, the data could be used to offer publicly-issued social impact bonds to incentivize other health organizations to make the changes as well. ²⁴ Such bonds are similar to treasury bonds, in that they allow governments to raise money upfront for current projects and pay back investors with interest upon completion of the project. Social impact bonds, however, are paid when the social project is completed—that is, when outcome targets are hit. These payments are based on calculated cost-savings resulting from the successful improvement in outcomes. In this case, social impact bonds would offset costs such as increased appointment times and changing intake forms in exchange for future savings related to reduced disease burdens.

Timespan

Changing perceptions around health issues is a slow process, but the communications to raise awareness and the advocacy to change policies could feasibly be accomplished within two phases of a bounded, short-term project. Communications activities could be completed within an eighteen-month time period, revolving around May, Better Sleep Month. A social media campaign (including YouTube videos, twitter links to articles and TED talks, and Facebook activity) and a traditional media campaign (including radio interviews with health experts, Hollywood storylines, and letters to the editors), should begin in May and continue throughout the year. At the end of that year, the following May, the later school start times bill could be re-introduced and the ACGME could release revised guidelines effective in July. Six more months of intense media advocacy should be sufficient to maintain pressure and publicly celebrate successes. After eighteen months of professional advocacy, the NSF and Ford grant recipients’ work should have raised sufficient awareness for the momentum to build on itself.

It will take longer than eighteen months to close a decision market because of futures payoffs, but once it has been created and implemented, maintenance requirements should be minimal. During the second phase of such a project, the organizations would close their decision markets and issue social impact bonds. This plan assumes that the decision markets will demonstrate that changing the policy would affect the targeted outcomes, a reasonable assumption given the overwhelming evidence from research. However, the integrity of the decision markets rests on health workers using their own knowledge to predict outcomes. For this reason, the organizations should not seek social impact bonds until the decision markets are closed. In the event that decision markets do not favor the policy change of incorporating sleep questions into the routine health provider visit, the second phase funds would then be used to consult with sleep researchers to identify other avenues for acting on the established sleep-health connection.

Conclusion

Sleep is healthy, but people around the world are sleeping less than ever.²⁶ While we spend billions of dollars to research new and improved health technologies, and public health practitioners attempt to engage individuals in healthy diet and exercise despite environments that are conducive to neither, we are overlooking a free and easy way to improve health. Given the established connections between widespread health problems and insufficient sleep, the returns on the proposed actions to reshape perceptions, change behaviors, and implement policies should be tremendous. In addition, evidence that sleep is an inequitably distributed health input (men, black people, and less affluent people get less sleep than their counterparts) suggests that addressing it may bring us closer to a health equitable society.²⁶ Sleep is a “low hanging fruit” that we cannot afford to let rot.

Resources

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