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HEALTH CARE MANAGEMENT
ALUMNI ASSOCIATION

THE WHARTON HEALTHCARE QUARTERLY

WINTER 2020, VOLUME 9, NUMBER 1



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HEALTH CARE MANAGEMENT
ALUMNI ASSOCIATION

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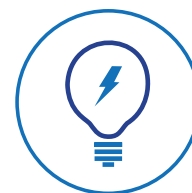
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Have an article to contribute or words of wisdom for the Philosopher's Corner?

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EDITOR'S LETTER



Z. Colette Edwards, WG'84, MD'85
Managing Editor

To learn more about Colette, [click here](#).

Welcome to 2020!

We're starting off the year with another eclectic issue, including two articles that give lots of hope:

- "Tooth Decay - From Condition of Humanity to Consignment to Medical History" – **Tooth decay can be eradicated.**
- "Being Proactive Upstream: A Collaborative Effort to Prevent Urban Gun Violence" – Lives can be saved and families can be healed, all while reducing healthcare costs.

And the spectrum in this edition is wide, with topics which range from fatigue to Digital Health 3.0.

Want to stay in the know? [Register](#) now for the 26th annual Wharton Healthcare Business Conference, which will be held February 13 – 14 at the Bellevue Hotel in Philadelphia. The theme is "New Frontiers in Healthcare" and includes a CEO Roundtable moderated by the Executive Editor of Fierce Health, who will speak with the CEOs of OptumHealth, Oak Street Health, and Cityblock Health.

Never a dull moment in healthcare, especially in an election year. Stay tuned!

Z. Colette Edwards, WG'84, MD'85
Managing Editor

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THE PRESIDENT'S DESK

In Every Issue



Maria Whitman, WG'05

To learn more about Maria, [click here](#).

Many of you in these recent months have shared stories with me on why you choose every day to be in healthcare. Whether driven by personal experience, desire to tackle the most difficult and costly challenges faced globally, and/or innate personal drive to improve health at its core, the passion and dedication of this alumni base is as inspiring as it is powerful. And it is growing.....

In the annual “State of the Clubs” report issued by Wharton, the WHCMAA carried the spotlight, with the highest total paid memberships for any club; nearly double the network average!

The question we received from cross-club leadership is “What makes this club so valuable that so many choose to belong?” The answer has to begin with the alignment of our efforts and activities to a very clear mission:

- Support the Wharton Healthcare Management Program and its students
- Contribute to the lifelong learning of its membership
- Contribute to the healthcare sector through service, leadership, and education

In this last quarter, we further advanced our support of the program and students by committing \$15,000 to the Wharton

Global Healthcare Ventures club, who will be sending ~25 students to support 4 projects with non-profit organizations in Bolivia, Nicaragua, and India over this winter break. As importantly, we are ramping up alumni mentorship support on these and future projects as a first step towards an expanded program relationship with alumni for the future.

AI. AI. AI. There will be ~\$6.6B in investment in AI (artificial intelligence) in healthcare by 2021, with an estimated savings of ~\$150B created by 2026. AI programs have been developed and applied to support diagnosis, treatment protocols and pathways, research and development, monitoring, personalized medicine, etc., but we have yet to scratch the surface. With medical knowledge doubling every 73 days by 2020 (was 3.5 years in 2010, 7 years in 1980), the opportunity to and risks of not leveraging AI becomes more clear. To advance our collective learning and discussion on the topic, our annual Alumni Conference in



Nelson-Greenberg, WG'20
Kissick Scholarship Recipient

and implications of this critical topic. The conversation continued well into the cocktail hour with alumni connecting and pressure testing new ideas, tackling the challenge of adaption/change, debating the role of human intervention, and aligning on broader implications.

I want to thank our planning committee for tackling such a critical topic in healthcare

October – “Artificial Intelligence - “A PotpourriAI” of Applications” brought together ~36 speakers from every sector and perspective to explore the challenges, learnings, emergent solutions, ethics,

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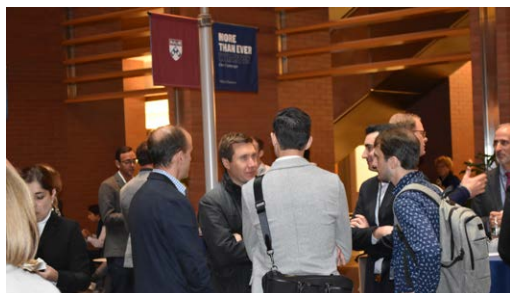
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THE PRESIDENT'S DESK



Alison Magruder, WG'21, June Kinney, Natalie Miller, WG'21



and opening up further this cross-sector dialogue with so many alumni: Jeff Voigt (WG'85, Conference Chair), Lisa Clark (JD'89), John Harris (WG'88), Deepa Shah (WG'16), Rohan Siddhanti (WG'19), Chris Simpkins (WG'02), Shilpa Topudurti (WG'20), Ryan Vass (WG'14), John Winkelman (WG'80), Bernie Zipprich (WG'16), June Kinney, Janice Singleton, Danna Daughtry, and our student volunteers.

With pride, we accomplished a lot with our last months of 2019. Yet, there is still a lot to be done.

We are starting 2020 with a membership survey geared to enabling the WHCMAA to continue to align activities in support of your needs and goals. We look forward to reading your responses and building out new and expanded ways to bring value to you, our amazing community.

Thank you, and Happy New Year!

Kind regards,

Maria Whitman, WG'05
President, Wharton Healthcare Management Alumni Association

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ALUMNI NEWS



ALUMNI NEWS

In Every Issue

Kevin McNally, WG'76

I was selected by the New Jersey Public Health Association (NJPHA) to receive its highest honor, the Dennis J. Sullivan Award. This award is presented annually to an individual in recognition of a distinguished career of dedicated and outstanding public service and contributions to the cause of public health in New Jersey. NJPHA, founded in 1875, is one of the oldest public health associations in the U.S., and is an affiliate of the American Public Health Association. The award was presented at NJPHA's Annual Conference on October 4, 2019.

I have been a member of the NJPHA since 1978. I served as its President in 2016-17 and was recently appointed Chair of its Executive Board.

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Dr. Marketa Wills, WG'06

Dr. Marketa Wills, WG'91, and co-author Dr. Carlin Barnes released their book *Understanding Mental Illness: A Comprehensive Guide to Mental Health Disorders for Family and Friends* in early September 2019. The book is designed to help overcome the stigma that shrouds mental illness.

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[Learn more.](#)

T. Sloane Guy, MD, WG'92

Dr. Guy joined Jefferson Health in the Division of Cardiac Surgery, as a Professor of Surgery, effective May 1, 2019, and holds the title of Director of Robotic and Minimally Invasive Cardiac Surgery. He performs all aspects of adult cardiac surgery, focusing on robotic cardiac surgery, mitral valve disease, and hypertrophic cardiomyopathy.

Dr. Guy received his undergraduate degree from Wake Forest University on an Army ROTC scholarship and went on to receive his M.D. from the University of Pennsylvania, in addition to an M.B.A. in Healthcare Administration from the Wharton School of Business. After internship at Walter Reed Army Medical Center, he completed his general and cardiothoracic residency and fellowship at the Hospital of the University of Pennsylvania.

Dr. Guy served as an active-duty U.S. Army surgeon for nine years, completing three combat zone tours in Iraq and Afghanistan as a surgeon. Earning various medals, including a Bronze Star, he completed his tenure with the Army at the rank of Lieutenant Colonel.

Dr. Guy has published extensively in the field, with over one hundred peer-reviewed publications, abstracts, and book chapters. He serves on the editorial board of the *Annals of Thoracic Surgery*, as well as being an examiner of the American Board of Thoracic Surgery. His main areas of research are in the expanding field of robotic surgery.

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[Learn more.](#)

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THIS MONTH'S PHILOSOPHER:
Emily Reid, WG'15

To learn more about Emily, [click here](#).



THE PHILOSOPHER'S CORNER

In Every Issue



child, a garden patch, or a redeemed social condition; to know even one life has breathed easier because you have lived. This is to have succeeded.” ~ Ralph Waldo Emerson

RECOMMENDED READING

- [Book] [*Chasing My Cure*](#)
If you haven't heard the story of our fellow HCM alumni, David Fajgenbaum (WG'15), now is the time. David has faced death 5 times and is here to stay and inspire - sharing lessons on life and hope in finding a cure - not just for his rare disease but thousands of others. He's recently identified a drug that is extending his life, a drug that was developed 25 years ago but no one had thought to try it. How many cures already exist that we have yet to uncover?
- [Article] *The New Yorker*: “The Family that Built an Empire of Pain”
In light of recent settlements, this 2017 article is a great throwback to uncovering the history of Purdue Pharma and the origins of physician marketing.
- [Podcast] *Vergecast: Is Facebook ready for 2020?*
I thought this was a great interview of Alex Stamos, Director of Stanford's Internet Observatory and former Chief Security Officer for Facebook. Stamos was at Facebook during the Cambridge Analytica scandal, so the discussion covers a lot of what was going on at Facebook then and a look towards the future for tech companies.

LIFE LESSONS

If I knew then what I know now, I would have...

- studied abroad in college. I think I've made up for it with my Wharton travels, but I'm sure it would have been amazing!

If I knew then what I know now,

I would NOT have...

- let my self-confidence hold me back – I hope to continue to find compassion for the little mistakes that come with life and bring more confidence into my work.

FAVORITE QUOTES

1. “A good leader is always learning. The great leaders start learning young and continue until their last breath.” ~ Bill Walsh
2. “One of the really important lessons for all industries that I took away from the work during the financial crisis—it applies to all industries in good times and bad—is: What are the unintended consequences of everything we're doing, and how do we each stay ahead of those?” ~ Ruth Porat, CFO of Alphabet
3. “To laugh often and much; to win the respect of intelligent people and the affection of children; to earn the appreciation of honest critics and endure the betrayal of false friends; to appreciate beauty; to find the best in others; to leave the world a bit better, whether by a healthy

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AFFIDAVIT: HEALTHCARE AND THE LAW - HOW TO ASSURE A SUCCESSFUL PHYSICIAN PRACTICE INVESTMENT OR ACQUISITION



As physician practices, healthcare entities, private equity, and venture capital firms consider physician practice investments and acquisitions, the players need to address the unique nature of physicians and physician practices in order to assure a successful deal. Peter Drucker is quoted as saying that “Only three things happen naturally in organizations: friction, confusion, and underperformance. Everything else requires leadership.” With respect to physician practice investments and acquisitions, communication is key to the ultimate success of the transaction.

UNDERSTANDING THE DEAL: CASE STUDY ONE

Effective communication is absolutely essential. Too often physician practices view a practice merger or acquisition as easy access to cash, without

understanding the cash comes with a price.

A physician group was selling their practice to a publically traded company. A few members of the group believed each physician would walk away with a substantial amount of cash with no strings attached. Those physicians told the rest of the group not to worry about the written agreements, as the agreements were just words put on paper by lawyers who did not understand the “real deal.” The “real deal,” as described by those physicians, was that the non-compete was not enforceable and that there would be no changes to the group or the way the group practiced medicine, despite the written agreement.

Legal counsel, who continuously tried to get the group to focus on the terms of the agreement, was viewed as an obstacle to the cash prize. The group’s legal counsel repeatedly told the group the buyer would not spend millions of dollars to purchase the practice and then not enforce the non-compete and, furthermore, according to the written agreements, there would be changes to the group and the way the group practiced medicine.

The deal makers for the buyer were soft-pedaling the non-compete and the proposed changes in order to make the deal and purchase the practice. Finally, at the urging of the group’s legal counsel, the buyer’s legal counsel stepped in and made it clear to the group the non-compete would be enforced and that there would be changes.

Once the group understood the deal on paper was the “real deal,” the physician group negotiated a higher sales price, the physicians who opposed the sale of the practice were provided with a pre-closing exit plan option, and the transaction closed. Years later, the practice continues to be successful, because the sellers and the buyers understood the deal and had a meeting of the minds.

WHAT NOT TO DO: CASE STUDY TWO

A health system hospital acquired a large multispecialty practice. The practice was responsible for the majority of admissions to the hospital. However, the practice had a number of underperforming physicians. Day one after the acquisition, based on the advice of a recent business school graduate, the health system sent 120-day contract termination notices to every one of the practice’s physicians and advised the physicians to reapply for their jobs. The termination notice stated the physicians were not guaranteed employment, and individual physicians would be notified within 90 days if they were being rehired. The notice also stated the terms and conditions of employment, including compensation, would likely be substantially different.

What happened next should not have been a surprise. Many of the physicians immediately began looking for new positions outside the health system. Many physicians, including the entire OB/GYN practice, ended up at a nearby hospital, owned by a competing health system. The acquiring health system went to court seeking an injunction to enforce the non-compete, and the providers and their patients went to the media and the court of public opinion. At the preliminary injunction hearing, several pregnant women testified that enforcement of the non-compete would cause irreparable harm to them, and, furthermore, the hospital no longer had the capacity to care for the pregnant women, as all of the OB/GYN providers had been terminated by the health system.

In order to avoid an adverse decision, the health system withdrew their preliminary injunction complaint and ceased efforts to enforce the non-compete. While a few physicians stayed with the health system, most went elsewhere and took their patients with them. The physician group disintegrated. The health system lost money and suffered substantial collateral damage from the public outcry.

“The most important thing in communication is to hear what isn’t being said.” ~ Peter Drucker

The health system never shared its plan to terminate all physicians and then selectively rehire physicians post-closing, and the physicians assumed it would be business as usual post-closing. Both the health system and the practice failed to communicate, and that failure to communicate quickly doomed the practice acquisition.

THE DOG AND THE TAIL: CASE STUDY THREE

A large orthopedic practice that owned a specialty hospital received an unsolicited proposal from a health system to purchase a minority interest in the hospital. The physicians entered into negotiations with the health system. The physicians were in the driver’s seat with respect to negotiations - the health system wanted the transaction, and the physicians did not need the cash. The physicians and their attorney were tough

negotiators. At one point, the health system CEO was exasperated and declared the health system was not going to let the tail wag the dog. The physician’s attorney tried not to laugh out loud, but the CEO observed the attorney’s amusement and repeated the tail was not going to wag the dog. The attorney agreed, but pointed out that, while the health system’s CEO was accustomed to being the dog, in this case, the health system was the tail and the physician group was the dog. The transaction closed on the physicians’ terms.

THE TAKE AWAY

Ideally, in physician practice investments and acquisitions, neither party feels like the dog or the tail. All parties to the transaction must understand the deal and effectively communicate and agree on plans for the future. Post-closing with respect to physician practice investment and acquisition, the buyer and the seller will continue to work together. Effective communication will minimize the risk of friction, confusion, and underperformance.

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DOWNLOADING SUCCESS: EXECUTIVE SUCCESSION AND LEADERSHIP DEVELOPMENT – PART 3

This is the third in a series of articles covering the “S” word – succession. [Part 1](#) took a deep look into succession benchmarks, and [Part 2](#) addressed key leadership competencies for succession.

Succession planning is often viewed as the unspeakable elephant in the room. If your organization has deftly avoided the “S” word, know you are not alone. But know that it’s also holding back your organization from realizing its full potential.

In a recent American Hospital Association (AHA) [governance survey](#), they found 49 percent of hospital boards do not have a formal CEO succession plan. This is often true of many healthcare organizations.

According to Nicholas Tejeda’s commentary within the AHA survey report, “Succession planning is key to the long-term success of any organization, and governance is certainly no exception.”

In addition, organizations that effectively incorporate succession planning:

- Leverage diversity of thought, talent, gender, etc.
- Achieve higher margins and performance
- Have a more engaged workforce
- Are more agile and positioned for growth
- Attract, retain, and engage top performers

“S” STANDS FOR – START AT THE TOP.

Succession planning needs to be a top-down priority starting with your CEO and executive leadership team (ELT) and eventually tied to every level of your organization. Not only is succession crucial for movement in your upper ranks, but it helps everyone on your team understand what it takes to get to the next level in their careers.

Having a succession-driven culture creates an opportunity to increase performance and commitment throughout your entire organization, and it makes your organization far more appealing to top talent at every level. Not to mention it helps keep everyone – from the board level to the front lines – in the loop and connected to your talent strategy, which should ultimately be linked to your overall business strategy.

“S” STANDS FOR – SLAY THE MISCONCEPTIONS.

So often executives assume saying the “S” word will send everyone, including their board, into a tailspin. They fear the mere mention of the word will wreak havoc and distract the entire organization, and that some kind of mass exodus of talent will occur.

If done correctly, the opposite is always true. In fact, when a solid succession plan is put into place, the collective sigh of



relief can be heard from all levels of the organization. But, like any change management, it's imperative to approach it with cultural sensitivities in mind.

Boards also identify a concern around exactly how to begin and design the process in a way that creates value and sustainability. Most are surprised to learn that succession planning actually minimizes distraction and increases retention. But it does often feel very daunting to embark on the succession planning journey, which is why many organizations struggle to take the first steps.

“S” STANDS FOR – STRENGTHEN YOUR BENCH.

Imagine any kind of a team or even a symphony without a second string or bench. Having fully developed talent ready to step in is something that does not occur overnight. You cannot microwave the next leader. It requires grooming, experiences, and accelerated development to ensure a successful transition to the next role.

The same is true for any of the leaders in your organization. Without a strong bench, you are essentially holding your breath and hoping for the best – this “strategy” is all too common for many organizations. But, unfortunately, hope is not a strategy. If you had a succession plan in place, you would know exactly who could fill in at a moment's notice, maintaining momentum and progress toward your goals.

“S” STANDS FOR – SUCCESS!

Succession doesn't have to be a bad word. It should be synonymous with success. If everyone knows where the ship is headed, you're more likely to arrive unscathed and on schedule because everyone will be steering and navigating the unknown, chaotic seas ahead to get you there.

Succession planning is just one step in the broader practice of succession management. Engaging your organization in this process takes a purposeful, planful approach. Even if you have some of the critical pieces and parts in place, it can be difficult to get them all working together in a cohesive, measurable way. But once you're there, you will usher in a new era of strength, achievement, and prolonged success.

Find the succession assessment and additional resources on succession management at bit.ly/Succession-Resources.

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TO YOUR HEALTH: FIVE PRINCIPLES OF FINANCIAL INVESTING....AND FITNESS



Tackling lifestyle challenges takes time. Part of the Canyon Ranch experience is to allocate 50 minutes of undivided, uninterrupted attention to whatever the topic of health might be for a guest. Often that time is needed to educate and inform the guest about the 'whats, hows, and whys' regarding exercise, diet or behaviors related to them. In that process, we use a variety of analogies to improve the likelihood the guest not only understands how to execute the recommendations but also can relate to the reasoning behind that recommendation. You might say that for an individual to employ your idea they have to 'buy in'...wink, wink. The money analogy works really well.

Stocks are to wealth as aerobic activity is to health. To quote from the

website [The Motley Fool](#), "There is no more reliable way to create long-term wealth than the stock market." Heart disease continues to be the #1 health concern around the world. According to the American College of Sports Medicine, 1 ½ to 2 ½ hours of moderate to vigorous aerobic physical activity *per week* will protect against premature mortality. Don't complicate your exercise habits. Avoid being too influenced by the commercialized side of fitness and activity. Long before you could walk into a room that had magic crystal waterfalls, rainforest humidity, and an instructor who specializes in H.I.S. (high intensity stretching) there was brisk walking. The premise that certain gyms provide a 'revolutionary' mode of exercise is like investing in a stock that oversteps their realistic projections. Buyer beware. Although it might seem so passé, basic aerobic conditioning is tried and true and always pays a dividend.

Understand your risk tolerance. Bonds, stocks, annuities, tech? How do you allocate your portfolio? How diverse is it? Most remember the boom in the late 90s when the market was providing unusually high returns. My high school math teacher thought he was a Wall Street wizard. Similarly, this past summer 'Judy' and I had a conversation about her attempts at regular activity. She relayed the story of her all-star effort for 3 months that included 6 am boot camp, starring 'The World's Greatest Drill Sergeant,' 5 days per week, and 40 lbs. of weight loss. Wow! What a great 3 months. Oh, and there was the chronic plantar fasciitis, herniated L4-L5 disc, and regular visits to the sports medicine clinic. All for what? That was a failed investment. Judy has learned now that exercise comes with risk. Better that the activity you choose be sustainable, repeatable, and plastic enough that it can conform to a variety of conditions. Like a trusted stock, rarely do you need to endure long painful episodes of losses; in the end you will gain more than you lose, and you won't go bankrupt along the way.

Market timing doesn't work. The question of timing your exercise is asked often.

Question: "Richard, which is better? Exercising first thing in the morning to boost my metabolism for the day or exercise at night and shed fat while I sleep?"

Answer: "Yes."

Most agree there is no particular benefit when you are active unless you are in great need to control blood glucose. My recommendation is to ponder less about this idea of an optimal, efficient, and ideal time to move but focus on a plan of meeting an activity goal daily.

Dollar cost averaging pays off in the end.

A quote from the ACSM guidelines, "Some activity is better than none," sounds very similar to "Save a little weekly, and interest will do the rest." As has been referenced in this column before, the Harvard Alumni Study has tracked activity levels and mortality rates. In 2004, Dr. Lee and colleagues concluded that as little as 1,000 calories burned per week (in as little as 1-2 episodes weekly) protected against risk of mortality over the individuals that were sedentary at <500 calories burned per week. Termed a 'weekend warrior,'¹ a tennis match, hike with the dog, round of golf walked, or skiing at your local hill all pays off. The key is that it is a regular investment, regardless of weather, time of day, or travel schedule. With the advent of an industrialized society ripe with energy-saving tools, we often look at activity as a rare and inconvenient task. If you invest episodically in the market, like going to the gym on January 1st but miss the rest of the month, the profitability of investing regularly is lost.

Select 'automatic withdrawals' to your retirement account. Consider the nature of investing your money 100 years ago. From receiving the money from your employer, potentially in cash, counting it, carrying it to the bank, standing in line, depositing it into your bank account or hiding it in the mattress. It was time-consuming and could be challenging if anything got in the way. The same is true for appointing time for exercise. On the list of most common impediments to regular exercise are travel schedule, family duties, and time needed to get to and from the gym. The premise behind N.E.A.T.

(non-exercise activity) is to focus on staying on your feet, accumulating movement as a part of daily life. It is N.E.A.T. that appears to play a role in protecting adult urbanites from some of the propensity to higher body fats, higher blood sugars, and a higher incidence of CV disease. The Blue Zones Project calls it moving naturally, as they consult with communities around the U.S. to improve the environment for walkers and bikers.

If you are an all-seasons exerciser, then 3 cheers for you!! But if you need to simplify your approach so you start to earn some profit, read Warren Buffet's book. Better yet, get the audio version and listen to it while you get your groove on. Good hustle!

REFERENCES

¹ Lee IM, et. al. "The 'weekend warrior' and risk of mortality." *American Journal of Epidemiology*. 160(7):636-41. October 1, 2004

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BEING PROACTIVE UPSTREAM: A COLLABORATIVE EFFORT TO PREVENT URBAN GUN VIOLENCE



In 1999, the non-profit organization Hartford Communities That Care (HCTC) embarked on a journey to prevent and reduce urban gun violence, centering efforts on data-driven youth leadership development. Out of necessity, the original mission soon expanded to crisis response, amidst an upsurge of homicides in Hartford, CT in the early 2000s.

Ever since, HCTC has built new partnerships that more systemically address the causes and consequences of violent crime. The HCTC-Trinity-Saint Francis Medical Center crisis response team (HCRT) was formed in 2004. As of October 1, 2019, the HCRT had responded to and supported more than 820 shooting victims and their families, connecting with them at moments of significant crisis.

Confronting an average of 100-plus shootings per year – and the PTSD among victims, their families, and loved ones – HCTC in recent years has continuously ramped up clinical care, ranging from grief and funeral counseling to home nursing and trauma treatment. Ground zero is the 06120 zip code in the city's North end and literally a “target” clientele: young men of color.

Although not foreseen at its founding, HCTC's preventive efforts increasingly have been enhanced by victim-service partnerships with law enforcement and medical professionals. This expanded further in 2018, when the HCRT became the state's first member of the National Network of Hospital-Based Violence Intervention Programs (NNHVIP), and its community-based and hospital-linked services began operating 24-7 as the only such crisis response team in the state.

August 2019 brought an even firmer foothold: After struggling for two decades with poorly resourced victim services, HCTC attracted congressional and State legislative support for a federal Victims of Crime Act (VOCA) focus on unserved – and underserved – young men of color.

Integrating services to connect with this marginalized population, HCTC with its fiduciary and compliance lead, the YWCA Hartford Region – and its grassroots partner Mothers United Against Violence – received the state's first-ever VOCA funding to directly address the deeply rooted conditions of urban gun violence faced by young men of color.

Sufficiently funded hospital-linked violence intervention programs promise to save lives and achieve substantial savings in Medicaid, which among HCRT clients pays more than 95 percent of the gunshot victims' medical costs.¹

In pure dollar terms, the annual costs of treating gunshot victims in American hospitals are nearly \$3 billion, according to a [2017 Johns Hopkins University School of Medicine analysis](#).² Moreover, the American College of Surgeons has [reported interpersonal violence recidivism rates](#) as high as 55 percent.³

HCTC continues to quantify the return on investment (ROI) from its efforts to prevent and reduce gun violence, in terms of healthcare delivery savings, violent crime cost reduction, and clients' pro-social lifetime trajectories. Using actual costs data to study the ROI implications for the hospital, Medicaid, and the tax-paying public, the Social Capital Valuations (SCV) firm has developed an Expected Value-Return on Investment (EV-ROI) predictive model, which in HCTC's case examined the average costs of emergency room and hospitalization care for 82 gunshot victims over the past three years, looking at lifetime healthcare costs savings.⁴

To derive 2017 costs, SCV used a medical cost calculator.⁵ Its estimated success rate of 10 percent amounts to Medicaid savings of nearly \$2 million.⁶

The net public benefit estimated for the HCRT cohort includes:

- **Healthcare Delivery Savings** of \$420,264 (a return of \$3.42 for every dollar invested in crisis intervention, home health service, and outpatient care in connection with 48 responses to gunshot victims and their families);
- **A Violent Crime Cost Reduction** of \$469,712 (a return of \$5 for every dollar invested in clinical intervention with individualized sustainability plans emphasizing social/emotional learning, anger management, conflict resolution, job readiness, etc.); and
- **A Public Benefit from Pro-Social Lifetime Trajectories** of \$2,915,059 (the net public benefit of 10 percent success – in this case, eight additional high school graduates – in increased lifetime tax revenue, decreased public assistance costs, and productive years not on Medicaid).

Thus the 2017 investment of \$290,976 in the preventive work of the HCRT, including after-care by home health nurses, produced an estimated net public benefit of \$3,805,035, according to the EV-ROI model.

The HCRT logic model shows the inputs from partners, their activities in service to victims and their families, the numbers of clients receiving services, and the short- and long-term outcomes.⁷ Social Capital Valuations has applied this predictive model not only in the case of HCTC, but also in healthcare and wellness analyses for a variety of states and cities.

Under the partnership-based NNHVIP approach, the HCRT seeks to further increase the human and economic benefits from prevention and intervention efforts upstream, before the flood of catastrophe.⁸

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1. According to Saint Francis Hospital Medicaid cost data for years 2015, 2016 and 2017.
2. Online source: <https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2017.0625>.

3. Online source: "Violence Intervention Programs: A Primer for Developing a Comprehensive Program within Trauma Centers," American College of Surgeons Committee on Trauma, <https://www.facs.org/quality-programs/trauma/advocacy/ipc/firearm-injury/hvip-primer>.
4. The Lifetime Per Capita Expenditure between the ages of 20 and 65 is \$137,801 in Year 2000 dollars. "The Lifetime Distribution of Healthcare Costs," Berhanu Alemayehu and Kenneth E. Warner. HSR: Health Services Research 39:3 (June 2004).
5. https://www.halfhill.com/inflation_js.html
6. The Medicaid savings would accrue from participants having productive careers with medical insurance covered by employers and not Medicaid. With 45 Productive Years not on Medicaid (age 20 to age 65), the individual savings would be \$242,086, or \$1,936,688 for 10 percent, or eight of the 82 young men receiving counseling and therapy and presumed to graduate high school and successfully transition to a productive career. Adjusting down (96.4%) for men and using a medical cost inflation calculator to find that value in 2017, yields a cost of \$242,086 per male for the 45-year productive work life. Multiplying \$242,086 times the 8 young men equals a shift of \$1,936,688 to other payers.
7. "First Generation EV-ROI Model for Hartford Communities That Care's HCRT/ Hospital-Linked Violence Intervention Program," Social Capital Valuations, August 2019.
8. "Hospital-based Violence Intervention: Practices and Policies to End the Cycle of Violence," National Network of Hospital-Based Violence Intervention Programs Policy White Paper.

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THE DAY AFTER..... CANCER SURVIVORSHIP



WHAT DO I DO NOW?

One of my coaching clients came to me for help with taking the leap into retirement. He wanted to move on to the next phase of his life but felt paralyzed..... “When I think about packing up my office and the going away party, I say to myself ‘What do I do the day after?’” After so many years of being in the same routine and feeling at the top of his game, he literally could not imagine what it would be like for things to be different when he thought about the future. He put in the work required for coaching to be beneficial and ended up actually retiring much earlier than he planned.

In a somewhat analogous way, those who survive both cancer and the treatment which led to a cure or remission can find themselves in a “day after” state of mind. After living through a time focused on saving one’s life and being in a routine of doctor’s visits, blood work, radiologic imaging, surgery – chemo – radiation - hormones or all four treatment modalities and the potential side effects thereof, cancer survivors can experience a “What do I do now?” moment.

YOU ARE NOT THE ONLY ONE.

As of January 2019, there were an estimated 16.9 million cancer survivors in the U.S., 18% of whom have survived 20 years or more. That’s more people than the state of Pennsylvania. And with advances in science and medicine, the overall 5-year survival rate for childhood cancers is now in the 80 – 90% range. Creating a cancer survivorship experience is essential not only for cancer survivors but also the family members, friends, and colleagues who are also impacted by having someone close to them on the other side of treatment. Those who are caregivers of someone with cancer number up to 6 million people in the U.S.

Shifting focus to living instead of not dying may be more difficult than anticipated. And then there is also the question of what steps need to be mapped to design a care pathway to ensure optimization of both physical and emotional health and well-being and the type of follow-up needed to be proactive about potential complications of treatment and early warning signs of relapse or recurrence. And although treatment can be life-saving, one “side effect” includes the financial implications of the cancer journey. 42% of patients with a cancer diagnosis age 50 or older deplete their life savings 2 years out from diagnosis. Cancer patients are 2.5 times more likely to declare bankruptcy, and those who declare bankruptcy are 80% more likely to die from cancer than other cancer patients.

UNMET PATIENT NEEDS

A [2019 National Coalition for Cancer Survivorship](#) survey of 1380 adult cancer patients, of which 688 had completed treatment indicated:

- Fatigue and anxiety were noted to be the most common and severe long-term effects.
- Healthcare professionals were perceived to be far less helpful in supporting patients relative to depression, anxiety, fatigue, and issues with cognition than with in-treatment side effects like nausea and vomiting.
- Few felt prepared or informed regarding life post-treatment.
- They reported less than 50% of providers initiated discussion regarding survivorship planning.
- Top issues of concern were:
 - finances
 - insurance coverage
 - having the energy to make it through the day
 - feelings of uncertainty regarding the future
 - managing long-term side effects

A [survey of 91 physicians conducted by the Feinberg School of Medicine](#) at Northwestern University found that, although cancers survivors may be at higher risk for many conditions such as cardiovascular disease, less than 30% of oncologists discussed the need to adopt a healthy lifestyle and take preventive actions.

POTENTIAL SIDE EFFECTS AND COMPLICATIONS OF TREATMENT

The potential complications of cancer treatment are myriad and can be numerous. They can appear in cancer survivors many years after treatment and may also exist long-term. The type of complications vary by the type of cancer, the type of treatment, and the specific regimens which were used. And some cancer treatments can lead to the development of a different type of cancer than the original.



Complications of **chemotherapy** can include:

- early menopause
- infertility
- hearing loss
- oral health issues – dental problems, loss of taste
- heart problems, including congestive heart failure and irregular heart rhythm
- high blood pressure
- hearing loss
- osteoporosis
- lung disease, including reduced lung capacity
- nerve damage, including the numbness and tingling of neuropathy
- issues with memory, focus, and concentration
- joint and bone pain
- fatigue
- skin and eye sensitivity to light
- secondary cancers, including acute leukemia or [myelodysplasia](#)

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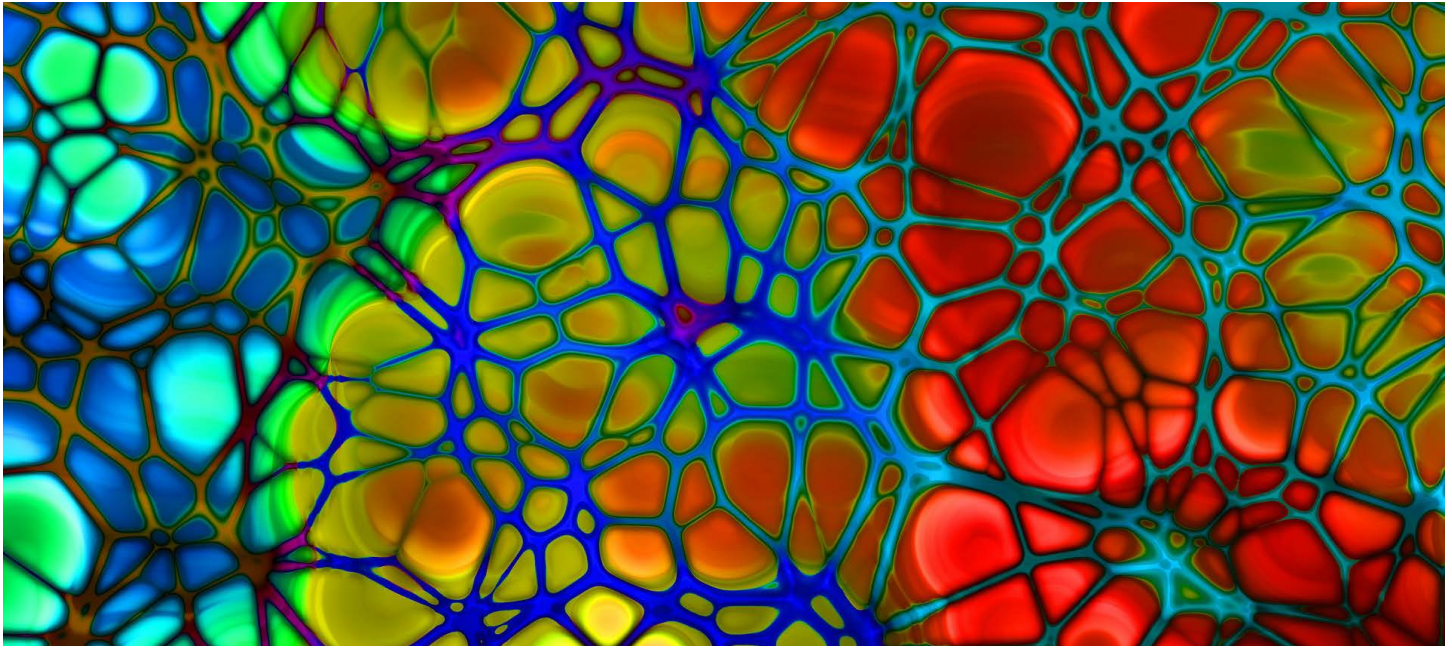
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Complications of **radiation** can include (usually related to the specific part of the body that received the radiation):

- early menopause
- infertility
- lymphedema (swelling of a limb due to disruption of the lymph system)
- thyroid disease, including hypothyroidism
- heart and vascular problems, including increased risk of stroke and coronary heart disease
- oral health issues – tooth decay, cavities, dry mouth
- problems with the GI tract, including colitis (inflammation of the lining of the GI tract), diarrhea, and obstruction
- osteoporosis
- issues with memory, focus, and concentration
- lung disease
- blood and clots in the urine due to inflammation of the bladder
- fatigue
- cataracts
- hair loss
- learning disabilities in children

- slowed or halted bone growth in children leading to short stature
- secondary cancers, including acute leukemia or myelodysplasia

Complications of **surgery** can include:

- lymphedema (swelling of a limb due to removal of lymph nodes)
- adhesions, which can lead to bowel obstruction and other complications
- changes in the look and feel of the breast for those who undergo lumpectomy or reconstruction
- scarring at the surgical site

Complications of **hormone therapy** can include:

- early menopause
- osteoporosis
- blood clots
- sexual dysfunction and loss of libido
- hot flashes
- gynecomastia
- cataracts

The range of impacts on emotional and mental health runs the gamut and can include:

- [depression](#)
- [anxiety](#) | [emotional distress](#)
- unexpectedly feeling blue
- fear of recurrence
- anger
- feelings of isolation
- [negative feelings of body image](#)
- feelings of insecurity | uncertainty
- [PTSD](#)

CREATING A SURVIVORSHIP PLAN

A survivorship plan will vary from person to person and should be customized to meet the unique needs of each patient. The list below includes some factors to be taken into account when designing a survivorship plan but is not meant to be exhaustive:

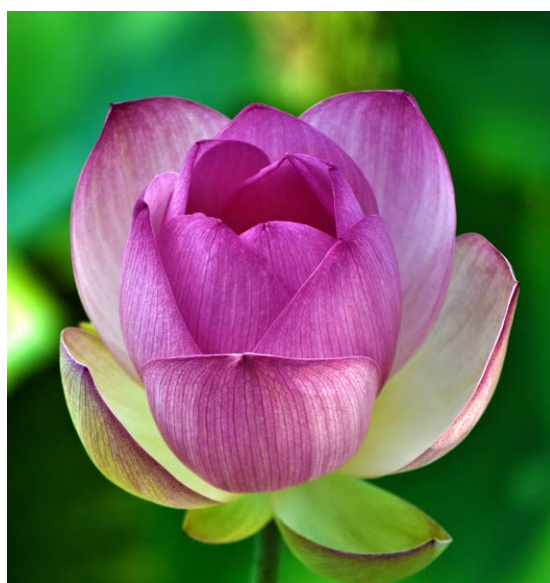
- type and stage of cancer
- type of treatment – surgery | chemo | radiation therapy | hormonal therapy | immunotherapy |
- any side effects and/or complications suffered during therapy or residual issues present when treatment ends
- an end of treatment summary
- [follow up care](#) plan to monitor for signs of complications, recurrence, or going out of remission

- preventive care plan:
 - [healthy lifestyle](#) – [healthy eating](#), [physical activity](#), [sleep](#)
 - [immunizations](#)
 - cancer screenings
 - [oral health](#)
 - [eye health](#)
 - [emotional and mental health](#)
 - [social connection](#), including [support groups](#) if they are a fit for you
- guidance for [managing physical side effects](#)
- information regarding [local resources](#) and [support groups](#)
- ways to address [financial needs](#) and [financial toxicity](#)
- [coping after a natural disaster](#)

There are many survivorship plan templates available. See the Resources section to find one that may work for you. And remember the importance of [self-advocacy](#) does not change just because treatment is behind you.

LIVING, NOT JUST NOT DYING

Now that treatment is behind you and many people expect it to be a joyful time, transitioning from treatment to a state of cancer survivorship can bring its own challenges as well as mixed emotions. And it is not uncommon to go into “care withdrawal.” Some feel adrift, uncertain, anxious, and afraid. You’ve faced your own mortality, and your perspective on life may have changed.



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THE DAY AFTER..... CANCER SURVIVORSHIP



Things that were stressful in the past may no longer seem important. You may feel strong and empowered one day and overwhelmed the next.

The journey is different for each person and can be impacted by the life you lived prior to diagnosis, your support system, whether or not you suffer side effects or complications, the dynamics between family, friends, and colleagues, as well as the future you envision for yourself. It is common to experience a fear of recurrence, anxiety prior to doctor's appointments and testing, and uncertainty around how you fit back into your social circle. Some people feel guilt, and others may feel betrayed by their body. And it

is more likely than not that your survivorship journey will not be a straight line but instead will mean taking detours and having to overcome roadblocks along the way.

It is important to be kind to yourself, to recognize it takes time to adjust to a "new normal," to avoid comparing yourself to the "old you" as well as to others, and to allow yourself the grace to adjust to the new rhythm of your life and to truly feel your feelings. You may experience a period of self-reflection and thinking through who and what is truly important to your happiness and well-being.

In survivorship those around you are also adjusting to the

“new normal.” You’ve been through a lot and no one else will ever really know how your body, mind, and spirit spoke to you at the time of diagnosis and during treatment. Family, friends, and colleagues may feel unsure about what to say and do to support you. Some cancer survivors want to be treated as they have always been in the past and not as “the one who had cancer.” Others desire a direct acknowledgment of their journey and having the opportunity to talk about it. Sometimes relationships change and there is greater clarity about your expectations, which may mean not everyone goes with you on your journey. Compassion for and patience with yourself and others will help you find your way.

You’ve been given an opportunity for more days on earth. Self-care, [self-reflection](#), social connection, feeling your feelings, and seeking additional help when you need are critical components of your survivorship plan. This may also be a time to try something that may be new for you:

- [Take 2 minutes each day](#) to reflect and ground yourself.
- [laughter medicine](#)
- [acupuncture](#)
- [guided imagery](#)
- [mindfulness](#), including [meditation](#)
- [yoga](#) and [yoga nidra](#)
- [journaling](#)
- [music therapy](#)
- [practicing gratitude](#), including [gratitude journaling](#)
- [art therapy](#)
- Take the time to [learn](#) to [be less stressed](#).

YOU are **NOT** your condition. **Remember** the importance of **living** and **not just not dying!**

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RESOURCES

1. [Cancer Treatment and Survivorship: Facts and Figures 2019 - 2021](#)
2. [NCCS: Cancer Survivorship Checklist](#)
3. [NCCS: Cancer Survival Toolbox](#)
4. [NCCS: Teamwork The Cancer Patient's Guide To Talking With Your Doctor](#)
5. [NCCS: Self-Advocacy - A Cancer Survivor's Handbook Cancer Survivor's Handbook](#)
6. [Caregiver Resource Guide](#)
7. [ASCO Cancer Treatment and Survivorship Care Plans](#)
8. [National Cancer Institute: Facing Forward – Life After Cancer Treatment](#)
9. [National Cancer Institute: Support for Caregivers of Cancer Patients](#)
10. [NCI: Questions to Ask Your Doctor When You Have Finished Treatment](#)
11. [NCI: Care for Childhood Cancer Survivors](#)
12. [NCI: Going Back to Work](#)
13. [American Cancer Society: Survivorship Care Plans](#)
14. [American Cancer Society: National Cancer Survivorship Resource Center](#)
15. [NCI: Patient Questionnaire - Do you have signs of cancer-related PTSD?](#)
16. [Overview of Cancer Survivorship Care for Primary Care and Oncology Providers](#)
17. [American Cancer Society](#)
18. [CANCERcare](#)
19. [Cancer.Net Survivorship Resources](#)
20. [Cancer Financial Assistance Coalition](#)
21. [Free Yoga Nidras](#)
22. [Images of Wellness](#)

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WHY APPROACHING THE DIGITAL HEALTH 3.0 ERA FOR HEALTHCARE INNOVATION AND FOUNDERS IS THE MOST CRITICAL STEP

The road to innovation in healthcare is a long one. The road towards incorporating these groundbreaking solutions into everyday health and healthcare system is even longer.

It's safe to say we are hitting an inflection point worth noting and, while perhaps an oversimplification, looking at the evolution of the Internet and technology becomes a measurable benchmark in comparison with the developments of the Digital Health space.



THE INTERNET'S DEVELOPMENT VS. DIGITAL HEALTH'S DEVELOPMENT

I sat in an impressive presentation given by technology futurist Steve Klosky of TriCorp Technologies back in 2017 which really gave context to the evolution of technology and what I'm about to share below with regard to healthcare.

The public world wide web took form in 1991 (Web 1.0), and great adoption in the developing world took place throughout the 90s. By 2004, Web 2.0 was formed with the launching of social media. One to one became one to many. And in the late 2010s we realized the power of everything being connected with smart devices and using intelligence, which will lay the ground for Web 4.0 with connected decisioning, in which a majority of machine and data intelligence will aim to improve systems, efficiencies, and quality.

Now within healthcare the digital developments have certainly (and to many frustratingly) lagged, but there seem to be some breaking points taking place.

DIGITAL HEALTH'S EVOLUTION

In the 2000s, HIPAA inclusion rules resulted in new standards for EHRs. Anything EHR related in the 2000s really constitutes Digital Health 1.0 - what would be the internet launch of healthcare systems, including automatic data backups, data encryption protections, audit trails, and access controls.

| Technology Era | Definition | Time Frame | Healthcare Era | Definition | Time Frame |
|----------------|---|------------|--------------------|---|------------|
| Web 1.0 | Connected Organizations | 1995 | Digital Health 1.0 | EHRs, HIPAA Inclusion Rules | 2000s |
| Web 2.0 | Connected People | 2004 | Digital Health 2.0 | Meaningful Use, Value-Based Solutions, Shift to Consumerism, Digital Health Pilots Galore | 2009-2010 |
| Web 3.0 | Connected Things | 2015 | Digital Health 3.0 | Connecting Health Social Determinants with Healthcare, Lifestyle Solutions Meets Healthcare | 2019-2020 |
| Web 4.0 | Connected Decision | 2028 | Digital Health 4.0 | Connected Health Decisions - All touch points are connected outside all healthcare walls from health to lifestyle with connected and empowered decision-making. | 2030 |
| Web 5.0 | Connected Capabilities (Augmented Humanity) | 2045 | Digital Health 5.0 | Augmented Humanity Meets Healthcare? | 2050 |

Digital Health 2.0 really swung into full force after Meaningful Use stages were introduced. An influx of single point solutions was introduced, such as condition management, virtual care, engagement solutions, and population health tools. Thus, there still were many headwinds founders encountered with reimbursement (e.g., in behavioral health) or state by state licensing procedures (e.g., in telehealth) restricting patient access, and slow-to-adopt healthcare incumbents with their own set of challenges, amongst a list too long to cover in this piece.

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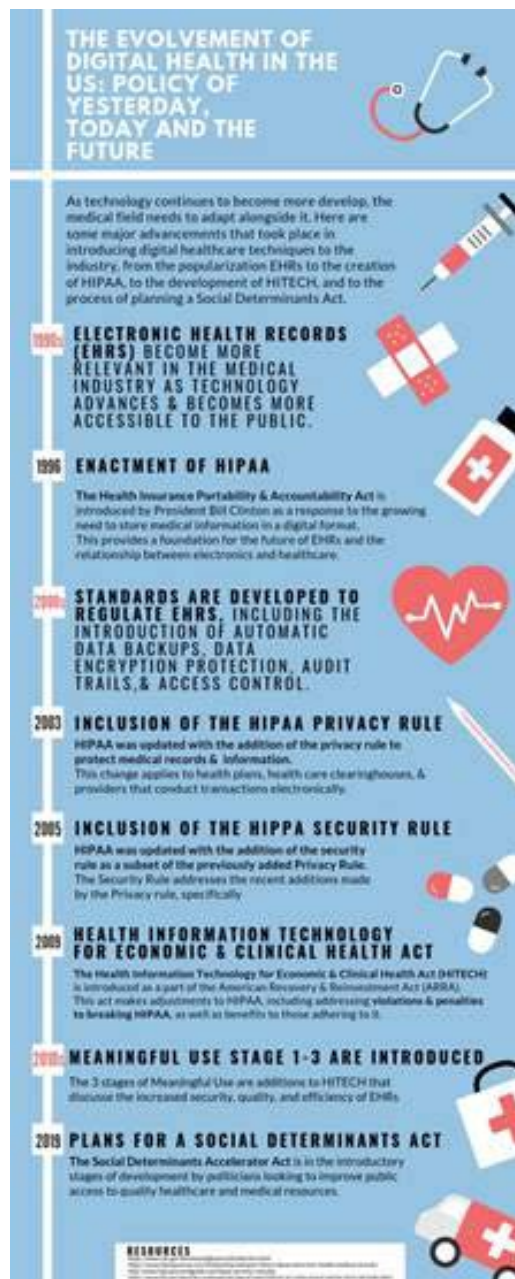
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POLICY ACCELERATED THE DIGITAL HEALTH INDUSTRY.



Some of these obstacles are fewer now, but some of the biggest developments remain, including an enforcement and opening of timely health records to patients. In September 2019, the OCR settled its first case in a [HIPAA Right of Access Initiative](#) case where a provider system did not provide timely health record information to a prenatal mother about her child. The only way this can improve is if relevant solutions connecting all end points become a reality. Hence, Digital Health 3.0.

In the 3.0 wave, more initiatives connecting overall health and wellness within our healthcare system solutions will come to the forefront. This includes social determinants of health. The Social Determinants Accelerator Act being introduced by politicians is quite an inflection point worth noting. Stated in a previous blog I wrote, “The Social Determinants Accelerator Act (SDAA) will provide one of the most fundamental pieces of policy to improve overall patient health, and they’re looking for digital solutions beyond the four walls of a typical hospital or clinic.”

Factors such as transportation, education, access to food sources, and more are all vital considerations. The evidence is fairly clear - poor outcomes are due to a void in fundamental life components and should be a part of the healthcare system. About 99% of care for most patients is provided outside the clinical setting. Everyday life, behavior/habits, food systems, mindset, education, and fundamental human needs are as big a part of the health care equation as any. Founders are starting to crack that formula.

WHERE ARE WE NOW?

After a period of innovation spanning much of the 2010s, many 1.0 technologies coupled with the improvement of many solutions in the 2.0 wave resulted in healthcare stakeholders (providers, payers, etc.)

being up to their ears in pilots and innovation. This is what I call the “Pilots Galore” decade for digital health. Back in 2016, it still felt like enterprise stakeholders were open to new ideas and models. However, as we move into 2020 a company’s value prop and innovation must be demonstrated at this stage. Burnout for many adopters is a real thing. Pilots Galore also unfolded because many 1.0 digital solutions were lagging what stakeholders actually needed. The 2.0 wave, and now the 3.0 wave, are here to solve for those inefficiencies.

WHAT’S ALSO SUPPORTING DIGITAL HEALTH 3.0?

The FANG of Health which is more like the WAAG (Walmart, Apple, Amazon and Google) are now clearly in the space. These players are making it known they are here to make a dent in the system. I scratch my head when antitrust claims derailed the Aetna and Humana acquisition, but then you see the tremendous disruption potential with Amazon’s acquisition of Pillpack and Apple’s health record now on every iPhone. Companies selling Digital Health 1.0 and 2.0 businesses to non-traditional healthcare players (tech players) illustrates how much this industry can really change.

SUCCESSFUL DIGITAL HEALTH FOUNDERS

Founders who have been successful have likely uncovered the following:

- For enterprise focused startups, a mix of clinical validation PLUS meaningful market traction. They then think through real differentiation and help stakeholders achieve their goal. Following money flows and who’s incentivized is critical - and understanding how this is changing is even more so.
- For those who are direct-to-consumer (D2C), think about where the consumer **really** cares about their health. We have found, for example, in cases of maternity care, a prenatal mother REALLY cares about her health because it is not only for her but for her soon-to be-child. D2C could be the starting point for validating your product before heading into the

enterprise arena and finding payment models that work. Most D2C fail in healthcare because they’ve forgotten this or built something the consumer doesn’t really want.

DIGITAL HEALTH ACCELERATOR, FUNDERS AND MORE

So, what will the future hold for founders? The launching of Rock Health in 2010 positioned as the first digital health focused accelerator and fund, led to a number of growing funding players, numerous accelerators, incubators, VCs, corporate VCs, and more.

What’s naturally happened to accelerators and early pre-seed/seed players:

Many early stage entrepreneurs are seeking to build their company and get early stage support and funding with an accelerator, something I’ve witnessed for much of the last 5 years.

But with the evolvement of Digital Health 1.0, healthcare funders evolved (or dissolved) with it. One of the following three outcomes has taken place:

1. The accelerator continues but with lesser quality companies over time and lots of personnel turnover
2. The accelerator dissolves due to poor performance or its cycle run out.
3. The accelerator heads upstream and turns into a larger fund (Series A or later), leaving less institutional capital for early stage players.

WHY NOW MATTERS MORE THAN EVER

It’s without question we are now at the most critical juncture of this Digital Health wave. Will all the investment and innovation in the Digital Health 1.0 and 2.0 eras be put to use in this next 3.0 wave? Will we bend the cost curve of \$1 trillion of waste and healthcare care costs expected to constitute 20% of the GDP?.

WHERE ARE THE GAPS?

After investing for nearly five years in the digital health space as a seed and Series A investor, it became clear there were two gaps where entrepreneurs needed help.

Featured Article

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1. Pre-Accelerator or Pre-Outside Capital Support

This can be defined as pre-seed too. The challenge here is many of the same entrepreneurs are bidding for accelerators and first outside capital, but they are making the same mistakes, may not have relationships with many of these early adopters or early stage funders and need direction into these programs, pilots, and early validation support.

2. Post Series A (Post Accelerator) Support

After a company has leveraged an accelerator or built up its company through Series A, many companies are able to place key personnel with the hope of executing on further expansion through direct customer and distribution partnerships.

As funders we noticed that some of the companies with the best execution had a business-savvy CEO and a CRO with experience that blends corporate and early stage startup experience with prior tech software sales expertise.

DATA ROOM AND DIGITAL HEALTH DEEP DIVE

For UPenn students and alums building their digital health business we have a [data room template](#) to prep you for your fundraise, which digital health founders have used to raise seed and Series A funds. And to schedule a free 30 min deep dive session you can contact us at support@mastermind.health.

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THE IMPORTANCE OF ALIGNING VISION, MISSION, AND STRATEGY IN FAST-CHANGING HEALTHCARE ENVIRONMENTS



Virtually every health system and academic medical center in the United States is scrambling to succeed in an environment of rapid change. Regulation, payment, care models, competition, technology, and advancements in diagnosis and treatment continue to evolve at a rapid pace. While the challenges play out differently in different markets, leaders everywhere struggle to align short-term priorities with longer-term vision—all when they aren't able to guess at what the future will hold. This article explores the powerful relationship between vision, mission, and strategy to help leaders stay true to who they are even as they are called to adapt to an uncertain environment.

CHARTING THE COURSE

Retired Harvard Business School professor Robert Hayes once commented that if one should find oneself in a rapidly changing swamp filled with quicksand, a map of particular paths would not be nearly as useful as a compass. The compass gives you a sense of orientation, like the North Star to a sailor on the ocean. It gives you a sense of direction and destination. As the local situation becomes too complex, people can reorient themselves and reestablish the link between immediate issues and the larger stakes.

The sailing metaphor helps us to understand that just because we have a vision—a realistic, attractive, motivating image of a desired future—it does not mean the way to reach our destination will be as simple as the shortest path between here and there. That requires purpose and action. Like sailing, we must read water and wind. We need to know the capabilities of our craft and our crew. Sometimes we will be on a course that almost feels perpendicular to where we want to end up because it will position us to reach our destination at some future time. When a skipper resets a course, the crew does not perceive it as indecisiveness, as long as they understand the new course's relationship to their desired destination. This metaphor demonstrates the power of an aligned vision, mission, and strategy to balance today's realities while preparing for tomorrow's unknowns.

THE POWER OF ALIGNING VISION, MISSION, AND STRATEGY

A motivating vision is a powerful shaper of an organization's behavior; in a sense, it can substitute for managerial control. Like a magnet, it has great power to align many separate elements. At the same time, many leaders can confuse or conflate vision and mission. They are integrally linked, but conceptually different. Campbell and Yeung define these terms as:

- Vision is a mental image of a possible and desirable future state of an organization.

- Mission is an organization's character, identity, and reason for existence, including purpose, strategy, behavioral standards, and values.

I recommend that vision be associated with aspirational goals—WHERE you want to go over the long haul—and mission with a way of behaving—the core of WHAT you do to achieve that vision. In times of change, there will be greater overlap of the two concepts because the organization is often seeking to change its culture—its ways of behaving—to help it to achieve its vision for the future. Strategy comes into play to link the short-term with the longer-term. Strategy is essentially HOW you will advance your mission in pursuit of your vision in the near term. Because of its more immediate time horizon, strategy can change to adapt to challenges and opportunities in the environment.

I've seen the power of this concept come alive in a multi-state health system, where the markets served couldn't have been more different. C-suite leaders could not see the value in being a collective system until they came together to create a vision and mission that aligned their identity and purpose. They could then return to their individual markets to craft strategies that advanced the vision and mission in ways that aligned with the on-the-ground realities of their local circumstances.

CHARACTERISTICS OF A SUCCESSFUL VISION AND MISSION

Leaders can often get tripped up crafting a vision statement. A vision can fail by being too achievable or too ambitious. Organizations are vitalized when both a dream and a hardheaded assessment of reality are simultaneously present. Some desirable qualities of a vision include:

- **Scale and scope.** It should stretch the organization and feel significant.
- **Inspirational.** It should excite people, help them give meaning to daily, often mundane tasks because of the link to the vision.
- **Sense of history.** A vision about the future should tap deep historical roots of what people have found important and valuable. A historically grounded vision provides a clear sense of what will be transient and what is enduring in a world of rapid change.
- **Sense of context.** A vision needs to connect people to the wider world so they can see the relationship between the organization's work and their own passions.

While some organizations use the vision and mission interchangeably, we think differentiating between the longer-term vision with the purpose-driven mission sets a strong foundation for the short-term strategy. Consider the following example from the Mayo Clinic:

- *Vision* — Mayo Clinic will provide an unparalleled experience as the most trusted partner for healthcare.
- *Mission* — To inspire hope and contribute to health and well-being by providing the best care to every patient through integrated clinical practice, education, and research.

ALIGNING STAKEHOLDERS TO VISION, MISSION, AND STRATEGY

Authentic organizational vision, mission and strategy arise out of relationships between a leader and colleagues and between an organization and the people both inside and outside of the organization who care about it, fund it, and consume its products and services. In a sense, these items are negotiated to ensure stakeholders understand where the organization is heading and why. When individuals have actively worked together on an organizational vision, mission, and strategy, they are better able to link them to their personal motivations and goals. The vision and mission can be realized through committed, empowered, and enrolled people who are able to translate strategy into action.

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OPEN WIDE: TOOTH DECAY - FROM CONDITION OF HUMANITY TO CONSIGNMENT TO MEDICAL HISTORY? PART 2

In the return of the “Open Wide” column, [Part 1](#) of “Tooth Decay - From Condition of Humanity to Consignment to Medical History,” provided an overview of the history of dentistry, how the underlying “drill, fill, and bill” doctrine led to the private, solo, fee-for-service practice being the predominant organizational and financial model for dental care, and how this essentially “volume (of intricate procedures) over value” orientation is at odds with the aims of health reform, to wit comprehensive, integrated, preventive “value over volume” care. Part 2 now presents the contemporary scientific understanding of the causes of tooth decay - “the most common chronic disease of childhood, surpassing asthma” - and what this modern understanding means not only for the clinical treatment of decay, but also for the wholesale reconfiguration of the “dental care industry,” from dental education and training, to the structure of its workforce, to integration into medical care more broadly, to greatly expanded access at markedly lower cost, and, most importantly, to significantly improved dental health in the population.

THE SCIENCE OF TOOTH DECAY

For a disease first correctly described some 400 hundred years ago as the action upon tooth enamel of acid-producing bacteria in the mouth, the dental profession worldwide lacks widespread contemporary understanding of the microbiological basis of the etiology, treatment, and prevention of tooth decay. That contemporary understanding centers upon the following:

- While *S. mutans* and various lactobacilli are regarded as the principal bacterial agents causing tooth decay, they are not seen as the sole actors.
- The oral biome, the microbiological population in the mouth, consists of other bacteria, fungi, viruses, and other entities that can also cause or facilitate the decay process. Many cannot be



grown on nutrient media, and thus can only be identified genetically.

- The constituents of the biome are in varying states of contention and cooperation, with factors such as illness, medication, carbohydrate/sugar load, and pH affecting which entities gain dominance and which recede.
- The biome also forms dental plaque, a matrix of bacteria and other entities around and adherent to the teeth, as a natural course of events. Undisturbed, such as by brushing and flossing, dental plaque can form elaborate structures protective of decay-causing bacteria, which can then exchange genetic material to compound the decay-causing process.

This is the biological context in which the development, or inhibition, of tooth decay needs to be seen. It is complex and dynamic, and having as much impact on the mouth and teeth as the gut microbiome has on the rest of the body and interacts with it as well. It is subject to manipulation both by a diseased mouth as well as a healthy one, if the underlying biology is understood. This then lends itself to the concept of the “medical management of tooth decay,” as opposed to the conventional “surgical” (drilling and filling) and even “engineering” (restorative procedures, e.g. crowns) approaches, which can be seen as rather one-dimensional answers to a considerably more multifaceted and complex situation.

The medical management of tooth decay actually originated about a century ago with Dr. G.V. Black, “the father of modern dental practice,” who safely and effectively used a solution of silver nitrate to arrest tooth decay, albeit with a consequent turning of the decayed tooth structure black, a cosmetic “inconvenience” but an unequivocal indication of treatment success. (The use of silver nitrate parallels the use of Salvarsan by Dr. Paul Ehrlich to treat syphilis, which signified the advent of chemotherapy in the treatment of disease.) Silver nitrate remained a common treatment for tooth decay until around the 1950s; why it fell out of favor isn’t entirely

known. Speculation is that dentistry took more of a “cosmetic” turn, emphasizing the restoration of diseased teeth to as natural an appearance as possible, which then entailed the intricate procedures of the “engineering” approach, made all the more tolerable with the development of “Novocaine” and other local anesthetics. Thus dentistry became identified further away from any attempts at controlling disease and focused on compensating for its effects.

In recent years, attention has returned to the use of silver nitrate, in an updated formulation to incorporate another well known and effective decay-preventive and remineralization component, the fluoride ion (F⁻), to form silver diamine fluoride, or SDF. International trials have shown it to be 68-100% effective in arresting tooth decay in children. As with silver nitrate, the decayed tooth structure (not sound, unaffected structure) turns black and hardens, an indication of successful treatment, which curiously has been shown to be more a concern of the parents than the children, in which case opaquing materials can be used to mask or lessen the discoloration.

To underscore, the medical management or chemotherapeutic approach to treating tooth decay relies upon the bacteriocidal effects of the fluoride (F⁻) and silver (Ag⁺⁺) ions in silver diamine fluoride (SDF) to arrest decay; rebalance the oral biome to a non-disease supportive homeostasis; act as a preventive reservoir of antimicrobial action in the mouth; and remineralize tooth structure and harden it against bacterial acid attack, properties that are far more consistent with the microbiological aspects of the disease than the simplistic removal of sound tooth structure to accommodate filling material under the surgical approach. The attributes of SDF include the following:

- It is very inexpensive in both material cost and time needed to apply.
- It is simple and easy to apply.
- It is highly effective in arresting tooth decay.
- It is very well tolerated by patients, as the fear of “needles and drills” disappears.
- It shifts dental care resources from an

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OPEN WIDE: TOOTH DECAY - FROM CONDITION OF HUMANITY TO CONSIGNMENT TO MEDICAL HISTORY? PART 2

emphasis on tertiary prevention (compensating for and living with the consequences of disease, e.g., tooth loss, dentures) to secondary and primary prevention (limiting the extent of the disease, avoiding it altogether).

- Significantly, it requires neither the skills nor the office setting of a trained dentist for application, i.e., easily and suitably trained non-dentist personnel in a wide variety of “alternative settings” become frontline providers of care.

DENTAL HEALTH POLICY

Emanating as it does from an insular, detached segment of medicine, dental health policy, in both the domestic United States and at the international levels, is inadequate to the task of meaningfully addressing the disease of tooth decay. From my perspective, it is handicapped in the following areas:

- It adheres to the conventional “surgical” paradigm of treatment, i.e., the specialized techniques of a dentist involved in the ex post facto debridement of hard tissue followed by its restoration or replacement.
- It does not appreciate this paradigm is obtuse to the conditions within the mouth that initially brought about, support, and can perpetuate the decay process.
- It has not advanced in its understanding of the microbiology of the mouth, i.e., the composition of the biome, and the morphology and physiology of dental plaque, and how oral microbiology can be influenced to disease-causing and disease-inhibiting states.
- Being outside the realm of healthcare developments taking shape as a result of health reform in the United States in particular, dental health policy has only a shallow understanding of the organizational, financial, and management principles, practices, and initiatives required to realize policy aims.
- With the “debridement” paradigm as lodestar, other conceptualizations on how to address tooth decay as an infectious disease are obviated.
- While tooth decay has been termed a preventable disease, dental health policy has been unable to articulate the reallocation of dental care resources from tertiary prevention, i.e., compensating for the sequelae of disease after it has run its course, to primary and secondary prevention, i.e., outright prevention of disease and limitation of its effects, respectively. As such, dental health policy does not demonstrate an understanding of how to prevent preventable disease.
- Concisely stated, the fundamental handicap of dental health policy is that rather than availability of specialized mechanical techniques, it is placement of the F- and Ag++ ions in the site of the lesion and in the oral environment that effectively and efficiently address tooth decay as an infectious disease. Such placement is the therapeutic rationale and organizing principle behind the medical management of tooth decay on both the individual and the population basis.

THE SCIENCE LEADS TO THE ORGANIZATION OF CARE, AND THUS LEADS TO THE CONTROL AND ERADICATION OF THE DISEASE

Vanishingly small cost, simple and efficient application, high effectiveness, high patient acceptance due to the removal of the fear of needles and drills, and wide availability from a variety of providers in a variety of settings mean that cost and access virtually disappear as barriers to care when using SDF, and attention can be focused on the organizational structure to address tooth decay anywhere on earth. As such, worldwide campaigns to eradicate diseases such as polio and smallpox become relevant models for the control and eradication of tooth decay. For example:

- While not a vaccine itself, SDF is vaccine-like in limiting the disease spread to other teeth in the host.
- The effects of treatment are long-lasting.
- It requires little specialized handling or training to administer.
- The indicators of successful treatment are unequivocal and definite.
- Large populations can be easily accommodated for initial treatment, follow-up, and longitudinal data collection.

Policy makers need to comprehend that control, reduction, and conceivably eradication of tooth decay is possible by shedding the conventional view of treating the disease, and adopting the scientific and organizing principles of the medical management of tooth decay to address this disease worldwide. In so doing, a reconfiguration of the dental care delivery system becomes a viable vision. The links between oral health and the health of the body, i.e., control of diabetes and reduction in the risk of cardiovascular disease and premature delivery, all areas of enormous expense in the healthcare system, demand the integration of the two and a more holistic view of care delivery.

Part 3 will build upon the biological basis for tooth decay and its treatment with antimicrobial agents, in contrast to the familiar engineering or “needles and drills” approach. The attributes of the “medical approach” using antimicrobials—low cost, simple and easy application, high effectiveness—mean that dental care can be entirely reorganized away from the traditional private, solo, fee-for-service practice models. All of them mean that front-line providers of dental care will not be dentists, but non-dentist personnel, e.g., hygienists, RNs, NPs, PAs, found in wide variety of heretofore “unconventional” settings, including retail clinics. Dental education and training will shift away from traditional four-year programs (most will disappear) to two-year programs at the associate degree level, as part of the nursing education curriculum, and to continuing education credits. For these and other reasons, dental care can be more seamlessly and easily integrated into the rest of medical care delivery. We will take a look at some of these organizational models next time around.

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FATIGUE: MUCH MORE THAN BEING A LITTLE TIRED!

In recent years, there has been a focus on educating Americans on the consequences of sleep deprivation and suggestions for improving sleep. Sleep is essential and a biological need. Without adequate sleep, we can suffer physically, cognitively, and emotionally.

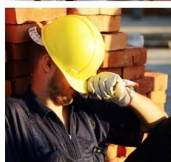
Last year, I attended a conference in Seattle on fatigue sponsored by the National Safety Council (NSC). According to the NSC, fatigue is a growing concern in the United States. Fatigue is the feeling of tiredness or low energy. Fatigue affects every workforce. Fatigue can be driven by work schedules like shift work, long shifts or long work weeks, long commutes, job demands, sleep loss, or poor-quality sleep. At times we may not even be aware we are feeling off our game.

Understanding and addressing fatigue is important because of safety issues at and away from work. Fatigue can lead to accidents, poor work performance, and reduced productivity. Many of us have powered through when we feel like we are dragging. But when chronic fatigue persists, it can be dangerous and even have health consequences. The National Highway Traffic Safety Administration estimates fatigue is a cause in 100,000 auto crashes and 1,550 crash-related deaths a year in the U.S.

Can you think of a time when you were so tired you struggled to stay awake when you wanted or needed to? Perhaps you felt your eyelids feel heavy or begin to droop. Then your head nodded and bobbed. Nodding off is a symptom of fatigue. In fact, those nods and bobs are episodes of “microsleep.” Yes, actual brief sleep episodes. And, in some instances, people don’t even know they fell asleep. These microsleeps can happen on the job, while watching TV or reading, or even when driving. Based on a survey of over 2000 workers published by NSC, 27% report microsleep at work, 16% on the road, and 41% off the job.

There are other symptoms of fatigue. Did you know fatigue and poor quality sleep not only make you feel tired or experience reduced energy throughout the day, they can lead to medical problems like heart disease, diabetes, hypertension, obesity, and an increased risk of Alzheimer’s as well as result in irritability and affect your performance at work? In the same survey mentioned above, 76% felt tired at work, 53% felt less productive, 44% had trouble focusing, 39% had trouble remembering, and 27% had trouble making decisions. These issues collectively can increase safety risk. In fact, 16% of individuals reported experiencing a near miss or

The cost of fatigue to employers



- Worksite accidents
- Poorer employee health and psychological wellbeing
- Reduced performance and productivity
- Increased health care costs
- Fatigued worker productivity costs employers \$1,200 to \$3,100 per employee annually



safety incident due to fatigue. One meta-analysis (Uehli et al., 2014), showed that workers with sleep problems had a 1.6 times higher risk of being injured at work compared to workers without sleep issues.

CAUSES AND CONTRIBUTORS

Medical Issues*:

One medical cause of sleep disturbances is obstructive sleep apnea, which occurs when the muscles in the throat relax and interfere with breathing which can lead to excessive daytime sleepiness and other health consequences. Estimates of the prevalence of sleep apnea range from 2 -10% (Léger et al., 2012).

A frequent sleep challenge is insomnia. Insomnia can be a disorder or symptom. It includes self-reported difficulty falling or staying asleep, shortened sleep duration, or early waking and results in some type of daytime impairment. Estimates of the prevalence of insomnia range from 10 - 40% (Léger et al., 2010).

Work Schedules and Other Work Demands: People who work very early or late shifts can experience poor sleep or sleep deprivation. Even people who work in traditional office roles can find they are sleep deprived. Many work cultures promote and expect staff to work long or late hours. Some even reward it! These type of work demands can lead to employees getting inadequate sleep.

Other: Work or life stress, excessive exposure to blue light from our technology-filled world, eating or working out before bedtime, and caffeine or alcohol use can interfere with sleep cycles and/or reduce sleep quality.

Most of us can handle a day of poor sleep, but it is when poor sleep persists that greater consequences occur. For example, research shows that as more days of sleep deprivation accumulate, so do safety and behavioral risk.

SOLUTIONS

Tips for Improving Sleep

It is important to get enough sleep and to have good quality sleep. What can you do to improve your sleep? Experts recommend sticking to a sleep schedule.

Go to bed and wake up around the same time each day and get at least 7 hours of sleep. If you have trouble falling asleep try one of the following recommendations. Reduce blue light exposure from devices and TVs a few hours before going to bed. Blue light disrupts circadian rhythms, reduces melatonin production, and promotes alertness. Limit caffeine before sleep, or longer, if you are sensitive to caffeine. Do not eat a large meal or exercise hours before going to sleep. Meditate, try deep breathing, or do something relaxing. If you find your mind racing and thinking about your day, jot a few notes down in a journal and tell yourself you will think about the next day.



If you routinely have trouble sleeping, waking up during sleep, or having difficulty falling back to sleep, you may want to consult with your physician or explore using a sleep program.

Tips for Dealing with Fatigue

While you are working to improve your sleep or manage work/life stressors that may be leading to poor sleep and fatigue, there are a few things you can do to temporarily reduce or improve fatigue symptoms. It is important to know that these are not solutions, but rather short-term fixes. To improve fatigue, you must address the root cause. This may require exploring options with your employer to improve your work schedule, workload, or work-related demands on you time outside of work.

In the meantime, try these recommendations: Take a short nap when you are tired. Even a short 10-20 min nap can boost alertness. Another solution is to take regular short breaks. Short breaks during tasks or when driving can help to maintain or restore alertness. Use some blue light to promote alertness. Although blue light exposure before sleep is problematic, exposure to blue light during certain tasks or at the beginning of one's day can promote alertness.

Get moving. Brief periods of physical activity can boost alertness. Have some caffeine to boost alertness. Caffeine can provide a short-term boost to alertness when used correctly. Don't use caffeine all day to stay alert, but rather have some caffeine prior to certain tasks that require some additional focus.

Try a Program: Psychological and behavioral interventions have been shown to be effective.

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There are a variety of coaching apps that address sleep, including CBTforInsomnia.com, Sleepio, and several stress and meditation apps like Calm, Breathe, Journey Live, just to name a few.

Fatigue can cost employers \$1,200 to \$3,100 dollars in lost productivity annually or more if it leads to a worksite accident. Despite the prevalence and impact of fatigue on companies, the majority don't communicate with employees about fatigue. This is a missed opportunity to address a worksite risk factor. In addition, employers need to look internally at how their worksite policies, procedures, and culture contribute to employee fatigue. For example, employers expecting employees to work overtime or extended shifts to handle workforce shortages or absences or workplace cultures placing demands on employees to engage in intensive sprints to get products releases, meet short timelines, or respond to after work hour emails and texts need to be reviewed and modified to improve employee well-being and reduce fatigue.

Below are some resources if you are interested in addressing worker fatigue.

ONLINE

<https://www.nsc.org/work-safety/safety-topics/fatigue>
<http://healthysleep.med.harvard.edu/portal/>
www.railroaderssleep.org

BOOKS

- William C Dement and Christopher Vaughan (2000). *The Promise of Sleep: A Pioneer in Sleep Medicine Explores the Vital Connection Between Health, Happiness and a Good Night Sleep*. Random House Publishing Group.
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*Speak with your doctor if you are concerned that you may be experiencing fatigue due to medical concerns.

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