

HEALTH CARE MANAGEMENT
ALUMNI ASSOCIATION

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TABLE OF CONTENTS

IN EVERY ISSUE

| Editor's Letter |
|---|
| The President's Desk |
| Alumni News |
| The Philosopher's Corner |
| Affidavit: Healthcare and the Law: DOJ Updates Guidance on Corporate Compliance Programs |
| <u>Downloading Success</u> : Healthcare Executives Look Beyond Borders |
| To Your Health: The Dark Side of Space and/or Sitting |
| Mind the Gap: Learning on the Way to Wellville |
| Mind the Gap: Addressing Social Determinants of Health: Where to Begin? |
| FEATURED ARTICLES |
| The Road to Redemption: Construction Ahead |
| Open Wide: Tooth Decay - From Condition of Humanity to Consignment to Medical History? Part 1 |
| It Takes a Village |
| An Interview with Rachel Mertensmeyer |
| Strategic Alignment for New Initiatives |
| |

IN UPCOMING ISSUES

The Day After....Cancer Survivorship



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Autumn 2019 Volume 8, Number 4

Healthcare Management Alumni Association The Wharton School University of Pennsylvania 204 Colonial Penn Center 3641 Locust Walk Philadelphia, PA 19104 215.898.6861 phone 215.573.2157 fax www.whartonhealthcare.org

EDITOR'S LETTER



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

To learn more about Colette, click here.

<u>Professor John McCarthy of Stanford University</u> is credited with founding the field of artificial intelligence (Al). Al is one of the buzzwords of today, but I would liken it to a time when the definition of disease management depended upon to whom you were speaking.

John McCarthy described AI as ".... the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable."

But when asked is there a solid definition, his response was "The problem is that we cannot yet characterize in general what kinds of computational procedures we want to call intelligent."

Register to learn the latest on Al at the October 18, 2019 Wharton Health Care Conference "A PotpourrAl" of Applications.

Hope to see you there!

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

Contact Colette at: colette@accessinsightmd.com

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THE PRESIDENT'S DESK



his summer I found myself reflecting often on the experience of healthcare. I guess it started while I prepared a keynote talk on driving better customer experience in oncology for one of my biopharma clients. I wanted my audience to feel something... to make real the needs and expectations of the people on the other end of the work they do. It led me to reflect a bit more broadly on how the very expectations of customer experience have evolved so greatly today in every aspect of our lives. Today, we expect experiences:

- Fast (think instant streaming; 2-day Prime delivery, etc.)
- Customized (through AI recommendations; products suited to exactly the configuration I want)
- Seamless (everything happens as it should... no hiccups, please)
- Easy

So why would we expect anything different from our healthcare? I will admit I have been pleasantly surprised in some recent

Maria Whitman, WG'05

To learn more about Maria, click here.

interactions. Being a Wharton alum, I will call out a great recent experience at CHOP with my son, where each stage of the experience seemed to think of everything, not only for my peace of mind, but to occupy a tired and active 1 year old. Contrast that with the sad experience of what a family member just went through over a life-changing 3-week period of finding out he had cancer. Everything seemed so difficult - from having to identify and venture to different locations for multiple different tests due to insurance coverage to significant external research and friends and family support just to get to a second opinion and formal diagnosis quickly. And we are a family who knows healthcare. When Mayo Clinic approximates that 1 in 2 people will develop cancer in their lifetime, seems like an experience worth significant effort to better. It will not be easy, but it is a core reason I am here. And it is a hope that no matter which piece of the healthcare sector each of us touches, and how efficient and clinical we get in solving the challenges of the day, we always keep focus on the person at the end for whom the experience really matters.

Experience is also something that has bound us together as alumni of a simply amazing program. That is why the Executive Committee has decided to make the theme of our work this year "Advancing our Community through Connections and Content." We are working through plans across our committees, including membership, communications, and career development to enhance not only our experience, but opportunities to learn and growth with and through each other.

And there is no better time to connect than at our annual WHCMAA Alumni

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DAVID E. LODER, Partner P: 215.979.1834 deloder@duanemorris.com

LISA W. CLARK, Partner P: 215.979.1833 lwclark@duanemorris.com

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THE PRESIDENT'S DESK

conference, which is fast approaching on October 18th, 2019, "Artificial Intelligence in Healthcare." Check out our list of outstanding speakers on our conference webpage.

Don't forget to join us at <u>Branzino</u> <u>Restaurant</u> the night before for the preconference alumni dinner. There you will have a chance to also meet some of our amazing Kinney and Kissick scholarship winners. This year, we awarded over \$50,000 in scholarships. This is on top of the announcement you will have seen that the WHCMAA made a \$100,000 donation to the Kinney Scholarship fund in June of this year.

I actually had the pleasure to continue the tradition of WHCMAA presidents speaking to the incoming HCM MBA class a few weeks ago. I walked away energized by their enthusiasm, their questions, and their passion to improve healthcare in some very innovative ways. I hope you get a chance to meet and speak to them – if not at the conferences, then through the mentorship program or other events. It will make you proud of the ongoing work we

are doing through our mission to support the program, our alumni, and through our collective passion, healthcare overall.

Kind regards,

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

Contact Maria at:

Maria.whitman@zs.com
646.824.2012

www.linkedin.com/in/mariawhitman
Twitter: @MariaWhitman



Pg. 7

ALUMNI NEWS





ALUMNI NEWS

Bryan Bushick, WG'89

Bryan joined the senior team at Amplifire (www.amplifire.com) earlier in the year and is serving as the company's Chief Healthcare Innovation Officer. In that capacity, he helps members of the Amplifire Healthcare Alliance derive value from clinical knowledge engineering efforts around their health systems' critical priorities. Bryan also facilitates collaboration among Alliance members, identifies content co-development opportunities, and cultivates new health system members and partnerships with a variety of other organizations.

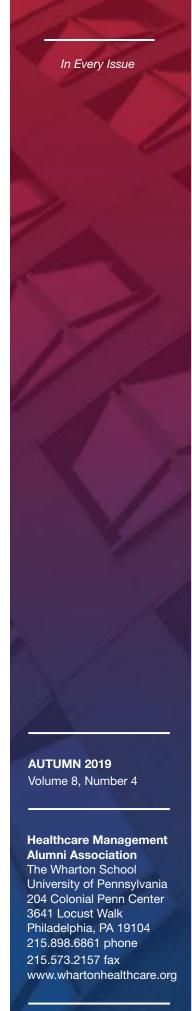
Healthcare Alliance members (https://amplifire.com/alliance/) are improving clinical outcomes, reducing patient harm, and strengthening financial performance by identifying and mitigating 'confidently held misinformation' and uncertainty. They accomplish this by deploying Amplifire's adaptive learning platform that is based on numerous brain science discoveries. Importantly, the unique and enhanced learning experience reduces healthcare provider burnout and frustration.

Contact Bryan at: bbushick@amplifire.com or bbushick@falconhealthsolutions.com

Donna Brady Raziano MD, WG'02

I received the the Barbara Bell, M.D. Award for Distinguished Service in the Field of Geriatric Medicine from the Eastern Pennsylvania Geriatrics Society, American Geriatric Society.

Contact Donna at: draziano@mercyhealth.org



Pg. 9

THE PHILOSOPHER'S CORNER



LIFE LESSONS

When you are lying on your death bed, will you regret the things you actually did or the things you wanted to do and never did? I will not regret my failures, but I might regret the ambitions I never pursue.

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

 spent less money on things that depreciate and more money on experiences that last a lifetime. The key to life is happiness, but the key to happiness is defining what that is for yourself. If you don't know what you're looking for, you can't find it. For me, happiness is waiting for me every time I get home.

If I knew then what I know now, I would NOT have...

• left investment banking sooner to start my own firm.

FAVORITE QUOTES

"There are three steps to succeeding:

 decide what you want to accomplish, 2) determine the steps necessary to reach your goal, and 3) execute those steps. Most people can't get past step one, but if you do all three, it is impossible to fail." ~ My Dad

- 2. "There is pleasure in the pathless woods; there is rapture in the lonely shore; there is society where none intrudes; by the deep sea, and music in its roar; I love not Man the less, but Nature more." ~ Lord Byron
- 3. "There are four ways in which you can spend money. You can spend your own money on yourself. When you do that, why then you really watch out what you're doing, and you try to get the most for your money. Then you can spend your own money on somebody else. For example, I buy a birthday present for someone. Well, then I'm not so careful about the content of the present, but I'm very careful about the cost. Then, I can spend somebody else's money on myself. And if I spend somebody else's money on myself, then I'm sure going to have a good lunch! Finally, I can spend somebody else's money on somebody else. And if I spend somebody else's money on somebody else, I'm not concerned about how much it is, and I'm not concerned about what I get. And that's government. And that's close to 40% of our national income."
 - ~ Milton Friedman
- 4. "When you open yourself to the continually changing, impermanent, dynamic nature of your own being and of reality, you increase your capacity to love and care about other people and your capacity to not be afraid. You're able to keep your eyes open, your heart open, and your mind open. And you notice when you get caught up in prejudice, bias, and aggression. You develop an enthusiasm for no longer watering those negative seeds, from now until the day you die. And, you begin to think of your life as offering endless opportunities to start to do things differently." ~ Pema Chödrön
- 5. "My life has been full of terrible misfortunes, most of which never happened."
 - ~ Michel de Montaigne

RECOMMENDED READING

- Furiously Happy: A Funny Book About Horrible Things by Jenny Lawson
- Jack Aubrey and Stephen Maturin 22 book series about the British Royal Navy by Patrick O'Brian
- The Wealth of Nations by Adam Smith

Contact Mark at: Chairman & CEO KTP Advisors, Inc. 130 Bellevue Avenue Newport, RI 02840 mwhitcher@ktpadvisors.com 917.743.3800



In Every Issue THIS MONTH'S PHILOSPHER: Mark Whitcher, CEBS, WG'93 To learn more about Mark, click here. **AUTUMN 2019** Volume 8, Number 4 **Healthcare Management Alumni Association** The Wharton School University of Pennsylvania 204 Colonial Penn Center 3641 Locust Walk Philadelphia, PA 19104 215.898.6861 phone

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AFFIDAVIT: HEALTHCARE AND THE LAW - DOJ UPDATES GUIDANCE ON CORPORATE COMPLIANCE PROGRAMS



ike all corporate entities, healthcare entities rely on rigorous compliance programs to ensure they are operating within the bounds of a complex regulatory environment. On April 30, 2019, the United States Department of Justice (DOJ) Criminal Division released updated guidance on corporate compliance programs. The new guidance document, which updates a previous version issued by the Division's Fraud Section in 2017, is designed to assist prosecutors in evaluating whether a corporate entity's compliance program was effective at the time criminal conduct occurred. In its announcement of the updated guidance, the DOJ indicated the document was prepared with input from across the Division, including the Office of the Assistant Attorney General, the Fraud Section, and the Money Laundering and Asset Recovery Section.

In updating its guidance, the DOJ sought to "better harmonize the guidance with other Department guidance and standards while providing additional context to the multifactor analysis of a company's compliance program." Acknowledging that each compliance program must be evaluated in its specific context, the guidance is centered around three "fundamental questions" that prosecutors should ask:

- 1. Is the corporation's compliance program well-designed?
- 2. Is the program being implemented effectively?
- 3. Does the corporation's compliance program work in practice?

Although the guidance applies broadly to corporate entities, healthcare entities should take particular note of the DOJ's focus on effective design, implementation, and continuing operation of compliance programs. Healthcare entities should look to the DOJ's updated guidance when assessing and updating their compliance programs to ensure they are able to prevent misconduct and appropriately respond when misconduct does occur.

IS THE CORPORATION'S COMPLIANCE PROGRAM WELL DESIGNED?

The updated guidance emphasizes the DOJ's expectation that for maximum effectiveness, compliance programs should be tailored to address an entity's unique risk profile. The guidance cites a number of factors that should be considered in determining whether a program is well-designed. These factors include risk assessments, by which corporate entities can identify the particular risks they face, determine how resources should be allocated, and update existing aspects of their compliance programs. The DOJ also cites policies and procedures, including a code of conduct, which help to establish a culture of compliance. Like previous guidance, the April update emphasizes the importance of periodic training and effective communication that provides guidance to employees. Additionally, the DOJ points to a confidential reporting structure and investigation response as a "hallmark of a well-designed compliance program."

The DOJ's guidance also indicates compliance programs should be designed to allow corporate entities to assess their third-party relationships. Companies should fully understand the potential risks in associating with parties such as consultants and distributors and should monitor those relationships on an ongoing basis. Similarly, a well-designed compliance program will allow corporate entities to conduct comprehensive due diligence of any targets for mergers or acquisitions.

As companies operating in the healthcare industry consider the design of their compliance programs, the DOJ's guidance provides helpful tips. Conducting risk assessments is a crucial aspect of operating a compliant company in a highly regulated industry, and regularly updating those assessments allows healthcare entities to stay on top of the ever-changing regulatory framework. Additionally, the DOJ's guidance on designing an effective compliance program overlaps in several key areas with guidance from the United States Department of Health and Human Services Office of Inspector General, which has also emphasized the importance of documented policies and procedures, training, and confidential reporting mechanisms. Further, as merger and acquisition activity in the healthcare industry continues to grow, healthcare entities should be mindful of the ways in which a well-designed compliance

program may protect them from taking on financial and reputational risk associated with misconduct at a target entity.

IS THE PROGRAM BEING IMPLEMENTED **EFFECTIVELY?**

Like its previous guidance, the DOJ's April update emphasizes that even a well-designed compliance program must be more than just a "paper program." Companies must be committed to appropriately implementing their programs in order to effectively prevent misconduct. Specifically, the DOJ indicates that a culture of compliance starts at the top. Senior management must display a commitment to implementation of the compliance program, and must lead by example in adhering to the requirements. Such commitment should be shared by middle management, who encourage compliance among the employees they oversee. Additionally, the DOJ emphasized that a compliance program cannot succeed without appropriate autonomy and resources. A compliance program should be structured to permit experienced personnel with appropriate levels of seniority and autonomy to effectively implement the compliance function. Furthermore, the DOJ indicated companies should have clear incentives for compliance, with appropriate disciplinary measures to address violations.

In implementing their compliance programs, healthcare entities must ensure their organization as a whole is committed to the program. Leadership must not only set an example, but also play a crucial role in exercising their decision-making influence to direct appropriate and adequate resources to the compliance function. Healthcare companies should consider whether the personnel involved in their compliance program are educated on the particular risks their corporate entities face, especially in highly specialized industries like pharmaceuticals, medical devices, and the provision of healthcare services. Furthermore, all members of an organization should be aware of the potential consequences of violating the compliance program's requirements.

DOES THE CORPORATION'S COMPLIANCE REFERENCES **PROGRAM WORK IN PRACTICE?**

Finally, the DOJ's updated guidance notes that a key question in evaluating a compliance program is whether the program was operating effectively at the time of an incident of misconduct. The DOJ noted the fact

misconduct occurred "does not, by itself, mean that a compliance program did not work or was ineffective," and that no compliance program can prevent all misconduct. Corporate entities should, however, consider whether and how any misconduct was detected and the thoroughness of their response. Effective compliance programs must demonstrate the capacity to evolve, and companies must make proactive efforts through practices such as internal audits to ensure their compliance program adapts with the business. Responding to reports or allegations of misconduct is a key function of a compliance program, and the DOJ's guidance emphasizes that investigative functions must be "well-functioning and appropriately funded." Furthermore, a company must take active steps to remediate misconduct, by determining the root cause, identifying areas of weakness that may have allowed misconduct to occur and persist, and taking appropriate disciplinary actions to prevent future occurrences.

When misconduct does occur, it's crucial for healthcare entities to look inward for any failures that may have allowed inappropriate behavior to go unnoticed. Such incidents can serve as key learning opportunities and allow a company to adapt to ensure similar issues will not arise in the future. In an industry that is continuously shifting, healthcare companies must evolve to ensure they continue to operate ethically and in compliance with the law.

The DOJ's updated guidance is instructive to corporate entities in all areas of the healthcare industry and provides valuable insight on designing, implementing, and maintaining effective compliance programs. Healthcare entities should take the DOJ's cue to assess their own compliance programs and ensure they identify and address any gaps that could lead to liability for compliance failures.

Contact Kristine at: KMGallagher@duanemorris.com

Contact Lisa at: WClark@duanemorris.com

- 1. Available at: https://www.justice.gov/criminalfraud/page/file/937501/download
- 2. See https://www.justice.gov/opa/pr/criminaldivision-announces-publication-guidanceevaluating-corporate-compliance-programs.



DOWNLOADING SUCCESS: HEALTHCARE EXECUTIVES LOOK BEYOND BORDERS

ealthcare has historically been a national affair and executive vacancies, whether on the clinical or administrative side, tend to be filled with domestic talent. Not only do regulations and accreditations change from country to country, but language and culture also play a big role.

There are, however, increasing global career opportunities for healthcare executives. We have seen especially U.S.-based academic medical centers and hospitals (Mass General, Johns Hopkins and Cleveland Clinic, to name a few) forging alliances with existing hospitals or lending their names, "brands," and knowledge to greenfield facilities in, say, the United Kingdom, Asia, or the Middle East. Such organizations must broaden their horizons to recruit new leaders. A U.S. health system creating an alliance overseas has many considerations to take into account when it comes to sourcing talent. Within the region or country they will be able to find talent that understands the local market, language, and



culture, but at the same time, overseas (U.S.) expertise on the clinical and operational side is necessary, as it is the very reason these partnerships were established in the first place.

What does this mean for healthcare executives looking for career opportunities? More than before, there are global career opportunities in healthcare. This is especially true for clinical leadership positions such as Department Chairs, CMOs, and CNOs, where there is an increase in opportunities globally due to shortages in many countries. CEOs and COOs are also highly sought after for opportunities overseas. On the other hand, organizations tend to recruit for a CFO or CHRO locally or domestically, as these roles require executives to understand and successfully navigate the local regulatory and health systems.

DIGITAL DRIVERS

The revolution towards a more digital, consumer-oriented brand of healthcare will also present cross-border career opportunities. In fact, the inevitable convergence of healthcare and technology is set to be the defining theme within global healthcare over the next ten years. This includes integrated hospital EPR (Electronic Patient Record) systems designed to cover all aspects of patient care and management, and we have seen the rapid emergence of mobile health and wearable apps, underpinned by cutting edge healthcare analytics and clinical decision support tools designed to help clinicians improve the quality of care delivery across all clinical settings.

Healthcare transformation which places technology-enabled service redesign at the heart of key decision-making will demand leaders who truly embrace a new operating paradigm and are thus able to demonstrate strategic innovation and creative contribution. These leaders will be particularly marketable in a more global healthcare environment in which an organization's leveraging of technology will provide a clear competitive advantage. Roles such as Chief Digital Officer, Head of Artificial Intelligence, Head of Customer Experience, and Chief Innovation Officer will become more prominent, and the executives who can fill these roles will be able to market themselves to employers in various countries and regions.



CULTURAL COMPETENCE

Whether or not healthcare executives can succeed as they move across borders is another matter. The ability to embrace and successfully operate in other cultures when taking up a role in a foreign country is perhaps the most important criterion. Such culture fits (whether societal or organizational) are case-by-case evaluations and come down to a very individual selection. There are few executives who have the skill to adapt to just about any culture, but those who are perceived to have that skill tend to be in extremely high demand.

For those executives who want to consider a position outside their own country, we suggest the following: consider whether your current employer has overseas initiatives that you could get involved with or help to develop; if not, reach out to institutions who do have existing global initiatives or are building them and inquire about the possibility of getting involved.

Healthcare executives in key leadership positions (CEO, CMO, COO) will increasingly get approached by executive recruiters for overseas opportunities at some stage in their careers, especially if they can prove some prior international experience or interests. If you are passionate about the idea of working internationally and feel you have a unique skill set to offer as it relates to overseas opportunities, find out which recruiters have an active international client portfolio and approach them to express your interest. They may have a few ideas or suggestions for you or perhaps even have a relevant search to consider you for.

Contact Inga at: iwalter@wittfieffer.com

Contact Nathaniel at: nhook@wittkieffer.com



TO YOUR HEALTH: THE DARK SIDE OF SPACE AND/OR SITTING



n honor of the 50th anniversary of the moon landing I thought it would be appropriate to discuss some of the lessons learned from the space race and compare them to 21st century life on Earth. You know, how does floating in the space station compare to chilling on the couch with your tablet?

Exercise physiologist Dr. William Evans has written books about fitness, health, and exercise, yet his interest in the role that space has on human physiology led to him being an expert advisor for NASA. Then Dr. Evans was the director of the Nutrition, Physical Fitness, and Rapid Rehabilitation Team of the National Space Biomedical Research Institute. Dr. Evans studied one of the worst things that a human can be exposed to, inactivity. He compared

astronauts to subjects that were mandated to stay in bed for weeks and found stark similarities. Not surprisingly, humans do very poorly when you remove gravity.

Supposedly, gravity is our enemy. From sagging skin to heel pain, we detest it. If you haven't said it yourself, you know someone who did. "Running is so bad for you. Brenda ran and now she needs a new hip." "I was so stupid, step class ruined my knees." The common sentiment that gravity should be avoided during exercise because it exacerbates the degeneration of joints is appropriate with those with advanced osteoarthritis but is the wrong tact to take for many. Sure, it is fine to be calculated with your more stressful activities, but osteoarthritis occurs for a variety of reasons: traumatic injury, biomechanical abnormalities, overuse, overweight, inactivity, and the natural course of aging. It is unfair to blame all of those joint issues on the impact of gravity.

These 3 findings from space travel also occur with inactivity:

FLUIDS

The human adapted to be able to pump fluids against gravity. Backpackers walking down a steep slope can still pump blood up to the brain despite all the gravitational forces against them. The valves in the veins prohibit blood from draining down to the legs, and the heart is strong enough, with an increase in arterial pressure, to deliver that oxygen to the necessary tissues. Much of this is lost when in space. Sedentary living creates some of the same maladaptation. Fatigue climbing stairs or walking up a hill is principally caused by a deficiency in the cardiovascular (CV) system. Regular physical activity has always been the #1 tool at promoting that system. Astronauts attempt over 1 hour of bike riding and treadmill jogging daily to keep the CV system working while in orbit. The American College of Sports Medicine (ACSM) recommends approximately 150 minutes per week of moderate to vigorous activity here on earth.

MUSCULOSKELETAL STRENGTH AND DENSITY

The loss of muscle and bone with aging is a natural occurrence, but occurs at a devastatingly faster rate in space. Astronauts are capable of losing 20% of their lean mass in 11 days. The rate at which muscle and bone is lost is strongly related to the exposure it has to *stress*, *resistance*, and *oppositional forces*. In space, a resistive exercise device was designed to minimize the significant declines that are seen in these tissues while away from earth's pull. It is a NASA level universal gym, that floats. I suspect Labor Day was originated by those in the work force who literally performed

physical labor. I don't exactly have to "put my nose to the grindstone" on a daily basis these days. These metaphors reflect a time where muscle and bone were a primary part of the labor force in North America. Not so much anymore, and therein lies the problem. In reality, for much of our day muscle has almost nothing to do. Despite having been in peak physical condition prior to the trip. the astronaut Scott Kelly who spent 340 days in the space station, recalls the challenge of walking from the dinner table to his bedroom upon returning to Earth. From standing to strength training, the force of gravity can continue to stimulate the protein synthesis needed to maintain muscle mass. ACSM recommends some resistance-like action 2 to 3 days per week.

BALANCE/PROPRIOCEPTION

Staying upright is a complex system of the eyes, the proprioceptors in the limbs, and the vestibular system. Astronauts describe the early days of being in space as very disorienting. Without gravity, their feet tell them nothing and their balance erodes. When we sit too much on Earth, some of that same erosion to our balance begins to occur. The coordination needed to stay on a paddleboard or in a Tai Chi pose will take more than watching a YouTube video. The feet and the inner ear require the constant pull of gravity, and eventually the balance system gets it right. Improving balance is a key to being able to live and act as you so wish year after year. Hip fractures are a major burden to adults > 65 years of age.

Remember this the next time you are burdened with your exercise bout. Research shows the astronauts need at least 2 ½ hours of exercise per day just to avoid resembling the composition of a jellyfish. On Earth, that would count as a good week! Good hustle!

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Contact Rich at: rbutler@canyonranch.com



MIND THE GAP: LEARNING ON THE WAY TO WELLVILLE

irst, a bit of background: Wellville is a national nonprofit project to improve equitable well-being in five U.S. communities over 10 years, while sharing what we learn as a path toward national change.

Founded by angel investor <u>Esther Dyson</u>, Wellville supports its communities like a business accelerator helps start-ups: We provide dedicated advisors who work with multi-sector teams in each Wellville community; we ask lots of questions; and together we learn through the thinking and actions of hundreds of local people and institutions collaborating with thousands of community members to make life better in the five places they call home.



WHAT IS EQUITABLE WELLBEING?

Equitable wellbeing is achieving the greatest gains and the fairest distribution in health, happiness, and prosperity for all.

This is possible only when we pay attention to the gaps – and what causes the gaps – and change how we think, act and invest together over the long haul.

For example, while Connecticut ranks third in overall health status among all U.S. states, ¹ this represents the population on average and masks significant health disparities among specific populations. In fact, based on disparities in health status, Connecticut ranks 43rd, ² which means all but 6 states have a fairer distribution (smaller gaps) among their populations.

Equitable wellbeing focuses on achieving gains while eliminating gaps.

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One of the most notable facts about Wellville is that it is a 10-year project. (The end of 2019 marks the midpoint of the Wellville project, which ends on December 31, 2024.) Working together over a decade frees teams to do things that wouldn't otherwise be possible, like reshaping community conditions that cultivate (rather than compromise) our collective well-being.

STEPPING BACK

This timeframe allows Wellville teams to look beyond the typical 1- to 2-year grant cycle and imagine a better future. While each Wellville community has a different aspiration, all are aiming for meaningful change that is unlikely to happen without disrupting the status quo. Therein lies the challenge and the opportunity.

Creating a better future means breaking from business as usual. This is only possible when we: 1) step back to think about our current reality and what led to it, 2) step forward with new insights and new hypotheses to put into action, and 3) repeat. As we are learning with our Wellville communities, this cycle of stepping back-stepping forward doesn't typically happen alongside our normal course of work. It requires intentional, ongoing, collective practices that become "the work."

These practices can take many forms, like the multi-day facilitated working sessions we conduct at our annual <u>Wellville Gathering</u> (see photo). Or they can be simple conversations that uncover thinking and clarify the path forward.



What follows is such a dialogue between two members of the Wellville National team: Rick Brush, Wellville's CEO and advisor to Wellville community North Hartford, CT and Jeff Doemland, Wellville advisor to Spartanburg, SC. It's our hope this brief example offers a glimpse into why Wellville has identified short-term, self-interested thinking as the problem that needs our attention, and how we've begun to dive into it.

THE DIALOGUE

Jeff Doemland: Let's start by reflecting on the work the communities have done in the first five years, and what they've learned.

Rick Brush: From the start, our communities realized that Wellville was about learning their way forward; there isn't a roadmap to Wellville. This can be unsettling, but also energizing. In coming together to imagine a different future, communities have built strong, trusting relationships among diverse stakeholders – health systems, local government, community organizations, residents, and others. This in turn has led to joint efforts, even combining budgets in some cases, to address community health needs that are bigger than any one entity could tackle alone.

To date, the <u>Wellville teams</u> have advanced a number of significant community health initiatives (similar to efforts profiled here in this publication's *Mind the Gap* column). To name a few: passing Tobacco 21 legislation, expanding the Diabetes Prevention Program, improving access to healthy food, integrating clinical and social services, and building systems to increase resilience while reducing the incidence

and harmful effects of trauma and poverty.

So, one thing they've learned is they can accomplish more by working together.

They're also learning how difficult it is to shift focus – and funding – to "upstream" solutions that address the causes, and not just the consequences of deteriorating health.

JD: Recently, Wellville National made a pretty dramatic shift in its own thinking. This caused us to question, and, ultimately, change our stated mission, which had been to "demonstrate the value of investing in health." What led to this change?

RB: Our revised strategy is a result of some strong "advising" from our Wellville Advisory Board. One of their pushes was that if Wellville spends 10 years proving that health is worth investing in, we will have repeated what public health has been doing for decades.

Is it a lack of evidence that prevents the U.S. from investing differently? (Our evaluation and learning partner, <u>Kathleen Brady</u>, has cautioned us about the "impotence of proof.") Or is it something else?

When we stepped back to consider what's fundamentally constraining progress, we came up with a different diagnosis: We're addicted to short-term thinking. This thinking has resulted in people, institutions, and systems that too often pit their immediate self-interest over the long-term, equitable well-being of all.

This plays out in all sorts of places: how healthcare makes money, how politics work, how funders fund, and how individuals make choices. What's needed is a shift in thinking that prioritizes the future for the common good.

We're betting this is where Wellville can be most valuable: <u>helping our communities</u> <u>make this shift</u>, measuring the impact, and documenting the process.

JD: In a recent email I sent to our team, I suggested we might want to inquire into thinking itself. After all, it's something like the keystone of our strategy. My suggestion considers the possibility that thinking is a peculiar phenomenon. And if we presume to understand it — as we might be doing when we diagnose "short-term thinking" as the problem Wellville is going to address — we



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215.898.6861 phone

215.573.2157 fax

MIND THE GAP: LEARNING ON THE WAY TO WELLVILLE



might not really be *thinking*. We should want to be careful that as we address the problem we aren't falling prey to it.

My position borrows from 20th Century German philosophy, which offers a particular critique of the Western philosophical tradition that underlies all conventional notions of thinking. In fact, one of the principal voices of this critique, Martin Heidegger, argues that what in our time passes for thinking is not thinking at all. With our diagnosis maybe we're stepping toward thinking. However, Heidegger would caution that without a rigorous inquiry into the question "what is thinking," nothing prevents us from doing the kind of "thinking" we're calling short-term thinking. Can you help me understand how our

efforts will elude the seductions of short-term thinking if we don't cultivate a disposition for persistent inquiry into the "what is thinking" question?

RB: Thinking determines "what's so" for each of us. It's how we make sense of the world and our place in it, and, in a more pragmatic way, it's how we move about the world to survive and get things done, for example by finding food or staying away from what we perceive as dangerous.

This is always a product of our own particular and ever-evolving socio-historical context; we assign meaning to experience based on memories, norms, structures, and relationships that form the backdrop of our lives.

Unchecked, thinking also is limiting. We come to believe that what we think is what is real, nothing more and nothing less. Everything we do is guided, and then interpreted, by our thinking. So, this inquiry into the question "what is thinking" – and, I would add, "how is thinking influenced" and "how does it influence us" – seems essential to any real change in course.

JD: Heidegger sees thinking as an activity that is an end itself, that is, not especially pragmatic. He associates it with wonder, which seems like a pre-condition for learning, especially in complex systems, which describes all of our communities. How are we seeing the socio-historical context getting in the way of this kind of "thinking as wonder"?

RB: On a recent visit to one of our communities, a local leader asked whether our diagnosis was pointing to an immutable fact of human nature: perhaps we are predisposed to short-term, self-interested thinking. (She might also agree with Heidegger that learning – in this case, learning our way to Wellville – requires "wonder," though she might not use that term.)

The deleterious effects on our nation's health might seem obvious. It's easy to point a finger at personal behaviors, like overeating and under-exercising, that put short-term desires ahead of long-term well-being. And we can see it, too, in the structures that influence our behaviors, like payment systems, politics, and profit-seeking, that keep us focused on the next cycle rather than the next century.

Are these the "natural order," or preoccupations that keep us from properly diagnosing the problem?

JD: I wonder if there aren't some parts of the health "ecosystem" that don't see the problem in the same way. For example, in some of our communities, the health systems don't see the nation's healthcare crisis the way we do. After all, they have a business model that depends on people walking through their doors needing the services they offer. Working to change the

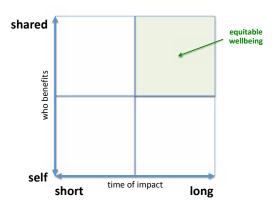
"socio-historical context" isn't in their interest.

RB: One of the more insidious effects of our fixation on the short term is that it gets in the way of *thinking about* our thinking. Hospitals, like most institutions, are pragmatic; their survival requires it. But let's change the frame (aka, our thinking).

In the long run, short-term thinking serves neither individual nor shared interests, because it compromises our collective potential and causes us to spend more of our nation's resources to remediate problems (like illness, crime, and poverty) rather than investing over time to promote greater well-being. Conversely, we all benefit from a healthy country where everyone can reach their full potential and contribute to building a better society.

We believe that if we encourage institutions and individuals to take the long view, we'll change the conditions that underlie so many of our big, intractable-seeming problems (see "Shifting Our Thinking" chart).

Shifting Our Thinking



JD: But is "the long view" just another symptom of socio-historical understanding of thinking? Back to Heidegger: he ties thinking to language, and in language he recognizes its innate ambiguity, its capacity for conveying a multiplicity of meanings. So I'm interested in institutions that have changed to a way of thinking that cultivates wonder and learning.

Take philanthropy, as an example. This is a field undergoing a fundamental re-thinking of its role and function. We're seeing in our communities, where local philanthropies traditionally operated within what could be called a very pragmatic

frame. They funded specific programs hoping for specific outcomes. They were less concerned with learning about how the programs actually worked, how program staff did the work, and how the programs fit into community settings. Recently, some have begun making investments focused on understanding the community context rather than paying for program implementation. And they seem to have a genuine sense of wonder – eager to understand the communities within which they exist.

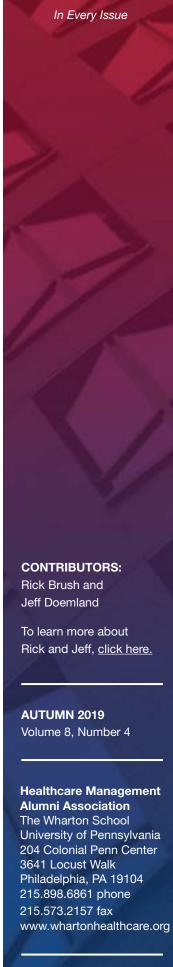
RB: We can see similar shifts in other places as well. The Rippel Foundation's FORESIGHT project is using an "emergent process" to answer the question, "What is the future of health?" This builds on their other work, such as the ReThink Health Dynamics Model, which lets people test the potential impact of 25-year community health investments. Outside of health, there's the Long Now Foundation, which aims to "foster long-term thinking and responsibility in the framework of the next 10,000 years" and the Long-Term Stock Exchange, the recently SEC-approved platform for investing in "companies that operate with a long-term mindset."

JD: Are these examples of a new sociohistorical context? Are they examples of thinking that's long-term and shared? Are they the dawn of some mode of thought that's at the same time aware of the prevailing socio-historical context and capable of transcending it?

RB: That's where this cycle of stepping back-stepping forward – this interplay between thinking and doing – takes hold. Because ultimately the collective and cumulative thinking of any group is reflected in the structures they create, in the form of culture, norms, policies, institutions, and systems... which in turn influence the thinking and actions of the group. As Winston Churchill said: "We shape our buildings, and afterwards our buildings shape us."

Contact Rick at: rick@wellville.net

Contact Jeff at: jeff@wellville.net



MIND THE GAP: ADDRESSING SOCIAL DETERMINANTS OF HEALTH: WHERE TO BEGIN?



ith all the buzz about social determinants of health (SDOH) across industry headlines, healthcare leaders are no doubt acutely aware of the need to address the non-clinical needs of the patients they serve. SDOH has demonstrated an immense impact on physical and mental health, with factors ranging from food insecurity to companionship for shut-in patients to lack of affordable housing and green space in urban areas. Therefore, appropriately addressing SDOH needs is increasingly cited as a necessary component of successful population health management programs. Yet, oftentimes the steps to move forward can feel complex.

The goals are to meaningfully engage an appropriate mix of social and human service providers and successfully tackle the challenge of integrating SDOH interventions into the culture

of clinical care delivery. So where to begin? If a comprehensive enterprise plan is daunting, we suggest starting with a framework we call "Screen and Refer" that we describe later in this article. We offer six steps every organization can take to begin building such a program:

- 1) **Understand the Status Quo:** When it comes to addressing non-clinical needs, most organizations likely already take some action. However, rather than promote an organization-wide imperative, these interventions are likely positioned at the service line or departmental level. Or, in outpatient settings, actions might be taken on a case-by-case basis as providers uncover patient needs. Finding and highlighting existing connections between your organization and non-clinical community providers as well as determining which programs actually work establishes a good foundation upon which to build a true program.
- 2) **Take Inventory of SDOH Needs:** It's important to understand the predominant social needs for the patients you serve. While common needs are largely shared nationally and are capturing headlines, we all know from experience every community is different. Therefore, there will also be needs unique (or more acute) to your specific population. For non-profit hospitals, a logical place to start looking is the current <u>Community Health Needs Assessment</u> (CHNA), which will include demographic and socioeconomic information within each hospital's service area. Engaging with health systems, hospitals, county, and Federally Qualified Health Centers (FQHCs) clinics and health centers are also a resource to help understand which issues exist in the community, such as service providers with limited funding/capacity (or even excess capacity), or social needs that lack services available to address them.
- 3) **Establish a SDOH Services Directory:** Based on knowledge of existing non-clinical providers and services, create a directory to use across program planning, implementation, and operations. Make your services directory accessible to providers and administrators. You will likely be able to build a directory using existing tools, such as customer/provider relationship management (CRM) systems. Then, begin to match known patient needs with available SDOH services to understand where referrals or partnerships will make sense.

4) Understand Referral and Partnership Opportunities: For some communities and organizations, we believe a logical first step is to build a simple "Screen and Refer" program mentioned above. This would first engage providers to adopt generally accepted screenings for patient SDOH needs. Then, armed with the SDOH Services Directory, providers make referrals to known service providers to close gaps.

This program should involve training for providers, selection of a screening tool of the appropriate complexity, integration into existing workflows, and ongoing curation of the SDOH Services Directory. Partnerships over time may provide opportunities to build more robust programs. For example, partnerships with organizations to fund additional capacity, improve service consistency and quality, adopt and integrate new technology, or even incentivize outcomes are all viable and potentially rewarding options.

5) Collect Data to Monitor Progress:

As with any meaningful program, an organization needs to be self-aware of its starting point and destination. Identifying markers along the journey will indicate progress. For example, when a "Screen and Refer" program gets launched, a starting indicator of a screening tool is the number of screenings conducted for the appropriate patients. Collecting the output of the SDOH screenings and integration into the medical record is also important. For example, Z codes, included as secondary diagnoses in the encounter document, capture socioeconomic factors impacting health. Capturing Z codes (specifically Z55-Z65) during screening can be the difference between useful and useless encounter data, and the number of Z codes included in encounter data is another indicator of program progress.

6) Turn Metrics into Action: When it comes to data collection and tracking, most organizations will want to start small. Identifying a few causal metrics, tracking them, and developing actionable responses to undesirable trends is an ideal first step. Moreover, to streamline reporting and visibility at the executive level, every

SDOH intervention should be tied to an organizational metric or goal.

For example, a hospital seeking to manage a high readmission rate (the organizational metric) for its Medicaid line of business might integrate a "Screen and Refer" program into the discharge planning process. Two process metrics to measure initial uptake of the "Screen and Refer" program might be percent (%) of Medicaid discharges with a completed SDOH screen and percent (%) of identified SDOH gaps with a resulting referral within five (5) days of discharge. For both, if the percentages do not increase over time, take a look at root causes, such as screening complexity, program resources, social providers' capacity to accept referrals, external programs funding constraints, and so on.

While there are dozens of models currently being built, tested, and deployed to manage social determinants of health, every organization can get started quickly and effectively with a simple program. Tying program design with financial and operational goals should yield a measurable return on investment (ROI), while SDOH interventions assist non-clinical service providers in the community through steady referrals. We strongly believe the necessary social and human services will benefit the patients you serve.

Contact Lisa at: lisasoroka@themarbleheadgroup.com 310.503.5510

Contact Wren at: wkeber@cardinalcg.com 213.291.9061

Contact Matthew at: <u>mwarfield@cardinalcg.com</u> 213.291.9061



THE ROAD TO REDEMPTION: CONSTRUCTION AHEAD

he Patient Protection and Affordable Care Act (ACA) is perhaps the most important and powerful piece of population healthcare legislation ever because it lends credibility and confers legal status to a concept that those of us in the field have understood and preached for decades. True, the ACA is not the panacea that some had hoped, but it is a major step in the right direction with 20 million more citizens now having access to health insurance and primary care services. It has helped save lives, acknowledged the importance and elevated the status of primary care, compensated patient-centered outcomes, and brought about an understanding of population health that led to the expansion of insurance coverage.



Constant assaults on the ACA have chipped away at its broad-ranging mandates, but there is abundant evidence that one core concept will survive and thrive - value-based payment (VBP). Although the current administration has given mixed signals regarding mandatory programs such as the Episode Payment Models, there appears to be <u>support for the voluntary Bundled Payments for Care Improvement Initiative</u>. Payers already know that the road to redemption (better health outcomes and lower costs) is paved with VBP. The shift in focus from volume to value is already firmly embedded in the policies and payment systems of some large for-profit payers as well and the Centers for Medicare & Medicaid Services (CMS).

Despite our tendency to politicize the issues, the system itself remains the overwhelming problem. In certain respects, it has stubbornly clung to the same policies and practices that have kept it from thriving, e.g., misaligned payment systems, performance standards that link financial incentives to process measures rather than clinical outcomes. We continue to spend 18% of our gross domestic product (GDP) on healthcare while tolerating substandard outcomes of that care. We lead the world in health technology innovation, but medical error is still our third leading cause of death.² Waste is rampant - even in the medical profession that cranks out more than two specialists for every primary care physician when the opposite is what will move us toward a healthier population at a lower cost.

Looking down the road we can expect some construction delays, but I'm optimistic that VBP will eventually lead to better health for the system and the population. In the first few miles, we can expect value-based care models to gain broader acceptance in markets across the country (e.g., bundled payment, global payment, CMS initiatives). A resurgence of interest in managed care is likely in light of results from the nation's Accountable Care Organizations (ACOs). In the first three years, most reduced Medicare spending, and 82% improved the quality of care they provided - outperforming feefor-service providers in 81% of the quality measures.³

Some of the road's potholes will require new approaches to construction and maintenance. The challenges are substantial but not insurmountable. It's a matter of shifting the traffic lanes:

- Rather than engaging in relentless competition for the downstream market (e.g., the newest cardiac catheterization laboratory), begin to look outside the walls of hospitals and health systems and invest in upstream opportunities that will improve the health status of the population. Commit organizational finances and brain power to helping people modify their unhealthy behaviors. Identify the myriad and complex social determinants that affect the health of the population in the community or region and partner with other organizations to address needs.
- Rather than clinging to traditional patterns, try practicing medicine as a team sport. Create a culture that rewards specialization in primary care and that encourages health care professionals to work at the top of their licenses. We've already entered a new era of medical practice in which more than half of all U.S. physicians deliver patient care as employees rather than as private practitioners. The trend has its pros and cons, but one undeniable plus. Physician employees tend to be amenable to working within nationally endorsed professional guidelines, and this

bodes well for improved quality of care and positive patient outcomes.

- Consider new ways to use technology to increase patient engagement in their healthcare;
 e.g., video conferencing, Bluetooth. With an app and a click on an electronic device,
 anyone can access performance scores for individual physicians, hospitals, and nursing
 homes. There is a technology that can reliably predict mental health conditions and
 coronary artery disease can now be predicted via a voice recognition pattern. As the
 volume of quality-related information expands, Americans will continue to become wiser
 consumers of healthcare services.
- Aspire to higher quality, safer care by adopting a collective goal a delivery system that
 is free of harm. A distinguishing feature of population health is that it goes beyond the
 scope of public health to address the delivery of care that is cost-effective and safe. At
 our institution, population health is the intersection of health policy, health economics,
 public health and health, and quality and safety.
- Leadership won't just happen; it must be taught. I subscribe to the premise that good leaders are those who prepare the leaders of tomorrow. On the road ahead, the ever growing demand for patient-focused physician leadership at managed care organizations, ACOs, hospitals, and health systems will demand enterprise-wide board commitment. At our institution, one faculty member in every major department is required to take an advanced training program for leaders in quality and safety.

Recently, our College of Population Health embarked on training leaders to turn data into actionable information. Trademarked "Population Health Intelligence," the new curriculum couples with connections and companies to deliver training in marketplace artificial intelligence, predictive analytics, and machine learning.

For anyone in doubt about the viability of population health, consider that 10 years ago, ours was the first and only college of population health in the country. Today, there are 14 graduate programs in healthcare quality and safety and 12 new schools of population health.

The road is paved and I am confident that we'll make progress on the repairs necessary to enhance health outcomes, rein in healthcare costs, and place patients firmly at the center of care.

Contact David at: David.Nash@jefferson.edu

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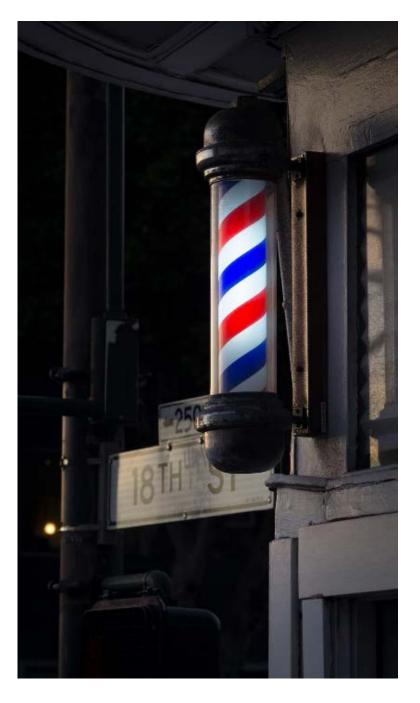
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OPEN WIDE: TOOTH DECAY FROM CONDITION OF HUMANITY TO CONSIGNMENT TO MEDICAL HISTORY? PART 1

he "Open Wide" column went on hiatus about two years ago because I felt that all that could be said about the dental care industry in this country had been said: that it was a small planet far off, and spinning ever further far off, in the healthcare universe, complacently operating undisturbed according to its own rules; that despite gross inefficiencies and disparities in cost control, access, quality, and treatment outcomes, it adhered to a procedure- and technology-focused form of treatment, provided almost exclusively by a dentist, along the terms and conditions of the erstwhile "gold standard" of business models in healthcare, the private, solo, fee-for-service practice. Health policy makers in general didn't care about the comparatively trifling and frankly quite boring issue of dental care (at \$150 billion per year, only about 5% of national health expenditures), and purported dental health policy makers lacked fluency, familiarity, experience, and even interest in the conceptual, organizational, financial, and managerial precepts and initiatives to achieve "value over volume" under health reform. Most tellingly, those shortcomings, even derelictions, about being so disconnected from wider healthcare developments, have amounted to the embarrassing indictment that the dental care industry doesn't know how to prevent what is often considered a completely preventable disease, that it is content to regard dental disease as inevitable, and organizes itself to profit therefrom. And that is where matters were left to stand.

The interregnum between the last "Open Wide" entry and the present one has not been an idle, however. My observations and comments on the dental care industry have resonated with a few others in the profession, similarly disaffected by the "drill, fill, and bill" doctrine, to the point where I was asked to write the policy chapter for an upcoming book on a wholly new approach – from basic science principles to dental education and training to new dental care delivery models – to addressing the disease of tooth



decay. The book, to be published in October, is titled SMART Oral Health ["SMART" being an acronym for a rather cumbersome term "silver-modified atraumatic restorative technique," the explanation of which is best kept for another time.] Matters stand differently now - tooth decay and its sequelae (costly treatments like crowns, "root canals," implants; unnecessary and risky sedation or anesthesia; and serious infection and death resulting from that) can indeed move into the realm of being truly prevented, with the control, reduction, and conceivably even the eradication of tooth decay within a population being possible. The cost for doing so will entail a complete reallocation of the \$150 billion spent annually on dental care in this country, the bulk of which goes for reparative and restorative procedures, not prevention; it also means the end of the dental care industry as it has familiarly been known.

First, a bit of history on the disease of tooth decay, which some may find interesting, and then some background on dentistry itself, which fewer might find interesting, but won't be too long or numbing (ha-ha) and might be worth keeping in mind when dentistry as we have come to know it is compared and contrasted with the way it can be reconfigured to be far more efficient, effective, and equitable lines.

DENTISTRY "BACK THEN"

The dawn of agriculture some 15,000 years ago not only brought generally stable and predictable food supplies to the world's population, but also tooth decay, a scourge of humankind ever since as a result of inclusion of plentiful carbohydrates into the human diet, which were acted upon by oral bacteria to produce decay-causing acids leading to demineralization of tooth enamel. Today tooth decay is the most common chronic illness of childhood throughout the world, with 60-90% of children, and the majority of adults in most industrialized nations, affected by the disease. The dietary consequences on the extent and severity of the disease have been exacerbated in modern times with the industrialization and commercialization of processed foods involving copious amounts of sugars, e.g., high-fructose corn syrup in inexpensive "super-sized" soft drinks.

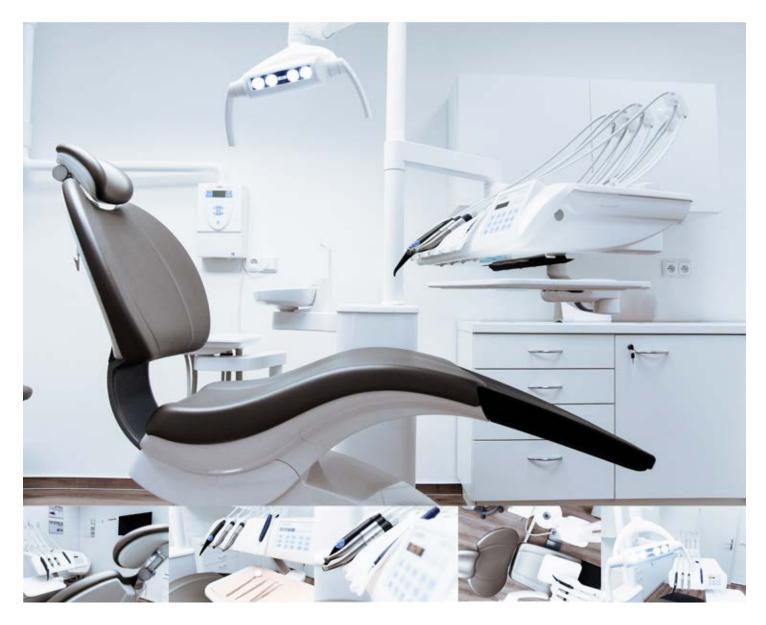
As with much else in medicine, knowledge of the causes and treatment of tooth decay over time has entailed folklore ("tooth worms" being an example), conjecture, superstition, and serendipity in the absence of scientific understanding. Treatment eventually centered upon a "surgical" approach, initially the extraction of the diseased tooth practiced centuries - even millennia - ago, to the more recent and commonly accepted drilling away of affected tooth structure, followed by filling or refashioning what remained of the tooth with various materials, from about the mid-17th century to the present day. The approach is understandable, from the standpoint that teeth are the only visible hard tissue structures of the human body, not counting finger- and toenails, and decayed teeth are readily identifiable as the source of pain, with no recourse to relieve the pain other than extraction or some conjured up medicament to apply, such as an ointment of roasted earthworms, crushed eggs of spiders, and spikenard, a fragrant herb. This would be in contrast to the treatment of a soft tissue cut or laceration, where essentially the body's selfhealing properties worked its wonders over time, assuming no infection, of course.] As little could be done about preventing decay. the "dental arts" centered upon reconstruction and cosmetic efforts to compensate for lost tooth structure. While acids produced by bacteria were first recognized as a cause of decay at approximately the same time, significantly effective prevention did not come about until the advent of community water fluoridation and fluoridated toothpastes in the mid-20th century. That, and the admonition to "see your dentist twice a year," essentially constituted preventive dentistry to this day.

"MODERN" DENTISTRY

Modern dentistry remains a descendant of the 17th century. On the clinical level, while it has seen advances in materials, procedures, techniques, and armamentaria, they have been in support of the "surgical" drilling and filling of teeth, essentially the debridement of hard tissue, after the disease has set in (Note: the definition of "debridement" is "the usually surgical removal of lacerated, devitalized, or contaminated tissue," as such the surgical drilling of teeth would be analogous to removal of part of a lung to treat pneumonia);

In Every Issue **CONTRIBUTOR:** Harris Contos, DDS, WG'xx To learn more about Harris, click here. **AUTUMN 2019** Volume 8, Number 4 **Healthcare Management** Alumni Association The Wharton School University of Pennsylvania 204 Colonial Penn Center 3641 Locust Walk Philadelphia, PA 19104 215.898.6861 phone 215.573.2157 fax www.whartonhealthcare.org

OPEN WIDE: TOOTH DECAY FROM CONDITION OF HUMANITY TO CONSIGNMENT TO MEDICAL



comparatively scarce resources are allocated to prevention. On the organizational level, for many and various reasons, dentistry has historically been apart from medicine, with a notable schism or failure to integrate the two coming about in the mid-19th century with the founding of the Baltimore College of Dental Surgery, the first dental school in the United States established to professionalize the discipline through a degree-conferring curriculum (the DDS, doctor of dental surgery) and remove the practice of dentistry from non-professionals such as barbers, who since medieval times were the traditional dental practitioners (hence the red and white barber's pole). The Baltimore College of Dental Surgery was a separate school, not a part of an existing medical school, as medicine wouldn't deign to put the mouth on a par with the rest of the body. The first university-affiliated dental institution, The Harvard University Dental School, was founded in 1867,

but again not a part of the Harvard Medical School. Interestingly, dentistry has mimicked medicine in its hierarchical arrangement of providers, the proliferation of specialties, and the pursuit of more sophisticated technology for the treatment of disease.

Apart from what this says about the integration and comprehensiveness of care - two parallel universes that essentially do not interact with one another - medicine has had to undergo changes in organization, financing, and management of care so as to meet policy demands for cost control, access, quality, and, to a lesser degree, effectiveness. Dentistry, seen as being on a discretionary and cosmetic fringe, with little bearing on overall health or quality of life and resorted to mostly as a result of perceived failed personal behavior in taking care of one's dental health, has been only marginally involved in those policy issues. It remains largely a private, solo, fee-for-service cottage industry, oriented toward the volume and intricacy of the specialized restorative procedures refined over the centuries it offers, and using that as a proxy for quality of care and dental health status. The shininess of the gold crown or the natural appearance of the ceramic veneer is looked upon as an indicator of quality care and good dental health, rather than the expensive failure to intercept disease early on. With this as an implicit summation of dental care in the United States, it is no wonder it is little involved in and remains unaware and unresponsive to developments arising from health reform.

Thus ends Part 1 of this revisiting of "Open Wide" with a recapitulation of where things left off, of why dentistry is where it is today in the healthcare cosmos. Part 2 will pick up with a reexamination of the scientific basis for the present-day practice of dentistry, what the latest understanding of the causes, treatment, and prevention of tooth decay is - essentially, we've been practicing dentistry the wrong way for the past 400 years - and what this then means for developing a more responsive, flexible, effective, and integrated dental care system, not only attuned to the imperatives of health reform, but also consigning one of humanity's scourges to the dust bin. Please stay tuned.

Contact Harris: hcontos@verizon.net



IT TAKES A VILLAGE



ook behind any successful person, scratch the surface of any profitable venture, and you'll find the same thing: a network, a community, a group of collaborators that are at the heart of the successes. It's the founding premise of Darwin's evolutionary theory: over history, "those who learned to collaborate and improvise most effectively have prevailed."

The healthcare space has been slow to learn that lesson. Far from functioning as a team focused on a single goal, healthcare stakeholders operate on a fractured playing field, each one trying to get to the goal on their own. From that perspective, everyone becomes a competitor — and the ability to reach the goal line becomes nearly impossible. Nowhere is the tension more obvious than in the struggle to integrate technology and healthcare. Healthcare is the established player and tech is — well, the disrupter. And the establishment does not respond well to disruption.

On the surface, they are unlikely partners. Healthcare isn't exactly a profession for risk-taking, and rightfully so — in every decision, the safety of a patient is at stake. A new drug or tool has to run the gamut of regulatory burdens and clinical validation before it gets anywhere close to adoption. Adoption and implementation are arguably even more challenging, including everything from integrating new solutions into legacy systems, convincing practices to abandon the sunk cost of preexisting solutions, or overcoming the lack of financial incentives — without practice reimbursement, the challenge of adoption becomes that much more daunting.

Technology, on the other hand, is a high-risk, high-reward market (there's a reason that billion dollar-valuation start-ups are called "unicorns"). Many tech start-ups achieve their success by delivering direct-to-consumer solutions, cutting out the middleman and individualizing experiences for the user. It's a formula that doesn't map well onto the healthcare field where the success of patient care and outcomes relies on a web of relationships.

And tech companies that have tried to take these formulas from Silicon Valley and apply them to healthcare learn that really quickly. The graveyard of digital health tools is littered with companies trying to sidestep the problems of the healthcare system by dealing with the patient directly and removing the care provider from the equation. The crash and burn rate of tech entrepreneurs trying to break into healthcare is so notorious that GV, Google's venture capital arm, set up a program to teach the ins and outs of the healthcare industry to aspiring crossovers from Silicon Valley.

Yet the healthcare industry is overripe for disruption from the tech world. Take maternity care, for example: it's no secret the United States has the highest rate of maternal mortality in the developed world (especially in African American women, who have a mortality rate that is 3 - 4x higher than their white counterparts), and the rates are rising. And yet prenatal and postpartum care is still being delivered through the same one-size-fits-all approach — a model that was recommended by the Institute of Medicine nearly 50 years ago.

This was the starting point for <u>Babyscripts</u>: we saw an outdated model of care that has no efficiencies in place for the individual needs of patients and the potential for tech to fill the gaps. But we also recognized that without clinical input on our solution, we could just be adding more unactionable data to the preexisting pile; and with no understanding of clinical workflows, our "efficiencies" could create more work for providers already stretched thin.

The process of working with healthcare providers is not easy, for all the reasons stated above. The rate of change is slower, the challenges to adoption more widespread. But the patient-provider relationship is at the heart of healthcare decisions, and that means the needs of the provider as well as the patient have to be the guiding principle for change.

Our collaboration with Penn Medicine is a perfect example. It's not simply about the technology, it's about improving the management of care. We're actually taking the care protocols and results developed through Penn's Heart Safe Motherhood program and automating and scaling those accomplishments into a technology solution for postpartum hypertension. Working in close alignment with

clinicians from Penn and implementing the lessons from their research ensures we are creating effective solutions that will respond to the needs of providers as well as patients.

As the digital health market matures, it will be these kinds of collaborative models that overcome the traditional obstacles to tech integration in healthcare. xealth is one such example: a platform that connects innovators, healthcare teams, and patients: it streamlines the integration of tech through an online marketplace that makes ordering and prescribing digital health tools as easy as traditional medications. Some of the most successful of these models are incubated by health systems themselves, like Mightier, a spinout of Boston Children's Hospital (BCH). With an intimate understanding of their own workflows and the needs of their young patients, health providers at BCH created the app to help children with emotional and behavioral needs overcome daily challenges through bioresponsive games, and the Mightier system has since become available to children outside the BCH.

Regardless of origin, it takes an awareness of different perspectives to build products that respond to diverse needs and configure to the right business model — and this awareness comes from a deep understanding of the needs of all the players on the field.

Of course, providers and patients are not the sole stakeholders in the healthcare continuum, and until we can get all of the stakeholders on board, then we're still only responding to some of the needs. It's necessary to expand the vision for collaboration beyond patients and providers: to nurses, payers, social workers, caregivers, community leaders, family members, and others who play a role in patient health. Bringing these various stakeholders into dialogue and setting aside their competitive differences is the path forward to better outcomes.

Contact Anish on LinkedIn at: https://www.linkedin.com/in/anishsebastian



AN INTERVIEW WITH RACHEL MERTENSMEYER



Rachel Mertensmeyer is CEO and Founder of RexPay and an experienced marketing and brand management professional.

Q: The stated mission of RexPay is to "rescue patients from medical bill mayhem" by creating a way for patients to centralize medical bills and make payments. How did the idea come about?

A: A few years ago while living in New York City and working at Unilever in Brand Management, I suffered an injury that left me with 38 medical bills and \$10,000 of debt across 11 providers. It was a frightening and difficult time, made worse by an ongoing stream of bills, service statements, insurance letters, and duplicate notices. It was hard making sense of it all — which ones to pay, what to pay, and what insurance covered. Furthermore, I wound up needing \$10,000 to cover my share and financed it with credit cards - at 26% interest!

Getting through this was a real challenge. I was spending hours on the phone, constructing elaborate Excel spreadsheets for tracking purposes, and managing stacks of information with priorities that were unclear. This is what led to my "aha moment." I had to find a way to help patients centralize medical bills, offer guidance on process and payments, and eliminate the unnecessary complications.

Q: What did the early days of RexPay look like? And, why Phoenix, Arizona for the company headquarters?

A: Six months after my recovery, I moved to San Francisco and started the business. I joined an accelerator called Launch Pad Digital Health and committed to learning as much as possible, validating the RexPay concept, and defining the value proposition (it's relevancy, the potential market benefits, and product differentiation). As my time with the accelerator was wrapping up, I was on a flight to visit family in Arizona and found myself seated next to a retired Silicon Valley CFO, Al Castino. Our conversation began on the topic of music but evolved to the topic of RexPay, my start-up. Al became my first investor and remains engaged as an advisor on strategy, finances, and operations.

As for "Why Phoenix?" Things started coming together quickly after meeting Al. He and I attended tech summits within Phoenix, looked at available support/talent resources within the city, considered the climate for small business and tech, and concluded, as the sixth largest metropolitan city in the U.S., Phoenix actually offered a great ecosystem for what we needed to accomplish.

Q: Was working with an accelerator a good investment? How was your effort shaped by the experience?

A: Working with an accelerator was a great investment. I was eager to look at the concept with the help of experts. Once I had identified Launch Pad as the right resource, I applied to their program, paid an upfront fee, and just settled in to learning as much as possible. The first month and a half was spent in class and doing homework every day. I had never founded a company, had no background in healthcare (with the exception

of my time as a patient), and I had plenty to learn. My advice for others considering a start-up venture is to identify an accelerator that offers the best fit for the kind of company you are creating and leverage that time to your advantage. It was invaluable for me.

Q: Where are you today in the development of RexPay? When do you expect to see first revenues?

A: We started RexPay in February 2018. Today, we are considered a seed stage company. The first version of our product is ready to go, and our first customer is launching in September 2019. We are also planning to make the product available to the public in Q4 2019. Based on our plans for rollout, we expect to be cash flow positive by 2022.

Q: What is your typical day as a founder?

A: The start of my days is the same. I use early mornings to set strategy and have quick meetings with my Product and Customer Success teams, but, after that, every day is different! Some days I am focused on fundraising and other days my focus is on operations, marketing, or client relations. With that said, I'm always close to the product.

Q: What has been the most challenging part of your start-up efforts?

A: Fundraising has been the most challenging part. This is the first time I have built a company, and I don't have a natural network of individuals for early support. Furthermore, connecting with people who may have investment interest takes real time and legwork. Additionally, I'm a young, female founder which presents its own set of challenges. Less than 4% of venture capital funding goes to female-led companies right now. Fortunately, persistence has paid off, and we just closed a pre-seed round of \$825,000 with angel investors. And, now that we have a finished product and our first client is ready to launch, we will start raising our seed round of \$1M-1.5M to continue our growth and expansion.



AN INTERVIEW WITH RACHEL MERTENSMEYER

Rex explains how Flexible Spending Accounts work on the blog!

Dr. Steele for \$1,950.45

Dr. Steele for \$1,950.45

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We're on a mission to rescue you from medical bill mayhem. Find out how RexPay can help:

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Q: You mentioned your launch in September, 2019. Who is your first customer and why?

A: Our first customer is an OB/GYN practice. Since having a baby is often the first time a woman experiences layers of bills across multiple specialties, it's a great place to start. Specifically, research confirms that most deliveries generate 20 medical bills across 5 providers and roughly \$8-9,000 in out-of-pocket costs. In addition, Athena Research shows maternity specialties have the third highest payment default rates in specialty medicine. Furthermore, we're seeing that 70% of the millennials are delaying payments, believed to be a function of bill-paying inconveniences as well as realization of their broader existing debt. So, we are excited about our launch and anxious to see how RexPay supports this group of patients and their providers.

With success in this first phase, our plan going forward is to provide support in a way that someone who uses RexPay (in this case for a maternity experience) continues to use the app to manage and pay all of their medical bills. It's a platform that has 'stickiness,' and we think our business will grow exponentially as these early patient adopters continue to use it for other medical bill needs and bring on family members over time. RexPay provides simplicity, clarity, and support — simplicity of payment, clarity of information, and support on financial resources for large out-of-pocket costs. There is nothing else like it on the market today.

Q: Are you set up to help patients who may be hit with egregious billings related to emergent care? Specifically, the media has highlighted emergent air transportation (fixed wing/rotary) as an issue. There was also a recent story about dialysis.

A: Our team at RexPay is always brainstorming how to better help patients who are hit with significant medical debt so they can safely navigate the bill pay process. Currently, RexPay helps patients with significant medical debt better understand what payment plans are available to them and provides guidance on avoiding medical debt that will negatively impact their credit score. In addition, we provide guidance and tracking for medical bill due dates so patients know which bills to prioritize. Also, patients can ask the RexPay chatbot questions about medical bill terminology, health insurance, and health savings account policies to better understand their rights and options.

Q: If the OB/GYN experience goes well what next for RexPay?

A: We will be looking at pediatrics and primary care for our next launch, and, after that, the chronic care space. Basically, our platform works for any specialty or healthcare segment. In fact, we could roll out RexPay to all healthcare segments right now. But, for now we are focusing to make sure we execute an efficient go-to-market strategy.

Q: When will you and your RexPay team know you have succeeded?

A: When patients nationwide consider RexPay the "go-to" tool for easily managing their healthcare finances.

According to CMS, healthcare spending in the U.S. grew by 3.9% in 2017 and represented 17.9 % of overall gross domestic product expenses. It's an aspect of life where Americans commit significant financial resources yet have little or no information and support when it comes to working through the costs and payments. We are excited to move forward, remove complications and barriers, and make a meaningful difference for patients (and their providers).

Contact Rachel at: rachel@rexpay.com



STRATEGIC ALIGNMENT FOR NEW INITIATIVES



hile health systems have long sought to expand to gain market share, today they often want to expand to stretch across the continuum of care or integrate more tightly across a handful of aligned offerings. This can mean that when leaders launch new initiatives, they are often not entirely new — it may be a plan for closer collaboration from a diagnostic stage to recovery from surgical procedures, or horizontally across their practice plan. The new leadership roles often overlap with existing structures other parts of the organization, and the nascent strategies may require minimal external hires.

WHY IT'S HARD

Launching a "new" initiative, no matter the scope, is exciting — and can quickly become frustrating if it fails to live up to aspirations. We have seen leaders sometimes jump in with strong financial and legal guidance, but get stuck on implementation when they have not made the same investment in time and consideration to realize their plans.

More often than not, new initiatives stumble because they lack a vivid picture of their purpose, and so create confusion on the ground to execute on the vision. Even though people in health systems may be accustomed to wearing several hats, putting on another one requires a reset. Individuals are sometimes asked to deliver on vague expectations in ways that require pivoting and working together differently, but are not spelled out. When these same people often also hold a set of existing roles requiring different interactions together, a new initiative can grind to a halt.

We recently partnered with leadership of a premier precision medicine institute. The institute had been established to bring pieces of the future research portfolio that were living in disparate places across a health system under one umbrella. The team designing the institute focused on securing funding and felt that having a strong leader, a prominent clinician and key voice in the field, would be sufficient to resolve conflicts regarding the programmatic focal points of the institute and

resource flows across departments that it would touch. We soon saw that staff were strained to live in the level of ambiguity caused by this startup-like institute. The organizational structure was confusing; for example, outside of the institute, a faculty member reported to their chair, but inside the institute, that same faculty member was the director, and their chair reported to them. That shift alone would have been manageable, but faculty felt unsure of the overarching vision, and unclear about how anyone involved was expected to contribute to decision-making.

Faculty and administrators let us know in interviews they had in fact been sitting on questions from the time the new structure for precision medicine was announced. Although the new structure was intended to house all precision medicine pursuits under one virtual roof, there had been no systematic inventory of current projects. Certain areas had remained ill-defined, such as the tie to the education mission. And the lack of open communication left many faculty members wondering how the new structure would impact their stature, resources and autonomy.

STEPS TO TAKE

In partnering with the leadership team, we walked through what was missing, and arrived at the need for the following elements:

- A "good enough" shared vision
 - Faculty and staff had entered into the institute structure without a clear sense of shared purpose. The director's priorities did not translate easily into a vision that others could see themselves in, and the result opened questions about how to ensure alignment and direct the work of the institute. Having a conversation across key stakeholders from the start would have helped launch the new initiative more smoothly, motivating consistent action without the director's close involvement in every aspect of the work.

- Agreement on how to make **decisions together** — Since the kev stakeholders involved in the institute also worked together in other capacities, it was challenging to shift back and forth into their institute roles. The director had never specified what kind of input he sought from the faculty with appointments to the institute regarding key decisions on priorities, resources, and implementation steps - for example, when they should do the legwork of gathering data to make the determination, when they should be consulted, and which decisions could be made by which roles. Developing a strong sense of who should play a role in each kind of major decision builds trust and helps to ensure efficiency. We looked to work with the leadership group on clarifying the key decision roles for critical forks in the road to strengthen the institute.
- A smart place to start It became challenging and overwhelming for leaders to identify how to begin leading change. We supported the team to identify all of the work happening across the institute. and consider what the de facto set of priorities had become. We discovered the director's own area of study was receiving preferential attention and blocking others from getting adequate support and internal visibility. Considering the strength of the director's portfolio, this emphasis was somewhat strategic. but had gone well beyond what was needed, and risked under-valuing the work of others. The team determined that one place to start making changes was giving more administrative support to other faculty.

The team was now on a path to achieve more together. They could develop a strategy for



STRATEGIC ALIGNMENT FOR NEW INITIATIVES



clarifying the vision, manifest stronger collaboration in decision-making and choose their next steps. In the course of stock-taking work, they realized that understanding the multi-faceted interests of people across the institute from the outset would have saved time and considerable energy. Along with any financial, legal, and operational planning in place, these aspirations and concerns shape what to design for, from the start. As systems launch new initiatives focused on integrating resources, getting it close to right the first time through and identifying and incorporating stakeholder interests helps these systems learn how to stand up new initiatives without losing time, traction, or other key resources.

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Contact Carey at: 215.320.3230 cgallagher@cfar.com



