Vizient University Health System Consortium
CEO Executive Board Meeting

Thursday, September 14, 2017
Denver, Colo.
# CEO Executive Board Meeting

**Date:** Thursday, September 14, 2017  
**Time:** 12:00 - 1:00 PM MT – CEO Executive Board Luncheon  
**Time:** 1:30 - 4:00 PM MT – CEO Executive Board Meeting  
**Location:** Colorado Convention Center – *Rooms 210 | 212*  
700 14th Street  
Denver, CO 80202

## AGENDA

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| 1:30 PM   | Welcome                                                | Ann Madden Rice  
Chief Executive Officer  
UC Davis Medical Center  
Curt Nonomaque  
President and Chief Executive Officer  
Vizient, Inc. |      |
| 1:40 PM   | Roundtable and Introductions                          | All                                                                     |      |
| 2:05 PM   | Washington Update                                     | Shoshana Krilow  
Vice President, Public Policy and Government Relations  
Vizient, Inc. | 1    |
| 2:20 PM   | Changing Landscape of Philanthropy: Impact on Medical Research | Lloyd B. Minor, MD  
Carl and Elizabeth Naumann Dean of the Stanford University School of Medicine | 4    |

Large “impact” philanthropic initiatives are charting new pathways, influencing health care, scientific research, and biomedical education, among other sectors. Academic medicine
is learning how best to navigate this changing landscape of philanthropy. Stanford Medicine is participating in several large philanthropic initiatives, including Chan Zuckerberg Biohub and the Parker Institute for Cancer Immunotherapy. Dr. Lloyd B. Minor, Dean, Stanford University School of Medicine, will provide a look inside of these initiatives and describe their plans for accelerating progress. In addition, Dean Minor will discuss Stanford’s critical initiatives with organizations such as Verily (formerly Google Life Sciences) and Apple—and how these industry collaborations are having a similarly profound effect on academic medicine.

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| 3:05 PM | **End-of-Life Care and Patient Engagement – Achieving optimal balance between longevity and quality of life** | Timothy G. Buchman, MD  
External Faculty of the Santa Fe Institute  
Editor-in-Chief, *Critical Care Medicine*  
Director, Emory Critical Care Center  
Tammie Quest, MD  
Director  
Palliative Care Center  
Emory Healthcare  
Julie Cerese  
Group Senior Vice President, Performance Management and National Networks  
Vizient, Inc. |

Dr. Buchman will review the epidemiology of aging and expectations of technical care during terminal illness that hinders efforts to achieve an optimal balance between longevity and quality of life. He will share perspectives on increasing patient engagement in new approaches to end-of-life care, including solutions that make it easier for patients to make more informed choices about living longer and living well before and during their final days.

With the goal of helping members accelerate performance improvement and progress in patient and family engagement in end-of-life care, Vizient is planning a new multi-institutional collaborative for Advanced Care Planning.

Dr. Quest and Julie Cerese will discuss the importance of advanced care planning and
They will provide the Board with a preview of the new collaborative’s goals and objectives.

4:00 PM  **Adjourn**  

Ann Madden Rice

*The next meeting of the Vizient University Health System Consortium CEO Executive Board will be held Wednesday, January 24 (12pm ET) – Friday, January 26 (10:00am ET) at the Ritz-Carlton Coconut Grove, Miami, FL.*
Shoshana Krilow, vice president of public policy and government relations, leads Vizient’s Government Relations, monitoring federal legislative and regulatory developments of importance to Vizient and its members.

Prior to joining Vizient, Krilow served as director of health and clinical affairs for the University of California, focusing on issues related to health policy and biomedical research for the UC Health system. Krilow has also worked as a strategic advisor to health sector clients with a particular concentration on Medicare, the pharmaceutical and insurance industries, and the Affordable Care Act.

Krilow brings deep legislative expertise to Vizient having spent several years on Capitol Hill, where she worked as a health policy advisor for Representative Marion Berry (D-AR) and Senator Joseph Lieberman (I-CT). Prior to her work on Capitol Hill, Krilow worked as an analyst, investment advisor, and regional, internal wholesaler for Goldman, Sachs and Co., Smith Barney, and J.P. Morgan respectively.

Krilow received her law degree from The Ohio State University in 2007 and became a member of the Ohio State Bar later that year. She is also a graduate of the University of Michigan where she received her Bachelor of Arts degrees in English and Psychology.
Vizient’s office of public policy consistently acts as an advocate for our members

- Lobbies on behalf of member hospitals and engages with members of Congress and the Administration on a wide array of issues:
  - Hospital group purchasing
  - Medicare reimbursement
  - Delivery system reforms, including population health
  - 340B drug discount program
  - Hospital tax exemption
  - Graduate medical education
- Provides comments to regulatory agencies on important proposed rules and engages Capitol Hill on various health care policy proposals that could impact hospitals
- Works closely with multiple national, health care trade associations such as the AHA, AEH, and the AAMC to help advance the policy priorities of hospitals
- Tracks current legislation, recognizes policy undercurrents and strategically engages on issues to provide insight and education to inform potential legislation
State-of-Play

- **Health care reform efforts stalled…but persist**
  - Congress has until September 30th to use Budget Reconciliation to pass some version of repeal and replace; other proposals (e.g., Cassidy-Graham) still being floated
  - Lawmakers working on short-term fix to stabilize marketplaces

- **End-of-year decisions must be made**
  - FY 2018 begins October 1, 2017 – Congress must fund the government or else…shut down
  - Multiple other programs expire at the end of the current fiscal year – most notably CHIP & Medicare extenders
  - Raising the debt limit and tackling tax reform are also on the agenda

- **Regulatory season is coming to a close, with several concerning policy issues outstanding**
  - 340B, site neutral payment policies, Medicaid DSH cuts, bundled payments

- **Pressures on hospitals continue**
  - Price transparency driven, in part, by consumer-directed healthcare efforts
  - The push towards value continues, even absent mandatory bundles
  - Uncertainty regarding the future of the ACA and the impact on the uninsured creates further difficulties

- **Trending…**
  - State-based efforts on drug pricing, all-payer/single payer health care, and Medicaid/ACA waivers
  - …2018 is an election year…!
Changing Landscape of Philanthropy: Impact on Medical Research

Lloyd B. Minor, MD

Lloyd B. Minor, MD, is a scientist, surgeon, and academic leader. He is the Carl and Elizabeth Naumann Dean of the Stanford University School of Medicine, a position he has held since December 2012. He is also a professor of Otolaryngology–Head and Neck Surgery and a professor of Bioengineering and of Neurobiology, by courtesy, at Stanford University.

As dean, Dr. Minor plays an integral role in setting strategy for the clinical enterprise of Stanford Medicine, an academic medical center that includes the Stanford University School of Medicine, Stanford Health Care, and Stanford Children’s Health and Lucile Packard Children’s Hospital Stanford. With his leadership, Stanford Medicine has established a strategic vision to lead the biomedical revolution in Precision Health, a fundamental shift to more proactive and personalized health care that empowers people to lead healthy lives.

Before coming to Stanford, Dr. Minor was provost and senior vice president for academic affairs of The Johns Hopkins University. Prior to his appointment as provost in 2009, Dr. Minor served as the Andelot Professor and director (chair) of the Department of Otolaryngology–Head and Neck Surgery in the Johns Hopkins University School of Medicine and otolaryngologist-in-chief of The Johns Hopkins Hospital.

With more than 140 published articles and chapters, Dr. Minor is an expert in balance and inner ear disorders. In the medical community, Dr. Minor is perhaps best known for his discovery of superior canal dehiscence syndrome, a debilitating disorder characterized by sound- or pressure-induced dizziness. He subsequently developed a surgical procedure that corrects the problem and alleviates symptoms.

In 2012, Dr. Minor was elected to the National Academy of Medicine.
Changing Landscape of Philanthropy: Impact on Biomedical Research  
Lloyd B. Minor, MD, Naumann Dean, Stanford University School of Medicine  

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Introduction
In academic medicine, we have benefited immensely from the generosity of our donors. At Stanford Medicine, we couldn’t carry out our mission without the strategic investments of these invaluable supporters and benefactors. But increasingly, these philanthropic partners are changing to include a younger generation of givers. Like us, these new philanthropists have bold visions of a future without disease. But their approach to giving is not like that of previous generations. My goal today is to explore these differences and to offer some observations about how we in academic medicine can best navigate this changing environment and the unprecedented opportunity it offers.

Philanthropy Today
Philanthropy is an increasingly important part of the American landscape. In recent decades, philanthropic giving has surged. Americans now give an estimated $390 billion to charitable causes, amounting to more than two percent of GDP. Nearly a third of this goes to religious organizations, but that share has been steadily decreasing. Excluding gifts to foundations, the next largest recipients are for education, human services (such as food banks and homeless shelters), and health.

The share of gifts to both education and health are growing. Over the past decade, contributions to education, most of which are for higher education, have increased 3.5 percent; in 2017, the Philanthropy Outlook report predicts that this rate of growth will nearly double to 6.3 percent. Even greater growth is expected in health. Over the past decade, contributions to health have increased 2.1 percent; in 2017, that rate of growth is expected to be 8.5 percent.

Fueling the rise in American philanthropy is the growth of extreme wealth and a significant increase in giving by those at the top of the income and wealth ladder. Over the past decade, itemized charitable contributions from the top one percent of income earners in the United States increased by 57 percent. And itemized contributions from people making $10 million or more increased by almost double that rate. Over the same period, charitable giving deductions from lower income donors have declined significantly, at almost the same rate that contributions from higher income donors have increased.

Historically, fundraising has been guided by the Pareto Principle, or 80-20 rule, meaning that 80 percent of donations come from just 20 percent of donors. With this shift in wealth and giving, we are seeing that this principle no longer holds. In the Campaign for Stanford Medicine, which ended just over one year ago, 97 percent of gifts came from just three percent of donors.

A New Generation of Philanthropists
This growth in wealth and philanthropy is being driven, in part, by a new generation of technology pioneers who amassed tremendous amounts of wealth at a young age, generally before they turned 40. Starting around 2010, many of these leaders began to embrace philanthropy, or dramatically increase
their giving, individuals such as Larry Page, Dustin Moskovitz, Sean Parker, Mark Zuckerberg, Sergey Brin, and Marc Benioff.

In June 2015, Sean Parker, the founding president of Facebook and co-founder of Napster, published an essay in the Wall Street Journal called “Philanthropy for Hackers,” which said that the members of this new generation all have one thing in common: They are hackers. “Hackers are popularly considered to be troublemakers, but they are also dedicated problem solvers.” They are individuals who enjoy the intellectual challenge of creatively overcoming limitations.

Parker’s manifesto said that hackers are less interested in the conventional form of philanthropy, which he said is giving to bureaucratic and cautious foundations. Instead, hacker-philanthropists want to know they are having an impact that can be measured and felt. They want to see how their gifts are making a unique difference on the world. He says, “In philanthropic work, hackers must constantly ask if they are leveraging their investments. Are they getting out more than they are putting in?”

If previous donors were loyal to institutions, this new generation is loyal to causes. They wish to use their wealth to create social impact, and they incorporate social entrepreneurship, advocacy, and for-profit organizations into their philanthropic efforts. “Get political,” Parker advised. “It is possible to engage in politics and advocacy for the public good.” Taking this advice, Dustin Moskovitz, a Facebook co-founder, committed $20 million during the election last fall.

No. 1: More Engagement and Control
As we in academic medicine seek to engage with these new donors, we need to understand their philosophy of giving. So today, I’d like to share with you four key ways in which I see these donors changing the philanthropic landscape. First, they want more engagement and control; second, more collaboration; third, more intellectual property rights, and fourth, they are less willing to fund the facilities and infrastructure costs of research. Let’s look at each of these in turn.

Most important, these new donors want to be engaged early as full partners. This was a lesson that I believe Mark Zuckerberg learned after his first major philanthropic venture. In 2010, during an appearance on the Oprah Winfrey Show, Zuckerberg announced a $100 million matching donation to turn the Newark, New Jersey public school system into a “symbol of educational excellence for the whole nation.” But as Dale Russakoff’s book The Prize: Who’s in Charge of America’s Schools? describes, that didn’t happen: “Two hundred million dollars and almost five years later, there was at least as much rancor as reform.”

Almost half of Zuckerberg’s gift was spent (or committed) to help gain new labor contracts and $21 million went to buying out unwanted teachers and other staff members. Zuckerberg put a lot of faith in Corey Booker, then mayor-celebrity of Newark, largely giving him a near blank check for reform. From this experience, Zuckerberg learned that though change may be possible, it can’t come crashing down from above; it requires engagement with the individuals you are seeking to help and a measure of control over how the funds are spent and who is doing the spending.

Five years later, in December 2015, Mark Zuckerberg and his wife, Dr. Priscilla Chan, announced in a letter to their first daughter, Max, that they would pledge 99 percent of their Facebook shares, then valued at $45 billion, for “personalized learning, curing disease, connecting people, and building strong communities.” Rather than setting up the more usual charitable foundation, Zuckerberg and Chan
announced that they would be setting up an LLC, not unlike Laurene Powell Jobs’ Emerson Collective. An LLC doesn’t have the tax benefit of a foundation, but it requires less transparency and gives Zuckerberg and Chan more control and flexibility, as well as the ability to invest in for-profit enterprises and support political causes.

**No. 2: More Collaboration**
In addition to more engagement and control, the younger donors also seek greater collaboration, believing in the importance of networks to achieve faster and more effective results. In higher education, we’ve long understood the power of collaboration.

One of the most famous partnerships in biology began one night in a deli in Honolulu. In November 1972, UCSF’s Herb Boyer and Stanford’s Stanley Cohen went to Hawaii to attend a conference. On an evening when they had time off from conference proceedings, Boyer and Cohen met up with mutual acquaintances and took a stroll on the streets running along Waikīkī beach. They stopped at a delicatessen where, over hot pastrami and corned beef sandwiches, Boyer and Cohen sketched a possible method for cloning genes in *E. coli*. Within four months, they had collaborated on the creation of the first recombinant organism.

Faculty relationships like these have always been a part of academic medicine. The difference now is that these new funders seek to have formal structures in place encouraging the sharing of ideas at the institutional level, not just at the level of individual faculty, students, or trainees. These hacker-philanthropists don’t just want to support interdisciplinary collaboration, they want to encourage inter-institutional collaboration. With cooperative agreements in place, perhaps Boyer and Cohen, living just 40 miles from each other, might have begun working together before serendipity struck that night in Waikīkī.

**No. 3: More Intellectual Property Rights**
In this changing landscape, donors want to pool patents as well as talents, and they want to have a say in whether, when, and how we patent and commercialize inventions. They also want a share of the royalties, which can be used to fund their future research endeavors.

One of the events that may have led to his new interest in intellectual property rights is the example of the Cystic Fibrosis Foundation. Dr. Francis Collins, head of the NIH, and a colleague at the University of Michigan discovered the gene behind cystic fibrosis in 1989. But when that discovery hadn’t translated into any benefit for patients a decade later, the Cystic Fibrosis Foundation began giving money to small biotech companies to entice them to develop drugs for the deadly lung disease in exchange for something unusual — a share of the royalties for any treatment their research yielded.

It was a risky bet that paid off enormously. One of those companies, Vertex, received a total of $150 million, and with it developed the first drug approved to treat the underlying cause of cystic fibrosis in a small subset of patients. In 2014, the Cystic Fibrosis Foundation sold its royalty rights to an investment company. For $3.3 billion. That was 20 times the foundation’s budget that year.

Although very few inventions make a lot of money, and even those that do can take many years to materialize, IP income can provide a windfall. Over the duration of the life of the Cohen-Boyer patents I mentioned earlier, which expired in 1997, Stanford and the UC system accrued $255 million in licensing revenues, much of which was subsequently invested in research and research infrastructure. Even greater payouts are possible. In the 1980s, Stanford’s Len Herzenberg invented a technique for producing
functional antibodies, enabling treatments for such conditions as autoimmune diseases and cancer. Royalty income for that patent, which expired in 2015, was twice the amount from Cohen-Boyer.

**No. 4: Less Facilities and Infrastructure Support**

Like their interest in intellectual property, these new philanthropists are interested in supporting faculty, students, and fellows but have less interest in seeing their philanthropic dollars go into facilities, infrastructure, and administration. They assume that universities have the resources to cover these costs, and furthermore they want to see that the universities have skin in the game and are full partners with them on the project. They view their grants as supplementing research that scientists are already conducting.

But as we all know, these costs are real costs, and if research is to continue, someone must pay to keep the lights on in the building. This increasing reluctance to cover facilities and administration costs is contributing to a growing burden for universities. Over the past several years, the share of institutional support that colleges and universities provide to support research conducted by their faculty has grown faster than any other sector, now at 24 percent. This growth in institutional spending on R&D has come at the same time that federal support has declined.

**Chan Zuckerberg Biohub**

Stanford Medicine and some of our peers got a crash course in how to navigate this changing landscape when we negotiated our involvement with two of the most significant philanthropic partnerships in biomedicine in the past decade — the Chan Zuckerberg Biohub and the Parker Institute for Cancer Immunotherapy. These initiatives funded by hacker-philanthropists are test cases for what happens when you meld Silicon Valley with traditional notions of changing the world through philanthropy.

In September 2016, Mark Zuckerberg and Priscilla Chan announced that they would give $3 billion over 10 years for basic science research in an initiative called Chan Zuckerberg Science. The initiative’s first program is a $600 million independent medical research organization called the Chan Zuckerberg Biohub. Supporting early-stage fundamental research, the Biohub aims to cure, manage, and prevent all diseases by the end of the 21st century.

It’s a collaboration involving three institutions in Northern California: Stanford, UCSF, and Berkeley.

**Biohub Leadership and Projects**

Mark Zuckerberg and Priscilla Chan, the initiative’s president, are regularly involved in the Biohub’s direction and major decisions, with scientific leadership provided by co-presidents Steve Quake from Stanford and Joe DeRisi from UCSF.

In February, the Biohub committed more than $50 million to support 47 investigators, including 19 from Stanford. The investigators, selected by the Biohub, each received five-year appointments worth up to $1.5 million to carry out non-conventional scientific exploration and to invent new tools to accelerate the pace of discovery. The Biohub requires these investigators to meet several times each year to exchange ideas while also encourages collaboration through its own dedicated space.

In addition to its Investigator Program, the Biohub is pursuing large-scale projects, including the Infectious Disease Initiative, directed by Stanford’s Peter Kim, and the Cell Atlas, which aims to develop a
comprehensive index of every kind of cell in the human body. An estimated group of 80 engineers, program managers, and support staff will be hired directly by the Hub for these projects.

Ownership of Biohub-related intellectual property is joint, net revenue is split, and the Biohub has exclusive rights to determine whether, when, and in what manner joint IP is protected and commercialized. An Operations and Technology Committee made up of a Biohub representative and the head of the technology transfer office of each home institution serves in an advisory capacity only.

One of the main benefits of this centralized IP process is that it provides a mechanism for exploring and enhancing opportunities with prospective licensees by identifying complementary IP. If relevant patents are combined and offered to a licensee as a single package, they can be easier to commercialize. According to Stanford Medicine’s Technology Transfer Office, there is a lot more information sharing under this structure, but the IP stipulations are more complicated and more difficult to implement.

**Parker Institute for Cancer Immunotherapy**

Around the same time as we were negotiating the Biohub gift, Stanford Medicine was working on another philanthropic collaboration with Sean Parker. In December 2014, Parker had made his largest gift to date: $24 million to establish the Sean N. Parker Center for Allergy Research at Stanford University. The following June, the same month he published his *Wall Street Journal* essay, Parker announced the launch of the Parker Foundation with a $600 million gift. The Foundation’s funds, which Parker said he will spend down during this lifetime, will be used to support initiatives in the life sciences, global public health, and civic engagement.

In April 2016, the Parker Foundation announced the formation of the Parker Institute for Cancer Immunotherapy, a nonprofit organization with the vision of hacking cancer so more patients can live cancer-free. The Parker Institute received $250 million from the Parker Foundation to establish and operate research centers at six institutions: Stanford, UCSF, UCLA, Memorial Sloan Kettering, MD Anderson, and UPenn. Each center was given $10-15 million in initial funding.

**Parker Leadership and Projects**

The Parker Institute is led by a board of directors that includes Sean Parker and other major donors, and is led by CEO and President Jeff Bluestone, a UCSF biologist. Parker attends the center’s meetings and is fully engaged in its work. He has a deep knowledge of immunology and an intellectual interest in the science. As he wrote in “Philanthropy for Hackers,” “This new generation of philanthropists want to interact directly with the scientists, field workers and academics whose ideas power the philanthropic world but who have traditionally been hidden away in a backroom somewhere, shielded from their beneficiaries by so-called development officers.”

Each of the six research centers has its own director, pictured on the left. At Stanford, our center is directed by Crystal Mackall. In March, the Parker Institute at Stanford awarded its first round of bench-to-bedside grants to four research teams, consisting of both basic science and clinical investigators, with early-stage projects that might not have been funded through traditional sources. In June, two young Stanford researchers were named Parker Scholars.

The Institute not only includes the six academic institutions I mentioned, but also more than 40 industry partners, including traditional pharma, startups, and nonprofits, like the American Association for Cancer
Research, that can help translate the Institute’s discoveries into the clinical space. Collaboration is encouraged through the sharing of research tools, infrastructure, and advances.

Intellectual property is owned by the universities, but revenue is split. Decision-making on whether and how to patent and license inventions is through a collaborative administration process carried out by a Technology Transfer Committee that is chaired by a representative of the Parker Institute with representation from members of the consortium. If consensus cannot be reached, the Parker Institute has the final decision-making authority.

As IP provisions like this proliferate, silos are also being created. It’s not clear yet, for example, how the IP will be handled when an invention involves a Hub investigator, a Parker investigator, and an NIH-funded researcher working together.

**Stanford Medicine’s Experience with Philanthropy**

Before sharing some thoughts about what new philanthropic initiatives like the Biohub and the Parker Institute mean for academic medicine, I’d like to share a little about Stanford Medicine’s experience in philanthropy. It wasn’t until 2011, a year before I became dean, that the fundraising activities of the Stanford University School of Medicine and Stanford Hospital were joined. Since that time, medical fundraising has taken off. In 2012, Stanford Medicine received a combined total of $243 million in philanthropic support. In 2016, this amount increased 57 percent to $383 million, the second-largest combined total for a U.S. academic medical center.

This total includes the fundraising activities for the Lucile Packard Foundation for Children’s Health, which raises about $130 million annually for maternal and child health and the Lucile Packard Children’s Hospital Stanford.

In medical fundraising, the largest donations have historically come from those interested in diseases or “grateful patients” rather than medicine alumni. However, until recently, Stanford Medicine did not have a formal grateful patient program. In the last 18 months since the program was launched in earnest, grateful patients have provided more than $22 million in new resources, most often for research. Even with the changing landscape, grateful patients will continue to play an important role in biomedical philanthropy.

**Philanthropy Increasingly Important**

I’d like to end today’s presentation with a few observations about what this new era of philanthropy means for institutions like yours and mine. First, I believe that philanthropy will be increasingly important given the uncertainty about other funding sources for academic medical centers. Our clinical reimbursement model, long a source of cross subsidies for our research and education missions, is increasingly not reliable. And, as we all know, funding for the NIH, though it consistently receives bipartisan support, has been flat or, in real dollars, declining.

Realistically, only a small portion of flagging government support for basic science research will be funded by philanthropy. But even though charitable giving is not going to replace the NIH, we can still leverage gifts to combat the growing pressures that steer the NIH towards safe and incremental science.

The Campaign for Stanford Medicine, which ended last August after raising $1.7 billion, raised support for a variety of programs, including high-risk, high-reward research that is unlikely to be supported by federal
sponsors. From 2013-2016, Stanford Medicine provided $5.2 million in seed grant funding to faculty for innovative projects that might otherwise not be funded. The $3.7 million distributed during the first two years of the program has already resulted in an additional $20 million in federal funding.

Through philanthropy, Stanford Medicine has also given its PhD students fellowships for the first four years of their training so that they are not dependent on the NIH funding of their faculty sponsor. One way to measure the success of this program is by looking at the admissions data from 2012, before the program started, and in 2017: selectivity has gone from 12 percent to 8.6 percent; yield has increased from 50 percent to 67 percent, and the number of underrepresented minorities has gone up dramatically from 10 to 25 percent of our incoming class. Many of our peers are seeking to emulate these results, and we at Stanford Medicine are focused on sustaining this important program.

**Support for Facilities and Infrastructure an Ongoing Challenge**
Another observation about this new era of philanthropy is that support for infrastructure is going to be an ongoing challenge. As we all know, even the NIH Facilities and Administration, or F&A, rate does not fully cover the cost of research. One reason is that the federal government placed a 26 percent cap on the administrative cost component in 1991, but compliance requirements have increased significantly since then.

Stanford’s federal negotiated rate is almost 57 percent, but actual costs have been documented via cost audits to be 70 percent. On this slide, you can see that in FY 2015, Stanford Medicine only recovered 66 percent of the total F&A expenses attributed to sponsored research activities. We had to subsidize the remaining $77 million, a gap that is only growing — dramatically so if the administration’s latest proposal is approved. For non-federal funding, we only recovered about 23 percent of the F&A costs.

For research funding received through the Biohub and the Parker Institute, the F&A cost recovery is limited. In addition, Stanford has allocated physical space for the use of Chan Zuckerberg Investigators and the Parker Institute, for which we are not receiving any compensation. These unfunded costs are being covered by unrestricted general funds, including interest income generated on dean’s office reserves, endowment payout, patent revenue, and prior year clinical surpluses. Many of these revenue streams, as we’ve already discussed, are increasingly unreliable. More stable revenue sources are available but come with significant restrictions that prevent their use in paying for infrastructure costs.

**Future of Biomedical Research More Collaborative**
My final observation is a more hopeful one. This changing landscape is also helping to push us towards greater collaboration, a trend which I believe will better position us to achieve our collective goals.

This push for collaboration is happening on many different levels, beginning within our own academic medical centers. At Stanford, we have seen in recent years how our collaborative environment within the university and with our hospitals has been a prime driver of our philanthropic success. Donors are continually looking for ways in which their dollars will be leveraged across several departments or schools and across the clinical enterprise.

As we’ve discussed, there is also an increasing desire for academic medical centers to work more closely with other academic medical centers. Chan Zuckerberg Science has yet to allocate $2.3 billion of its $3 billion in funding. With the initiative’s president, Rockefeller neuroscientist Cori Bargmann, discussions are ongoing about how to spend that money but one priority has emerged: Challenge Networks. “Some
of the most exciting discoveries in science happen across disciplinary and institutional boundaries. We will support networks of scientists around the world to tackle long-term, challenging problems and create incentives that support their collaboration.”

Project Baseline
This push for greater partnership includes industry. In July, Stanford Medicine began enrolling the first participants in the Project Baseline study we are conducting in collaboration with Verily, Duke University School of Medicine, and Google. In this longitudinal observational study, we will collect, organize, and analyze health data from approximately 10,000 participants over the course of four years.

The study will characterize participants across clinical, molecular, imaging, sensor, self-reported, behavioral, psychological, environmental, and other health-related measurements from onsite visits, continuous data collection through sensor technology, and regular engagement via an online portal and mobile app. When integrated, the data are expected to provide a range of expected values among a diverse population, and provide biomarkers of disease-related transitions, including those related to cardiovascular disease and cancer.

Project Baseline is a broad effort designed to develop a well-defined reference, or “baseline,” of good health as well as a rich data platform that may be used to better understand the transition from health to disease.

Apple Heart Study
Just two days ago at an Apple special event, the first ever at the Steve Jobs Theater, Apple’s Chief Operating Officer Jeff Williams announced the Apple Heart Study conducted in partnership with Stanford Medicine.

The study will use data from the heart rate sensor in the Apple Watch — the most used heart rate monitor in the world — to detect atrial fibrillation or AFib. A serious irregular heart rhythm that affects tens of millions of people, AFib is a leading cause of stroke but many people with AFib don’t feel the symptoms so the condition often goes undiagnosed. In the Apple Heart Study, users with irregular heart rhythms, including AFib, will be notified. Later this year, the first phase of the Apple Heart Study will be available in the U.S. on the app store.

Through these and other partnerships, we are seeing how the corporate and non-profit can work together to come up with innovative solutions that would otherwise not be possible.

Closing
This possibility of greater collaboration is one of the most exciting aspect of this new era in biomedicine. If we are going to hack cancer or cure, manage, and prevent all diseases by the end of the 21st century, then we will need each other. It is my hope that today can be the start of increased partnership among those gathered here.

For those who have an interest in discussing further some of the challenges and opportunities I raised today, I would be delighted to continue the conversation about how best to navigate this new world and carry out our invaluable missions.
End-of-Life Care and Patient Engagement – Achieving optimal balance between longevity and quality of life

Timothy G. Buchman, MD

Dr. Timothy G. Buchman is the Founding Director of the Emory Center for Critical Care (ECCC) and an External Faculty member of the Santa Fe Institute. The ECCC recently became Emory’s newest comprehensive center of excellence, integrating ICUs throughout the Emory Healthcare System, bringing together clinicians and investigators from diverse disciplines to conduct research to define best clinical practices and inform public health policy. The center also houses Emory’s Training Programs in Critical Care Anesthesiology, Surgical Critical Care, and Pulmonary/Medical Critical Care. Dr. Buchman is a past President of the Society of Critical Care Medicine, the largest organization of critical care professionals worldwide.

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Dr. Buchman is currently the President of the Society for Complexity in Acute Illness and is Deputy Editor of the Journal of the American College of Surgeons. His research spans the bench-to-bedside continuum, including studies of physiological dynamics and of ICU end-of-life care. Before joining Emory, he served as Professor of Surgery and Director of Acute and Critical Care Surgery at Washington University School of Medicine in St. Louis. Prior to his 15 years on the faculty at Washington University, Dr. Buchman directed the surgical intensive care unit and the trauma center at Johns Hopkins Hospital in Baltimore, where he completed his surgical training.
Death in America: A perspective

Timothy G. Buchman, PhD, MD, FACS, FCCP, MCCM
Director, Emory Critical Care Center
External Faculty, Santa Fe Institute
Editor-in-Chief, Critical Care Medicine

Vizient University Health System Consortium CEO Executive Board
September 14, 2017

Disclosures and disclaimer

• I am Editor-in-Chief of Critical Care Medicine: Emory University collects my stipend
• I serve as an advisor to the James S. McDonnell Foundation: in the past, I have received honoraria for my work with them, which I have donated in multiples to Emory University
• I am a grantee of the Henry M. Jackson Foundation, a foundation that bridges military and civilian research: see www.sc2i.org for further information
• Opinions expressed today are mine alone and not necessarily those of my employer, my journal, the government or any other organization
Talk Map

- Preamble: we are not the first to explore these issues
- Complex Systems Science
- Demographics
- Epidemiology
- Accumulation of Chronic Illness
- Costs
- Summary
- A personal perspective on how to keep all of this from overwhelming the ICU

Federal explorations of death in America

**Recommendation 1**

Government health insurers and care delivery programs, as well as private health insurers, should cover the provision of comprehensive care for individuals with advanced serious illness who are nearing the end of life.
Non-federal explorations of death in America

Complex Systems Science
A brief sidebar
Santa Fe Institute

- International Center for Complex Systems Science
- Theoretical Physics, Biology, Engineering, Economics, Ecology, Sociology, Statistical Mechanics, Computation Sciences, ...
- Human aging and end of life is important to SFI

Let’s Look at Ordinary Life for a Moment
Let’s Look at Ordinary Life for a Moment

At some point, a “vital function” declines to the point that it is inadequate to support life. This may be a slow decline, or it may be a sudden change. Either way, the person becomes my patient because s/he is “critically ill”
Life can only be understood backwards; but it must be lived forwards. Søren Kierkegaard

• Life arises programmatically, not via blueprint/assembly
  • Growth and development of the independent human is orderly
  • Various anatomic and physiologic systems mature and integrate sequentially
  • This maturation and integration commonly undergoes early catastrophic failure (miscarriage)
  • Late(r) catastrophic failure rare owing to three characteristics
    • Growth in capacity (lungs, liver, kidneys) is programmed to outstrip growth in demand
    • Integration of networks leads to pathway redundancy
    • Spatially parallel, temporally distinct signaling mechanisms mature (autocrine/paracrine; endocrine; neurological)

• But why do we die?

Chronic Conditions

Loss of capacity
• Not enough marrow to manufacture blood cells
• Not enough nephrons to filter blood and make urine
• “Tree pruning”—small blood vessels, small airways, small connections in bone

Loss of connectivity (regulation)
• Slowed adaptation (reflexes to learning to physical demands)
• Loss of redundancy (signals go awry, under/overshoots)
• Feedback failures, checkpoint failures, autocorrelation failures, memory cell failures, ...
Treatment of chronic conditions

**Capacity**
- Prevent natural degradation
- Substitute capacity
  - Transplantation
  - Mechanical alternatives
    - Dialysis
    - Artificial heart
    - Artificial pancreas
- Temporarily assume load
  - Antibiotics
  - Oxygen
  - ...

**Connectivity**
- Augment signals
  - Nerve stimulators
  - Endocrine/hormone replacement
- Augment connections
  - Insulin sensitizers
- “Guardrails”-”Stabilize”
  - Impose limits (e.g. K+)
  - External feedbacks

**EXERCISE**
Seems to help both

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**End-of-life – 2017**

Irreversible/irretrievable failure of one or more vital systems via CAPACITY LOSS or CONNECTIVITY LOSS

In 2017, many/most systems can be supported/substituted with critical care.

**Leading cause of death in ICUs: decision to stop support.**
Demographics

Age Distributions USA
(Census Bureau Projections)

Age Distribution of the Population by Nativity: 2014 to 2060
(Percent of groups total population)

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<td>2060</td>
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</table>

Population in millions

Percent foreign born

Average 80

Life expectancy years
The aging dynamic

Figure 3.
Distribution of the Projected Older Population by Age for the United States: 2010 to 2050

Note: Line indicates the year that each age group is the largest proportion of the older population.
Source: U.S. Census Bureau, 2016.

Baby Boom - 1

Figure 1.
Number of Births, Annual Percent Change in Number of Births, and Annual Birth Rate for the United States: 1909 to 2012

U.S. births (in millions)
Baby Boom -2; Composite life table

![Composite life table graph showing population in the Baby Boom Ages in the United States: 1946 to 2060.](image)

**Figure 2:** Population in the Baby Boom Ages in the United States: 1946 to 2060

- 15 years, Almost 20MM deaths

Note: Data for 1946 to 2012 are population estimates (purple bars). Values for 2013 and beyond are population projections (green bars).


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**Epidemiology**
Causes of death are changing—some quite ugly

Projected life—and causes of death—vary across USA

Number of deaths for leading causes of death

- Heart disease: 614,348
- Cancer: 591,499
- Chronic lower respiratory diseases: 147,101
- Accidents (unintentional injuries): 156,045
- Stroke (cerebrovascular diseases): 133,103
- Alzheimer’s disease: 93,541
- Diabetes: 76,688
- Influenza and pneumonia: 55,227
- Nephritis, nephrotic syndrome, and nephrosis: 48,146
- Intentional self-harm (suicide): 42,773
Accumulation of chronic illness

19 Chronic Conditions that Accumulate

Alzheimer’s Disease and Related Dementia
Arthritis (Osteoarthritis and Rheumatoid)
Asthma
Atrial Fibrillation
Autism Spectrum Disorders
Cancer (Breast, Colorectal, Lung, and Prostate)
Chronic Kidney Disease
Chronic Obstructive Pulmonary Disease
Depression

Heart Failure
Hepatitis (Chronic Viral B & C)
HIV/AIDS
Hyperlipidemia (High cholesterol)
Hypertension (High blood pressure)
Ischemic Heart Disease
Osteoporosis
Schizophrenia and Other Psychotic Disorders
Stroke
Aging and Chronic Illness in America

More chronic conditions, more trips to the ED
More chronic conditions, more admissions

More chronic conditions, more readmissions

**Figure 2.6a** Percentage of Hospital Admissions with a Readmission within 30 days by Number of Chronic Conditions and Ages: 2010

**Figure 2.7** Distribution of Medicare FFS Beneficiaries by Number of Chronic Conditions and Total Medicare Hospital Readmissions: 2010
Costs

More chronic conditions, more cost

Figure 3.1a  Per Capita Medicare Spending for Medicare FFS Beneficiaries by Number of Chronic Conditions 2010

- Average spending for Medicare FFS beneficiaries: $9,778
- 0 to 1 Chronic Conditions: $2,025
- 2 to 3 Chronic Conditions: $5,618
- 4 to 5 Chronic Conditions: $12,174
- 6+ Chronic Conditions: $32,658
“So teach us to number our days, that we may gain a heart of wisdom.” Psalm 90:12

The roughly 6 percent of Medicare patients who die each year make up a large proportion of Medicare costs: **27 to 30 percent.**

This figure has not changed significantly in decades.

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**Medicare Spending Projections (not AHCA)**

![Diagram showing Medicare Spending Projections](image)
Medicare Part A (hospital payments) solvency

Summary

• The Baby Boomers will die (my wife and I are in this group)
• En route to death, we will accumulate chronic conditions (we go to the gym, every day)
• Those multiple chronic conditions non-linearly expand care needs and costs (we are trying to hold them off, Barb has three)
• Those needs and costs accelerate continuously through the last year of life, including the “last 30 days” uptick, accounting for 27-30% of Medicare spend (we do not want to spend $ needlessly)
• Reasonable forecasts suggest that current funding mechanisms will fail around the time deaths are accumulating most rapidly
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Julie Cerese, RN, MSN

In her role at Vizient, Cerese has oversight of performance improvement products and advisory services, encompassing collaboratives that serve members' clinical, operational and supply chain needs, nursing programs, patient safety programs and accreditation services.

Prior to this position, Cerese led the University HealthSystem Consortium extensive performance improvement products and services. She oversaw its Intelligence™ suite of performance improvement platforms, comprehensive databases, informatics, analytics, quality research and nursing leadership activities. She also provided direction for the Quality and Accountability Study, which was the basis for the nationally recognized Bernard A. Birnbaum, MD, Quality Leadership Award, presented by Vizient to the top performing academic medical centers each year.

Cerese’s substantial knowledge of clinical quality improvement was supplemented by her service as director of quality and infection control at Chicago's Northwestern Memorial Hospital. Earlier she served as senior director of University HealthSystem Consortium’s clinical process improvement area.

Cerese holds bachelor of science and master of science degrees in nursing from the Loyola University Chicago Niehoff School of Nursing, where she is currently pursuing a doctoral degree with a focus on interprofessional education. She is the author of numerous journal articles on quality, performance improvement and other clinical topics.
Palliative Care Lessons Learned and 2018 Plan

Tammy Quest, Emory Healthcare
Julie Cerese, Vizient, Inc.

“Palliative Care is medical care focused on improving quality of life for people with serious illness.”
THE PALLIATIVE CARE MODEL

Life Prolonging Care | Hospice Care
---|---
Disease Progression

Life Prolonging Care | Hospice Care
---|---
Palliative Care

Diagnosis of serious illness | Death

Less Ideal/ Current

Ideal

How We Die


vizient
Statistical Alarm Bells

With overall improvements in care, older adults will live longer, with less disability but:

The majority of Americans will die from CV diseases or cancer

By 2030:
- 145% new cases of cancer (IOM 2013)
- ↑ 58% Alzheimer’s Disease and related dementias from 5.5 to 8.5M (HSS/ASP, 2013)

By 2050
- 27M people will need care at the level of LTC facility
What is (subspecialty) palliative care?

An extra layer of support provided to patients and families suffering from serious and/or life limiting illness

• Appropriate at any stage of illness and any age
• Can be provided with curative therapies
• The unit of care is the patient and family
• Focus on physical, spiritual, psychological and social aspects of distress
• Provided by an interdisciplinary team - Physician, nurse, chaplain, social worker, mental health professional

What are the standard interventions of palliative care services?

Three Key Standard Interventions

1. Pain and Symptom Management
2. Goals of Care Alignment
3. Care Coordination
Who provides Palliative Care?

- **Tertiary**
  - Academic PC - researched and taught; supports primary and secondary
  - The Palliative Care Faculty

- **Secondary**
  - Specialist clinicians and organizations that provide consultation and specialty care
  - The Palliative Care Clinical Team

- **Primary**
  - Basic Palliative Care skills and competencies of all clinical professionals
  - The "Front Line" Provider

What they are very likely to get….

20% of deaths occur in ICU setting
Vizient’s work in Palliative and End of Life Care: What Have We Learned?

- Palliative Care Best Practices: Benchmarking Study 2004 and 2007
- International Palliative Care Practices Survey 2014
- Research Institute
  - Prevalence Study 2015
  - Integration Project 2016
  - End of Life Symposium in partnership with Sante Fe Institute 2017
- PI Collaborative Program 2016 – 2017
  - Planning in progress for 2018

2012 2013 2014 2015 2016 2017 2018
2007 Palliative Care Benchmarking Study

20.7% (median) of patients had a prognosis documented within 2 days of admission

2015: 1/5th of all hospitalized patients need PC specialist; 60% didn’t get it...

Among patients deemed appropriate...

- 39.1% received a palliative care referral or service
- 28.9% no referral or services
- 9.3% PC referral made
- 60.9% PC services received (no referral)
Most frequently provided services were goals of care discussion and pain management

Proportion of patients who received PC services by service type

- Discussion of goals of care and/or patient preferences: 58.5%
- Pain and/or symptom management: 51.9%
- Psychosocial assessment and/or counseling: 39.8%
- Inpatient services: 33.5%
- Physical and/or occupational therapy: 32.3%
- Nutritional counseling: 30.1%
- Spiritual assessment and/or counseling: 29.4%
- Medication therapy counseling: 18.0%
- Outpatient services: 11.7%
- Financial counseling: 3.5%
- Legal counseling: 1.9%

Conclusion: Limited Progress in Focusing on Palliative Care Consultation Alone
Population Health
Palliative Care Support Strategy

- Number of patients in need of palliative care exceeds the resources of subspecialty palliative care consultation
- Shifting focus to front line clinical providers that care for seriously ill patients in fundamental, high yield palliative care interventions
- Most common reason for request for palliative care consultation: “Goals of Care Conversation”

Requirements of Care Change Over Time
One Thing Remains the Same: The Individual Decides

Population Health Approach to Addressing Palliative Care Needs

Intensity of PC needs

- Advance care planning
- Primary Palliative Care
- Consultative PC
- PC as primary focus of care

Time

Source: UCSF Palliative Care Program
Impact of Goals of Care (GOC) Conversations

Early discussions about goals of care are associated with:

- better quality of life
- reduced use of non-beneficial medical care near death
- enhanced goal-consistent care
- positive family outcomes
- reduced costs

Key Elements of GOC Conversations

- sharing prognostic information
- eliciting decision-making preferences
- understanding fears and goals
- exploring views on trade-offs and impaired function
- Exploring wishes for family involvement

Goals of Care Conversations

Gateway to:

- Allow patients (surrogates) to identify priorities as health conditions change
- Advance care planning
- Advance directive completion in patients with capacity
Department of Veterans Affairs will Require GOC Conversations for ALL seriously ill patients

Life-Sustaining Treatment Decisions Initiative (LSTDI) is a national VHA quality improvement

- initiative is to promote personalized, proactive, patient-driven care for Veterans with serious illness by eliciting, documenting, and honoring their values, goals, and preferences
- national policy to standardize practices related to discussing and documenting goals of care and life-sustaining treatment decisions
  - Tools, resources, training
  - By Summer 2018, all patients in VA with high risk scoring for serious illness will be REQUIRED to have documented conversation by PCP or other provider

Proposed Palliative Care Focus 2018
Timeline for 2018 PI Palliative Care Collaborative

Project Focus to be Defined by Steering Committee
- Documentation of Goals of Care Conversation in medically ill patients outside of ICU
- Link conversation to community care plan

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- Research
- Planning
- Invite steering committee
- Plan steering committee meeting
- Steering committee meeting
- Plan collaborative roll-out
- Project Enrollment opens
- Informational webinar
- Participant pre-work begins
- 9 month collaborative begins

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Appendix

- Information on Vizient AMC Government Relations Listserv
- List of CEO Executive Board Members
- Vizient University Health System Consortium Fact Sheet
Vizient Launches New Listserv for AMC Government Relations Leaders

Vizient’s D.C. office wants to hear your concerns, develop strategies and connect with policy-makers both with you and on your behalf. To support these efforts, Vizient has launched a new listserv for government relations leaders in academic medical centers.

- Vizient closely collaborates with organizations such as the AAMC and AHA on issues of mutual interest. This listserv is an additional way for member organizations to put forth priorities, engage with one another, and help move policies forward.

- The listserv also provides a forum for Vizient’s Public Policy and Government Relations team, led by Shoshana Krilow, Vice President, to share information with and collect feedback from member hospitals and health systems.

- In addition to facilitating knowledge sharing and information on topics of interest, Shoshana and her team will use the listserve to collect feedback from members to help shape Vizient’s policy priorities and positioning.

To participate, provide the contact information for your government relations staff member(s) via email to Shaifali Ray, Director AMC Networks, at shaifali.ray@vizientinc.com.

If you have questions or would like additional information, please contact Shaifali Ray (shaifali.ray@vizientinc.com) or Shoshana Krilow (shoshana.krilow@vizientinc.com).
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Overview

The Vizient™ University Health System Consortium exists to advance the success and ongoing transformation of the nation's foremost academic medical centers (AMCs) through discovery, knowledge sharing, learning, collaboration and innovation with trusted peers and other industry leaders.

Networks

Vizient University Health System Consortium networks provide a critical venue exclusively for AMC members where colleagues can collaborate to position themselves for future success. Our member-driven networks facilitate candid conversations, relevant hot topic discussions and knowledge sharing. We provide senior leaders with a unique, trusted platform for collaborating with peers and addressing new areas of interest. Our 22 networks provide a robust forum to tackle the unique AMC challenges. These networks include:

- CEO Executive Board
- Chief Financial Officers
- Chief Human Resources Officers
- Chief Information Officers
- Chief Marketing Officers
- Chief Nursing Officers
- Chief Quality Officers
- Global Executive Services
- Legal and Compliance
- Medical Leadership
- Payer Relations and Business Development
- Senior Operations Officers
- Ambulatory Care and Physician Practice
- Cancer Center
- Cardiovascular
- Imaging
- Laboratory
- Perioperative Services
- Pharmacy
- Respiratory Care
- Risk Management
- Supply Chain and Value Analysis

Learn

Networks meet regularly to exchange knowledge and leading practices, develop ideas to improve the performance of their institutions, and develop innovative strategies for handling market changes as the industry transitions to value-based care and payment models. In addition to in-person meetings at least once a year, all 22 networks offer member-driven webinars on a regular basis. Along with national conferences, educational series and two annual summits, Vizient Consortium network members have a wealth of opportunities throughout the year to enhance expertise and share successful strategies for addressing common challenges.
Accelerate performance

Network members can accelerate their results by applying the leading practices learned through the Vizient University Health System Consortium. Pathways to efficiency are greater together than alone.

Collaborating to overcome pressing issues

Helping members address the complex challenges and changing environment faced by AMCs is a specific focus for our networks. Examples of collaborative work by our networks to overcome common issues include:

- **Revenue cycle**: A workgroup within the Ambulatory Care and Physician Practice Network provided insights for dealing with the proliferation of high-deductible health insurance plans in the marketplace.

- **Physician engagement**: A member-driven online study involving the CEO Executive Board, Chief Quality Officers and Medical Leadership networks produced new evidence on how to improve physician engagement and successful strategies.

- **Compliance to improve health equity**: The Chief Marketing Officers, Legal and Compliance, and Risk Management networks hosted webinars to discuss interpretation and compliance with expanded requirements for posting notices of nondiscrimination in accordance with Section 1557 of the Affordable Care Act.

- **Quality and safety perspectives**: Chief medical officers, chief nursing officers, and chief quality officers held a joint meeting to explore the latest thinking in quality and safety training, population health management and electronic medical records optimization.

- **Leveraging pharmacy services**: The Pharmacy Network hosted a webinar for more than 400 C-suite leaders and other management teams spotlighting the effects of pharmacy on clinical outcomes and readmission rates, and provided actionable strategies to improve operational and financial performance.

- **Funds Flow Initiative**: The Funds Flow Initiative provides analytics, benchmarking and insights in the funding of an AMC’s tripartite mission, which averages over $110 million per member.

Partner with Vizient

In addition to its member networks, Vizient University Health System Consortium provides a voice for AMCs in the strategic direction of Vizient via several channels, including:

- of the 22 members on the Vizient Board of Directors represent Vizient University Health System Consortium members
- of the 11 members on the Data and Analytics Committee of the Vizient Board of Directors are from AMCs
- Vizient-sponsored in-person meetings are held annually for the Vizient University Health System Consortium CEO Executive Board
- member AMCs serve on the Vizient University Health System Consortium Board of Managers to provide advice and counsel regarding the needs of AMCs to Vizient, its Board of Directors and the Vizient management team

For more information about the Vizient University Health System Consortium, contact barbara.anason@vizientinc.com.

As the nation’s largest member-driven health care performance improvement company, Vizient provides network-powered insights in the critical areas of clinical, operational, and supply chain performance and empowers members to deliver exceptional, cost-effective care.