Breaking Down the Walls: Why Data Interoperability Is the Most Urgent Crisis in Healthcare That No One Is Talking About

By Dr. Thomas M. Gill, Yale School of Medicine & David S. DuPlay, Co-Founder, President & CEO Unity Global Care Inc.

There is a quiet crisis unfolding in every corner of healthcare, from hospital discharge units to assisted living communities, from home care agencies to outpatient rehabilitation clinics. It is not a crisis of clinical knowledge or medical innovation. It is a crisis of connection. The data that could save lives, prevent hospitalizations, and dramatically improve the quality of care for millions of aging adults exists in abundance. It is being collected every hour of every day by wearable devices, remote patient monitoring systems, home monitoring sensors, caregiver documentation platforms, electronic health records, and mobile applications across the entire care continuum. And most of it is trapped.

Trapped in proprietary systems. Trapped behind closed Application Programming Interfaces (a set of rules and protocols that allows different software applications to communicate and exchange data with each other), or APIs, that companies have chosen not to build, not to share, or not to offer without financial barriers so prohibitive that they function as walls rather than gateways. Trapped in the organizational siloes of vendors who have, whether by design or by indifference, decided that controlling their data ecosystem matters more than the patients, clients, and caregivers whose health information lives inside it.

This is not a minor technical inconvenience. It is a structural failure with measurable, documented consequences for patient safety, clinical outcomes, caregiver burden, and the financial sustainability of the healthcare system itself. And it demands a response not just from technology developers, but from every hospital, home care agency, assisted living community, health system, and patient advocacy organization that has the standing and the responsibility to demand better.

The Data Exists. The Integration Does Not.

The modern care environment for aging adults is, in many respects, extraordinarily data rich. A 78-year-old woman aging in place with congestive heart failure, mild cognitive impairment, and a recent history of falls may be generating dozens of meaningful data points every single day. Her remote patient monitoring device is capturing blood pressure trends and oxygen saturation. Her wearable is recording heart rate variability, sleep quality, and step count. The home care aide who visits three mornings a week is documenting her appetite, her mood, her physical steadiness, and her cognitive clarity. The smart sensors in her home are tracking movement patterns that may subtly signal a change in her functional status days before any single symptom becomes clinically obvious. Her medication dispenser is logging whether she opened it at the right time and took the right dose. Her family members, who live across the country, are noticing things during phone calls that no algorithm would ever capture on its own.

All of that information exists. None of it is connected. Her physician sees a fraction of it, and only at scheduled visits. Her care manager sees another fragment. Her family sees another. And the critical patterns that emerge only when those streams of data are analyzed together, the subtle, early signals of functional decline that precede falls, hospitalizations, and medical crises, remain invisible to everyone until the crisis itself arrives.

This is what healthcare leaders, clinicians, and policymakers mean when they describe the home care environment as simultaneously data rich and insight poor. The information is there. The integration is not. And the reason the integration is not there, in a significant and underacknowledged number of cases, is that the companies that built the platforms holding this data have chosen not to provide the open, accessible APIs that would make integration possible.

Physicians Are Asking. The Technology Is Not Answering.

The clinical appetite for integrated patient data is not hypothetical. It has been documented rigorously. The American Medical Association, in a comprehensive survey of more than 2,200 physicians across the United States, Canada, and Europe, found that 97 percent of responding physicians said they would review health information collected by a wearable device if it were made available to them. Ninety-seven percent. That is not a lukewarm expression of mild interest. That is near-universal clinical demand for exactly the kind of continuous, between-visit patient data that modern monitoring technologies are capable of generating.

And yet, as the same AMA survey documented, no more than 6 percent of physicians in any of the surveyed countries had actually integrated wearable or remote monitoring data into their clinical practice. The distance between 97 percent wanting something and 6 percent actually using it tells you everything you need to know about where the failure lies. It is not in physician motivation. It is not in the clinical value of the data. It is in the absence of systems that make that data accessible, interpretable, and integrated into the workflows and electronic health record environments where physicians actually practice medicine.

John Whyte, the Chief Executive Officer of the American Medical Association, has articulated this challenge directly, noting that physicians are genuinely interested in patient data just as consumers are, and that the central obstacle is the failure of health technology systems to incorporate that data into physician workflow in any meaningful way. That failure is not inevitable. It is a choice, made repeatedly by companies that build data-generating technologies without building the integration pathways that would allow those technologies to contribute to the coordinated, complete picture of patient health that physicians, care managers, and families desperately need.

The Cost of Fragmentation Is Not Abstract

When patient data cannot be integrated across the platforms and systems that generate it, the consequences are not theoretical. They are financial, clinical, and human. The Centers for Medicare and Medicaid Services reports that approximately one in five Medicare patients is readmitted to the hospital within 30 days of discharge, at an average cost of between $15,000 and $25,000 per episode. The Medicare program spends more than $26 billion annually on hospital readmissions, a significant portion of which represent cases where early intervention, enabled by the kind of continuous, integrated monitoring that interoperable data ecosystems make possible, could have prevented the readmission entirely.

Under the Hospital Readmissions Reduction Program, CMS reduces payments to hospitals with excess readmission rates for specific conditions including heart failure, pneumonia, chronic obstructive pulmonary disease, and hip and knee arthroplasty. In fiscal year 2023, 2,273 hospitals faced payment reductions under this program, with aggregate penalties exceeding $500 million. These penalties fall on institutions whose clinical teams often have the knowledge and the intent to prevent the readmissions they are being penalized for, but lack the continuous, integrated data infrastructure that would allow them to identify deteriorating patients before the deterioration becomes a readmission.

The fall statistics are equally sobering. The Centers for Disease Control and Prevention reports that approximately 36 million falls occur among older adults in the United States each year, resulting in more than 32,000 deaths, 3 million emergency department visits, and direct medical costs exceeding $50 billion annually. The majority of those falls are

preceded by subtle, detectable changes in gait, balance, sleep, and activity patterns. Changes that continuous, integrated monitoring can identify days or weeks before the fall occurs. Changes that go undetected when the data generated by monitoring devices cannot flow across system boundaries into the unified clinical picture that would make them actionable.

The Agency for Healthcare Research and Quality reports that the average cost of an emergency department visit in the United States exceeds $1,200, with visits resulting in admission averaging more than $3,300 in facility costs before inpatient charges are applied. Among adults 65 and older, fall-related emergency department visits alone account for more than $50 billion in direct annual costs. Every one of those visits that integrated, interoperable monitoring could have prevented represents not only a financial cost but a human cost, a patient whose crisis was foreseeable, and whose foreseeable crisis became real because the data that could have triggered a timely intervention was locked in a system that did not talk to any other system.

The Ownership Question That Companies Are Getting Wrong

There is a foundational ethical and legal question embedded in this conversation that the technology industry has been remarkably slow to confront directly. Who owns the health data that monitoring devices, wearable technologies, and care management platforms collect?

The answer, in both ethical principle and in the direction of evolving regulatory policy, is clear. The patient does. The client does. The individual whose physiological signals, behavioral patterns, sleep cycles, medication adherence, and functional status are being captured and stored owns that information. It was generated by their body, in their home, in the course of their daily life. The technology platform that collected it was engaged as a tool in service of their care, not as a custodian with the right to restrict access to information about their own health.

The 21st Century Cures Act, signed into law in 2016 and with key provisions implemented in subsequent years, established federal prohibitions on information blocking, defined as practices by health information technology developers, health information networks, and healthcare providers that are likely to interfere with access, exchange, or use of electronic health information. The Office of the National Coordinator for Health Information Technology has continued to strengthen interoperability requirements under this framework, with the explicit recognition that patients have a right to access their own health data and that information blocking undermines the quality, safety, and efficiency of healthcare for everyone.

When a company that develops a remote patient monitoring platform, a wearable device ecosystem, or a care management application declines to build an API, charges prohibitive fees for API access, or imposes contractual restrictions that prevent data from flowing to other systems in a patient's care ecosystem, they are not protecting proprietary business assets. They are, at minimum, operating in tension with the policy direction of federal health information law, and at most, actively preventing patients and their caregivers from exercising their rights to their own health information. The data in these systems does not belong to the company that built the platform. It never did.

The Fragmented Ecosystem and Its Human Consequences

Consider what data fragmentation looks like in practice across the care settings that serve aging adults every day. A patient is discharged from an acute care hospital following a hip fracture repair. She spends two weeks in an inpatient rehabilitation facility, then transitions to home health care, with a home care agency supplementing professional nursing visits with daily aide support. She wears a remote patient monitoring device prescribed by her cardiologist to track her heart rate and blood pressure. Her family has installed a home monitoring system to detect falls and track movement patterns. Her medication adherence is tracked through a connected dispenser that her pharmacy arranged.

Every one of those systems is generating clinically meaningful data about her recovery, her functional status, and her risk for readmission. And in the absence of interoperability between those systems, every one of those data streams is invisible to every other system in her care ecosystem. Her home health nurse documents observations in one platform. Her physician sees vital signs from the remote monitoring device in a separate portal, if they see them at all. The home care aide's observations about her appetite and mobility live in a third system. The family's observations exist in informal phone calls and text messages. The fall detection sensors send alerts to a monitoring center that has no connection to any clinical system involved in her care.

This is not a care ecosystem. It is a collection of disconnected fragments, each doing part of its job and none of them communicating with each other in a way that produces the unified, longitudinal clinical picture that her care team needs to manage her recovery proactively. The warning signs of readmission, if they emerge in those early weeks at home, are almost certainly there in aggregate. The question is whether any system exists to see them. In most cases, today, the answer is no.

The World Health Organization and the Global Call for Integration

The failure of data interoperability in healthcare is not a uniquely American problem, and the organizations responsible for global health policy have recognized it as a structural challenge with profound implications for care quality and population health. The World Health Organization has identified falls prevention as a global public health priority, noting that falls are largely preventable when early risk factors are identified and addressed, and that multifactorial risk assessment and intervention programs can reduce fall rates by up to 30 to 40 percent. The key phrase is early identification, which requires exactly the kind of continuous, integrated monitoring that data silos make impossible.

The United Nations World Social Report projects that the number of people aged 70 and older will more than double globally by 2050. In the United States, 10,000 Americans turn 65 every single day. The Administration for Community Living estimates that approximately 40 million adults are currently aging in place in the United States. Managing the health, safety, and quality of life of that population at scale, in a way that is clinically sound, financially sustainable, and consistent with the overwhelming preference of older adults to remain in their own homes, requires data infrastructure that does not yet exist in most care environments. Building that infrastructure requires interoperability. And interoperability requires APIs that work.

The National Institute on Aging has emphasized that early detection of cognitive decline is among the highest clinical priorities in aging medicine, noting that interventions initiated at the mild cognitive impairment stage carry substantially greater potential to slow functional decline and preserve quality of life than those initiated after dementia has progressed. Early detection of cognitive decline in real-world home settings depends on continuous monitoring of behavioral, sleep, and functional indicators across time. Monitoring that only becomes clinically actionable when the data it generates can be integrated with the broader clinical picture maintained by a patient's care team.

The API Is Not a Technical Detail. It Is a Care Decision.

There is a tendency to frame API availability as a technical or business question, a matter for engineering teams and commercial negotiators rather than for clinicians, care advocates, and patient rights organizations. That framing fundamentally misrepresents what is at stake. The decision by a software company, a remote patient monitoring vendor, a wearable device manufacturer, or a care management platform provider to build or not build an open, accessible, affordable API is not a technical decision. It is a care decision. It determines whether the data that platform generates can contribute to an integrated, coordinated, genuinely effective picture of a patient's health, or whether it disappears into a proprietary silo where its clinical value is permanently limited.

The FDA has noted that medication non-adherence contributes to approximately 125,000 preventable deaths and accounts for 10 to 25 percent of hospital and nursing home admissions annually in the United States. Medication adherence data that lives in a connected dispenser platform but cannot be accessed by a physician's electronic health record system or a care management platform is medication adherence data that cannot be acted upon. The dispenser did its job. The data did not go anywhere useful. And the preventable death, or the preventable hospitalization, happened anyway.

AARP research has documented that there are approximately 53 million family caregivers in the United States providing unpaid care valued at more than $470 billion annually. These caregivers are operating in precisely the information vacuum that data fragmentation creates. They are doing their best to support aging loved ones without access to the integrated, longitudinal picture of their loved one's health that would allow them to recognize warning signs early, communicate effectively with clinical care teams, and make informed decisions about care without operating in constant uncertainty and anxiety. Data integration does not just help clinicians. It helps families. And the companies whose platforms hold data that could reduce that burden have a responsibility to make that data accessible.

What the Industry Must Demand

The organizations that purchase and deploy health technology, home care agencies, hospitals, health systems, assisted living communities, memory care facilities, outpatient rehabilitation clinics, and accountable care organizations, have more leverage in this conversation than they have historically chosen to exercise. When a technology vendor, a remote patient monitoring company, or a software developer is unable or unwilling to provide an open, accessible, reasonably priced API that allows patient data to flow to other systems in the care ecosystem, the organizations purchasing those technologies have both the right and the responsibility to treat that limitation as a disqualifying characteristic.

Patient data interoperability is not a nice-to-have feature. It is a fundamental requirement of responsible, patient-centered care technology. Organizations that adopt platforms built on closed data architectures are not simply accepting a technical limitation. They are accepting a care limitation, one that will manifest in fragmented clinical pictures, missed early warnings, preventable adverse events, and patients whose deterioration went undetected until it became a crisis because the data that should have triggered an earlier response could not cross the walls between systems.

The conversation about vendor selection in healthcare technology needs to change.

Alongside questions about functionality, user experience, cost, and customer support, every healthcare organization evaluating a technology partnership should be asking whether that vendor provides an open API, whether the terms of API access are

reasonable and not prohibitively priced, whether the vendor's data architecture is designed to support integration with other systems in the care ecosystem, and whether the vendor's approach to data access is consistent with the patient's right to access and control their own health information.

If the answers to those questions are no, or not without significant additional cost, or not in a way that is practically accessible, that is information that should materially affect the decision.

The Path Forward: An Integrated Future for Every Patient

The vision of an integrated care ecosystem, where every meaningful data point generated by a patient's monitoring devices, wearable technologies, caregiver observations, family communications, and clinical encounters flows together into a unified, continuously updated picture of that patient's functional health, is not technologically out of reach. The artificial intelligence and data integration capabilities necessary to synthesize those streams of information into clinically actionable intelligence exist and are being implemented by organizations committed to solving this problem. What is out of reach, in far too many cases, is the data itself, because the companies that hold it have not built the doors.

The Medicare Advantage market, now serving more than 30 million beneficiaries, is creating powerful financial incentives for health systems and physician groups to reduce emergency department utilization, prevent readmissions, and manage the total cost of care for aging adult populations. Those financial incentives cannot be fully realized without the integrated data infrastructure that makes proactive, continuous care management possible at scale. The value-based care movement, which continues to shift financial risk onto providers and away from fee-for-service volume, depends fundamentally on the ability to identify high-risk patients early, intervene before clinical events occur, and demonstrate longitudinal outcomes rather than process compliance. None of that is possible in a fragmented data ecosystem.

The healthcare industry is at an inflection point. The demographic reality of an aging population, the financial pressure of value-based care arrangements, the clinical imperative of early intervention, and the technological capability to make continuous, integrated monitoring a practical reality at scale have converged in a way that makes the status quo of data fragmentation not just inefficient but genuinely indefensible. Every day that patient data remains trapped in proprietary silos, inaccessible to the other systems and care team members who need it, is a day that preventable falls happen, preventable readmissions occur, preventable medication errors go undetected, and families caregive in the dark when the information that could illuminate their loved one's situation exists somewhere in a system that will not share it.

The companies that build and maintain the platforms, devices, and applications that hold this data have a choice to make. They can continue to operate as if the data in their systems is theirs, building walls that protect their competitive position at the expense of the patients whose health information they are custodians of, not owners of. Or they can recognize that the fundamental purpose of health technology is not data custody. It is care. And that care, at the level of quality and safety that aging adults deserve and that the healthcare system desperately needs to deliver, requires data that flows.

Every software company, every remote patient monitoring vendor, every wearable device manufacturer, every care management platform developer, every ERP system provider operating in healthcare needs to hear a clear and unified message from the organizations, clinicians, families, and policymakers they serve: build the API. Make it accessible. Price it fairly. And recognize that until you do, the most important thing your technology could contribute to patient care is being held back by a door you chose not to open.

The patients cannot afford to wait. Neither can the caregivers who love them. Neither can the healthcare system that serves them. The time to build the connection is now.

About the Authors:

Dr. Thomas Gill, Yale School of Medicine

Dr. Thomas Gill is a physician at Yale who specializes in caring for older adults and studying how to help people stay healthy and independent as they age. For more than 30 years, his research has focused on understanding why older individuals develop difficulties with everyday activities and, importantly, how to prevent or delay those changes.

He leads major research programs at Yale that follow people over time and test new approaches to maintain strength, mobility, and quality of life. His work has helped shape how doctors and scientists think about aging, disability, and independence.

Dr. Gill has published extensively and received many honors for his contributions. At Yale, he also directs key programs devoted to aging research and the health of older adults. Dr. Gill has led and contributed to groundbreaking epidemiologic research, clinical trials and other aging initiatives. His work has been widely recognized with prestigious awards and leadership roles across Yale and the broader aging research community.

David S. DuPlay, Co-Founder, President & CEO Unity Global Care

Dave is the Co-Founder, President & CEO of Unity Global Care Inc., developer of ALBERTai, the first ever and patent pending Aging-In-Place Score. Dave brings a uniquely informed perspective to the conversation around aging, technology, and compassionate care. A patient advocate, entrepreneur, and seasoned healthcare strategist with more than 30 years of experience working alongside medical professionals, research organizations, and patient

communities across virtually every disease area, Dave has dedicated his career to aligning the goals of all healthcare stakeholders in service of better patient outcomes.

As Chairman of Vital Options International, a global health foundation founded in 1983 and committed to health education, advocacy, and financial assistance for patients in minority and underserved communities worldwide, Dave understands firsthand the human stakes embedded in every healthcare decision.

A recognized author and speaker on the challenges facing vulnerable populations, Dave is a passionate believer that technology, when thoughtfully applied, has the power to close gaps in care, amplify the voices of those too often left behind, and preserve the dignity of aging individuals and the families who love them. It is through this lens that Dave Co-Founded Unity Global Care Inc., to bring the ALBERTai eco-system to families and providers, not merely as tools of convenience, but as meaningful instruments of empowerment for some of the most emotionally complex moments families will ever face.