



The Quarterly

INSIDE THIS ISSUE:

| | |
|---------------------|---|
| Employee Spotlight | 1 |
| Did You Know? | 2 |
| Message from C4 | 4 |
| A Few Good Mentions | 5 |
| In the News | 5 |
| Home in VT | 5 |

Employee Spotlight

Meet Smriti Agrawal

We are excited to spotlight Dr. Smriti Agrawal who brings deep expertise in commercial development and health system partnerships, backed by a Ph.D. in Molecular and Human Genetics from Baylor College of Medicine. As a founder, she built Lazarus 3D, a startup that defined a new category in patient-specific preoperative surgical rehearsals to improve patient safety and outcomes in surgical care, while also establishing a second vertical focused on medical education and training. She also served as Co-Founder and CCO of Keliomics, a venture advancing drug discovery with organ-scale models. This background in building startups and working in life sciences gives her a unique edge in bringing innovative solutions to market.



At HDmedical, Dr. Agrawal has led the development of the product playbook for both DelTrain™, our VR education solutions and the Refrain® , our medical device for ICU patients designed to improve early mobility and prevent delirium. When asked about her work, Smriti shared, "What excites me most is building commercial strategies that actually work for health systems, meeting them where they are and delivering solutions that improve both patient care and operational efficiency. At **HDmedical**, we have the unique opportunity to bridge VR education and ICU mobility, and I'm energized by the impact we're already seeing."

We are thrilled to have Smriti's capabilities on our team!

"I'm energized by the impact we're already seeing."

- Smriti



Did You Know?

Happy 10th Anniversary to HDmedical !

This May, HD**medical** is celebrating our 10th anniversary as the leader in education and practical solutions to improve enhanced early mobility, cognition, and delirium prevention. And what a journey it's been!

Until recent years, there was not such a robust global movement to end delirium in our hospitals. For the most part, delirium was regarded as a known and acceptable risk, often chalked up to old age and co-morbidities. It even went by names like metabolic encephalopathy and ICU psychosis. In the years since, so much has changed, propelled by a rapid growth in available scientific publications on the subject, and a few key movements—ICU Rehab, which grew out of Dale Needham FCPA, MD, PhD's work at Johns Hopkins focusing on the role physical, occupational, and speech/cognitive therapy can play in early and enhanced mobilization; ICU Liberation, which grew out of Wes Ely, MD, MPH and Brenda Pun, DNP, RN's work at Vanderbilt providing the first comprehensive, clinically validated care bundle as a standard set of practices and assessments to lessen the harmful effects of care practices associated with endotracheal intubation; and the American Delirium Society (ADS) along with its worldwide counterparts who promote delirium recognition, prevention, and management with group force.

"For the most part, delirium was regarded as a known and acceptable risk... It even went by names like metabolic encephalopathy and ICU psychosis."

Our founder, Marie Pavini, MD, FCCM, FCCP was there at the beginning of this movement, recalling early meetings wherein these heavy-hitters and Marie would often be the only people in an otherwise empty lecture hall, sharing insights and learnings and scheming how to best address this underserved but global public health issue. While others in this group focused on performing critical research to accumulate data to justify the significant changes that were needed, Dr. Pavini directed her attention to developing more tangible and practical solutions that could immediately address the gap in care. The first of these solutions was the Exersides® Refraint®, our flagship of innovation which addresses myriad issues associated with intubation, sedation, and immobility in a single, safe, easy to use device. This was achieved through a series of successful NIH grants which, as part of their conditions, required Dr. Pavini to start a company, HD**medical** (then Healthy Design).



HD**medical** team members at dinner with Mayo Research team

“...critical care environments are again seeing and understanding that enhanced early mobility are critical to patient care, and that tools are needed to eliminate the practices that are doing so much harm.”

While the Exersides® Refrains® was undergoing RCTs at Johns Hopkins, The University of California at San Diego, and the University of Vermont, we continued to look at the entire problem--the culture, the conflicting policies, and especially education. This led to the development in 2021 of our DelTrain™ VR immersive delirium education, a powerful application of Virtual Reality to provide an authentic experience as an intubated patient. DelTrain™ VR builds empathy and understanding on the part of staff for the horrors and traumas their delirious patients experience every day whilst demonstrating where communication breaks down when caring for a patient at risk for delirium.

The ICU Rehab and ICU Liberation movements began to move the needle as the 2010s drew to a close, but then the worst possible thing happened –a global respiratory pandemic. All of the strides achieved up to that point were washed away as hospitals scrambled to accommodate what resembled war zones right out of “Gone with the Wind,” and a perfect storm was created whereby millions of patients were isolated, intubated, and immobilized—a perfect storm of stressors and known independent contributors to delirium. In fact, Covid has been called “a Delirium Factory” by Dr. Wes Ely. One would think that as a result of 2 years of pandemic conditions, hospital leadership would be anxious to bring in solutions for this widespread medical emergency, but they were faced with an even more existential crisis: mass exodus of nurses from the profession, numerous attacks on staff during Covid that elevated nurse safety to a nationwide concern, dependency on travel nurses which raised costs and undermined culture-building and long term goals, and the normalization of a more dehumanized environment.

In 2026, the smoke from Covid is clearing. Data are coming in confirming the rise in delirium and other immobility complications, and critical care environments are again seeing and understanding that enhanced early mobility and delirium prevention are critical to patient care, and that tools are needed to eliminate the practices that are doing so much harm. **HDmedical** is here and ready - ready to educate staff with transformative DelTrain™ VR empathy education, ready with knowledge on how to align bedside initiatives and hospital policies, and ready with the Exersides® Refrains®: the only safe patient mobility restraint alternative to have been proven safe & feasible in 3 years of multi-site randomized controlled trials, eliminating the need for immobilizing or unsafe restraints and the over-sedation that comes with them, both independent risk factors for delirium. You're ready. We're ready. After ten years of quietly leading innovation and anticipating the future, **HDmedical** is here for you. Let's do this!



A Message from C4 (Chief Culture Change Catalyst)



Happy Spring! It calls to mind Spring cleaning and new looks. In our community (readers and writers of this newsletter) that translates to realizing what we are used to, have worn out, and what new labels we would like to be seen in now. To me, knowing what I know about some near misses from last season, it's probably a good idea to take a really good look at them and then alter course to avoid the catastrophe that has been forewarned and is now on its way.

What the heck is she trying to say? I am referring to the potential lawsuits that are getting closer – rumblings now will be a freight train soon. I am referring to CMS' Age Friendly mandates that can now cut into hospital revenue and trigger Joint Commission activity. I am referring to Ordering Providers who are now on the hook for restraint and sedation orders, and the bedside staff's interpretation and carrying out of those orders when they lead to delirium, immobility complications, or other significant events. The microscope is focusing on more general common-sense care now – activities that don't require a rocket-scientist to see the harm. These uncovered events alongside the public's improving knowledge about what treatment is REALLY required to save their critically ill loved ones (they're not buying our stories of sedation and restraint being necessary evils that are keeping intubated patients safe and comfortable anymore, especially when some cutting-edge institutions are showing advances, teaching families, and celebrating their wins publicly).

What do we do now? We wrench ourselves from those last-season ways and realize that the half-measures currently being taken by so many hospitals are one-by-one getting exposed, and we leap into a new look that will make it clear to the public, lawyers, payors, legislators, and each other, that we are fully following best practice now, not just limping towards it ("almost right" won't cut it in court). We stop taking baby steps and take the bull by the horns. Better to make a few mistakes on the front end than repeat so many of them from our past. So MAKE your patient awake, mobile, safely unrestrained, cognitive, and participating in their own healing – especially the most critical ones.

Our HD**medical** team has been living this dream for a decade now so if you need a safe patient mobility restraint alternative, VR empathy education that will never let you forget, or a consultancy to align your institution's departments/policies/committees/bedside staff, send us a note or call us. I don't usually mix business with my C4 column, but I want you to know that there are proven ways to achieve the daunting task of an awake and interactive critically ill patient. You are not alone.

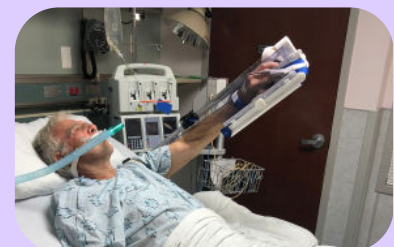
Happy Spring,

Marie Pavini

Marie Pavini, MD, FCCM, FCCP

"We wrench ourselves from those last season ways ... 'almost right' won't cut it..."

We stop taking baby steps and take the bull by the horns."



HD**medical**.org



13 Willow Street
Rutland, VT
05701-4010

(802) 821-1002

hello@HDmedical.org



“... where common sense meets healthcare...”



HDmedical.org

A Few Good Mentions

Q2 conferences and health awareness days

4/28 **NAGS CoCare®: HELP Pre-Conference Session**

6/12-6/14 **NIDUS Delirium Boot Camp**, Denver, CO

6/14-6/16 **American Delirium Society Annual Conference**, Denver, CO

| April | May | June |
|---------------------------------------|---|---|
| Occupational Therapy Month | Mental Health Awareness Month | PTSD Awareness Month |
| Sexual Assault Awareness Month | Nurses Month | Alzheimer's & Brain Awareness Month |
| 7: World Health Day | 6: National Nurses Day | 15-19: Healthcare Risk Management Week |
| 19-25: Pediatric Sepsis Week | 6-12: National Nurses Week | 17-23: Healthcare Documentation Integrity Week |
| 27-1: Patient Experience Week | 10-16: Neuroscience Nurses Week | 27: National PTSD Awareness Day |
| | 17-23: Healthcare Documentation Integrity Week | |

In the News

Meta (formerly Facebook), the largest virtual reality company in the world, is pivoting its Horizon Worlds platform away from a dedicated VR-first experience to a mobile-first platform, with significant changes occurring through mid-2026. While an initial plan to fully shut down VR access was reversed, the platform is removing specific worlds, in-world perks, and stopping new game development, focusing on sustaining existing VR games and promoting mobile access. This decision is largely driven by the inability of VR equipment and applications to grow beyond a niche market in recent years, along with prioritization of AI and Meta’s non-immersive AI glasses as a quick-win consumer play. Much of the difficulty in getting timely adoption of Meta’s VR platform offering has been widespread IT security conflicts and interruptions, unavailable IT bandwidth for streaming content, and general usability issues in the often highly regulated institutions that use VR (e.g., hospitals and universities).

How will this affect DelTrain™ VR? From inception, HDmedical carefully scoped and designed our DelTrain™ VR technology to not rely on Meta’s broader platforms and to instead be an offline, headset-native application. This approach has proven to be prudent, as this pivot will have no effect on the availability, accessibility, and ease of use of DelTrain™ products.

Home in Vermont

Spring starts late in Vermont. Snow still lingers in the woods but the maples begin their quiet work in the heart of sugaring season, when maple sap finally begins to run. Sap lines and buckets appear in the woods, sugarhouses fire up, and the first batches of syrup make their way to kitchen tables. The roads are muddy, the days are bright, and the landscape shifts slowly from winter to a new season.

