



The Quarterly

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"At first, I thought the challenge was spreading awareness. Then I realized people were already aware of the restraint problem, they are just having difficulty changing."

- Ahmed

Employee Spotlight

Meet Ahmed El-Agroudy

Last May, Ahmed joined HD**medical** as a Product Development Engineer. He has a background in Mechanical Engineering with a masters in Biomedical Engineering from McGill University in Montreal, Quebec. He also has had experience working in other early stage medical device companies as well as in the hospital environment.



While his background is engineering, Ahmed's varied skillset provides value in very different fields - a useful trait when working in a startup. "Getting the opportunity to work in all aspects of a company gives you a chance to discover strengths you may not realize you have and is also gratifying in knowing you can help in ways you may not have thought possible." Besides leading R&D on a top-secret project, Ahmed also began a social media educational campaign for the company with his "Unlocking Minds" series. "We're championing an important cause here at HD**medical**, and most of the work to be done is with the people in the field - the nurses, therapists, doctors, administrators." Ahmed has been a great addition to the team and has been working rigorously to inform, educate, and innovate!

Did You Know?

How do businesses develop innovations?

The world is full of unmet needs and unsolved problems—this is the wellspring for innovation. Innovation starts with an unmet need, is defined through an idea or ideas, but isn't realized until it achieves its goals in the hands of real world users. Ideas can be innovative, but a real and tangible result must be achieved to be an innovation. Part of the entrepreneurial spirit is understanding this distinction--that innovation is a **RESULT**. In the world of medicine and healthcare, the desired result of an innovative idea can take years to be realized, and a steadfast resilience to the cause is a must to achieve success. Why? Because achieving the result can take 5-10 years. One thing is clear--until someone figures out a different way to do it, these challenges require the sorts of resources, organization, and processes that can only be achieved in a business environment--and innovation is risky business, fraught with unknowns.

Most companies manage innovation through a risk management process defined by the business risks associated with an opportunity. These "Stage/Gate" processes are commonplace in product development organizations, and while these processes often look to be structured around the technical aspects of the development, they are more accurately structured around the associated risks of that development stemming from one key principle: the riskiest thing a business can do is to launch a new product.

The first stage of the process--"**Concept Development**" starts with low risk activities--research, ideation, prototyping, and concept testing. Typically these activities are carried out by an individual or a small team over a short period of time (1 year or less) so the costs are low and there is little to no risk exposure. For startups, this often looks like an inventor working in a garage, either using personal finances or a modest seed grant.

Once the first stage is completed and a promising concept is created, the project is subjected to its first gate, wherein details of the design, its associated business case, and fit to the company's competencies are assessed--if successful, the project is allowed to enter the "**Detailed Design and Development**" stage with a significantly riskier profile. This stage is often at least 10-fold costlier than the initial stage, requiring dedicated resources for typically 2-3 years. This is a gamble for any company but likely exceeds the resources of an inventor/entrepreneur. For a startup, this is often where the first ask for investors or grants occurs.

At the completion of the Detailed Design stage, the next gate determines if the company is willing to take the next big risk: "**Manufacturing Transfer**"--purchasing tools, equipment, and infrastructure to commercialize the product. Again, this stage can be 10 fold the cost of the previous development stage as the company will likely be allocating production and warehouse space up to and including new facilities. Staffing requirements begin to resemble a complete business with engineering, operational, marketing, finance, and sales all actively working on the launch planning. The buildup activities are usually accompanied by verification, validation, and regulatory submissions by the engineering team. Tooling for injection molded parts can cost in the order of millions of dollars, as can the facilities and resource allocations during the program ramp up. Startups likewise need an even larger round of fundraising at this point.

Finally, with these investments made and work completed, the next gate is the biggest and riskiest gate: "**Product Launch**". Success hinges on adoption, and a lot can change over the course of a regulated product development program. This is where the product and the business merge into one, and is also where many great ideas fail. In fact, success can often be traced not to the original concept or invention, but to the hundreds of identified details, gaps, and risks leading to the resulting solutions and "mini-innovations" created along the way. For any successful innovative product, there are plenty of heroes who contributed to making it happen.



*"Ideas can be innovative, but a real and tangible result must be achieved to be an innovation. Part of the entrepreneurial spirit is understanding this distinction--that innovation is a **RESULT**."*

A Message from C4 (Chief Culture Change Catalyst)



In this *New Year*, it is not only fun but vital to discuss *New Ideas*. We have been through so much change between the pandemic, increasing tech use by staff & patients, the aging population, cost cuts, and the shift toward a newer generation being at the forefront of healthcare delivery. They say necessity is the mother of invention and if ever there were a need, **it is now**.

We are under-staffed, staffed with temporary traveling professionals or freshly-minted less experienced personnel, focused on staff attraction and retention more than patient well-being, and educating our medical and nursing students with the quest for quality of life of the learner above the quest for knowledge. Although these measures aim to save our healthcare system, we must remember that it often takes sacrifice to help those in need.

If it's one thing this **brave new generation** is good at, it's ideas and an entrepreneurial spirit, so let's get to it. If you don't already have an idea for an improvement now, you will at some point. And if you pass through the mysterious gate of idea development, you will enter into a world that can make your head spin. It is a most amazing world that can fulfill you like nothing else – an experience that can **feed your soul forever**. But beware – there are sharks and vultures hiding in your safe spaces that can find their way into your confidence, waiting to usurp your kind-hearted enthusiastic innovative spirit so you will need to be ready.

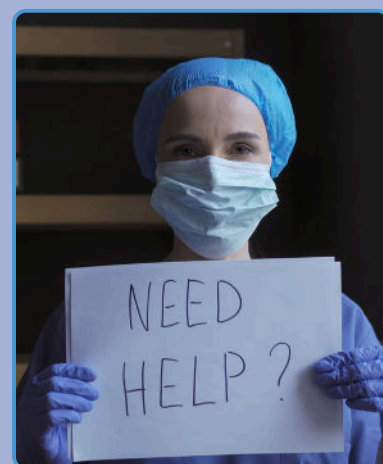
What if you have entrepreneurial spirit but don't have an idea? No worries – there are plenty of opportunities as a medical professional to edge your way into this exciting world as a consultant or a 'Subject Matter Expert (SME)'. In my opinion, it is such a thrill to shoot for the stars and to leave a positive legacy in our world that my advice is that if you have an idea that can improve healthcare, be strong and forge ahead. Do it responsibly and CAUTIOUSLY. **It's dangerous out there** but if you have the fortitude, it will be the best thing you ever did. Your ideas are needed and your innovator spirit is our lifeblood so if you have the capacity (take your family's temperature on this as well), find your professional innovator group, like the American Nurses Association (ANA), the Society of Critical Care Medicine (SCCM), the Small Business Association (SBA), or even the NIH innovator/funding arm, make a plan, and **GO**.

Yours truly,

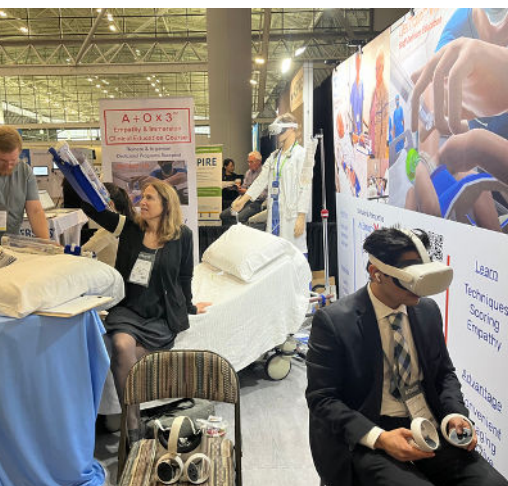
Marie Pavini

Marie Pavini, MD, FCCM, FCCP

"We must remember that it often takes sacrifice to help those in need."



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



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A Few Good Mentions



Upcoming Conferences 2025

2/13–2/15 [APTA \(American Physical Therapy Association\)](#) Houston, TX

2/22 [SCCM Critical Care Innovation Incubator preconference](#), Orlando, FL

Say hello to Dr. Marie Pavini who will be faculty at the launch of this inaugural pre-conference, judging posters and presentations and leading round table discussions on critical care innovation.

2/23–2/25 [SCCM \(Society of Critical Care Medicine\)](#), Orlando, FL

3/3–3/5 [AMSUS \(Association of Military Surgeons of the United States\)](#)
National Harbor, MD

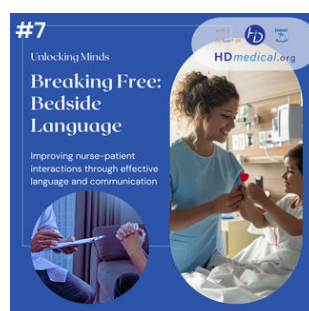
3/30–4/2 [AONL \(American Organization for Nursing Leadership\)](#) Boston, MA

In the News

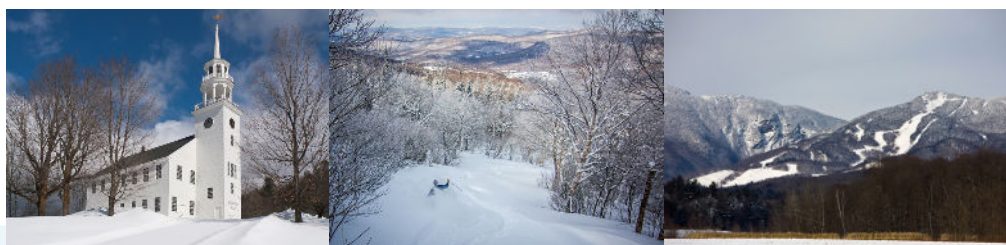


CMS is rolling out its new Age Friendly Hospital Measure as part of the FY2025 Medicare payment rules. Starting in 2025, hospitals must report on how they address patient goals, medication safety, frailty, social issues, and age-friendly leadership—or face reduced Medicare payments. Read more [here](#).

HD**medical** is growing on social media. Follow our *Unlocking Minds* series and more.



Home in Vermont



Winter in Vermont offers world-class skiing, snowboarding, and snowshoeing across its snowy peaks and trails. Cozy small towns and maple treats make it a perfect getaway for adventure or relaxation.

Vermont sees **over 4 million** skier visits each winter, making it one of the top ski destinations in the U.S. despite being the nation's second-smallest state!