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 Issue: April 3, 2023



## The Etiometry Platform Now Offers Hospitals Customizable Clinical Pathway Automation to Drive Protocols, Workflows, Guidelines and Help with Staff Efficiency



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**“When you take into account the labor shortages in healthcare and the experience-complexity gap, Etiometry’s platform is helping to elevate the staff at a hospital and break down silos between care teams, because everyone is looking at the same information and are on the same page with respect to the patient’s condition.” Shane Cooke**

**Interview conducted by:**  
 Lynn Fosse, Senior Editor  
 CEOCFO Magazine

**CEOCFO:** *Mr. Cooke, when we last talked you were looking at 2022 to expand your reach and become the leader in clinical decisions and support solutions throughout the continuum of care. What have you accomplished at Etiometry over the past year in getting closer or maybe achieving that goal?*

**Mr. Cooke:** Yes, 2022 was a fantastic year for the company. To put it in context, in the past few years, we doubled the number of hospitals we are in and tripled the number of licensed beds that are using our software platform across a broader range of care settings, and increased the number of units we are actively installed in by a factor of four. Last year, we broke into several new types of units - including several adult hospital units, as well as different ICUs, operating rooms and emergency departments. This included expanding within many of our current customers, as well as adding new hospitals.

We discovered new and innovative ways hospitals are using our platform and increased utilization with this knowledge. But the most exciting part about 2022 was being able to see the input from customers come to life in terms of further advancing the Etiometry platform to meet their needs.

One recent innovation that is truly unique and attracting a lot of attention addresses several pain points in healthcare: staffing shortages, the experience-complexity gap and quality improvement. The Etiometry platform now offers customizable, clinical pathway automation, which

enables hospitals to drive their own protocols, workflows and guidelines, as well as help with staff efficiency and communications, which is paramount right now, given that more than 50 percent of nurses have two or fewer years of experience and patient conditions are getting more complex. This is the experience-complexity gap to which I referred. If hospitals can embed and automate their own protocols, the care team is on the same page and can drive better and more consistent outcomes.

All of this pushes forward our vision to be the market leader in clinical intelligence software to inform proactive care. We are focused on automating burdensome elements of care to help the clinicians with whom we partner return to their patients instead of being focused on annotating in front of a computer screen. That is our vision and 2022 was the year that we brought a lot of that together.

**CEOCFO: *Would you give us a concrete example of how this comes into play?***

**Mr. Cooke:** Our platform's clinical pathway automation capability continuously screens data from connected solutions to identify patients eligible for a clinical guideline or protocol. While the patient is managed under a pathway, the Etiometry platform tracks the patient's progress and provides a visualization to the care team to facilitate efficient care coordination. We also have clinical pathway reporting that isn't available in any other mechanism today that helps our clinician partners improve their practice and enhance how they treat these patients. It is also leading to some outcomes improvements with length of stay reduction and others.

As an example, several of our customers have automated their extubation readiness trial with our software. Hospitals usually do an extubation readiness trial or spontaneous breathing trial to assess if a patient can come off a ventilator and is an integral part of ICU liberation – minimizing the harmful effects of invasive ICU interventions. The intent is to identify the appropriate time to remove a patient from a ventilator by comparing the patient's vital signs and biomarkers to a defined threshold to shorten the time on the ventilator and minimize failed extubations - all of which have an impact on the patient's ICU length of stay, and ultimately quality metrics. One day on a ventilator in the ICU is very expensive, and any time that can be decreased, it drives bottom-line savings and could open a bed for another patient, increasing throughput and revenue. It can help the clinicians too. Respiratory therapists are managing several patients at once, often in separate units. Our software allows them to track all of their patients within one portal and see when a patient might be ready to come off a ventilator without performing the routine bedside assessment. That is one example.

We also launched some automated clinical pathways for adult patients coming out of cardiac surgery to inform various workflows, including acute kidney injury, goal-directed therapy, and goal-directed perfusion. We put all of these in place over the last few years and we started to see them flourish in 2022.

**CEOCFO: *Is it that you had not thought of this before, or hospitals suggested it, or the body of knowledge you have changed so that you were able to add this in?***

**Mr. Cooke:** It was actually a major development effort for the company that happened over a few years. We first started automating hospitals' clinical pathways in early 2021. Then partnered with additional hospitals and expanded to support different clinical pathways. Our goal was to help the hospital indemnify where we could eliminate bottlenecks to ensure patients got timely interventions or eliminate support when appropriate.

The Etiometry platform is distinct in the fact it includes data aggregation and visualization, risk indices and now these automated workflows. It's a very holistic solution for a hospital seeking to monitor their patients and drive key decisions that can help improve patient care.

When you take into account the labor shortages in healthcare and the experience-complexity gap, Etiometry's platform is helping to elevate the staff at a hospital and break down silos between care teams, because everyone is looking at the same information and are on the same page with respect to the patient's condition.

**CEOCFO: *Is it easier these days to get an audience to present what you are doing, because of the shortages, than it might have been some time back? How are you getting the attention you deserve?***

**Mr. Cooke:** We had seen a lot of changes over the last few years and in some respect, I believe there is a greater understanding of the need for a platform such as Etiometry, which can help drive those decisions.

Etiometry has remote monitoring component to it, so you can be monitoring a patient from afar just like you are right at the bedside. There is huge value to that, especially with so many care teams feeling like they are stretched thin, while being short-staffed. It also helps give clinicians the peace of mind to know with whom they should focus their immediate attention when they have an entire floor of sick patients. Because of the operational and clinical impacts, hospital stakeholders from ICU heads to nursing or respiratory leadership, to IT and C-suite, are all interested in the platform's potential. There are a lot of different stakeholders with whom we engage to get our platform up and running in a new hospital, and this list has grown over the last few years.

**CEOCFO: *Do the people you talk with at hospitals have any doubt of the validity of the data or the fact that these things can be done electronically? Are people still skeptical about AI?***

**Mr. Cooke:** Any skepticism I may have seen in the early days, now that I have been with the company for three and-a-half years, has mostly gone away. The growth in digital technology, and the need for it over the course of the pandemic, has really helped turned the tables. It has shown that you can have a great digital technology that is helping your team and doing a lot of things that you might not have been able to do before, and it makes a lot of tedious required tasks easier and more efficient.

There is also a growing body of published clinical evidence. Last year alone there were eight new clinical publications supporting the platform. When you start amassing the amount of supporting clinical data we have, I think that skepticism goes away.

**CEO CFO:** *What is the competitive landscape? Are many companies trying to get into this arena?*

**Mr. Cooke:** There are a few other niche solutions that are being used for data collection for research, meaning that some of the components of their platform and our platform are similar. However, they tend to be used retrospectively. They are collecting data for centers that are doing a lot of research, academic centers etc., that may be looking at that high-fidelity collection, which is the same as we can provide.

The differentiating capability of our platform, and there is no other company that does what we do, is we are right by the bedside driving clinical decisions with FDA-cleared risk algorithms, workflow solutions and high-fidelity data visualization. Then there is the intuitive easy-to-use interface that we have which helps care teams see what is going on with patients right here and right now. That is what we are passionate about as a company.

We want to be side-by-side with our hospital customers and with our clinician partners, helping them make decisions for the patient in the moment. This is a critical capability for ICUs, operating rooms, and emergency departments.

**CEO CFO:** *Would you tell us about the recent CE mark and Health Canada authorization for the IVCO2 Index™?*

**Mr. Cooke:** We have had several new regulatory clearances, actually six in just the last couple of years. All four of our algorithms are authorized for pediatric use. Our inadequate delivery of oxygen index is cleared for all patients in Europe, Canada and the United States. Earlier this year, our IVCO2 Index was cleared for adults in Europe and Canada. This algorithm offers a way to understand the risk of hypercapnia, or inadequate ventilation of carbon dioxide.

We are looking at other markets as well. Regulatory clearances help pave the way for future growth for the company. Expanding the patient population to cover all ages is critical for us and you will see more of that from Etiometry moving forward as well as expanding geographically. It opens up new avenues of growth for us.

**CEO CFO:** *Do hospitals and facilities operate essentially the same way in Canada and Europe as the United States, or are there differences you have been able to recognize that may cause you to slightly alter the way you might work with an organization?*

**Mr. Cooke:** Each hospital in the U.S. tends to be different in terms of their clinical pathways and protocols – not to mention how they may differ a bit from geography to geography. Luckily, we built the Etiometry platform to be easily configurable to each institution's protocols, and frankly it is a very quick process for us to customize and implement at each site.

The same thing goes for outside of the U.S. and some of the new markets that we are getting into. There are some subtle differences, but I would say in general, nothing significant. Thankfully, human physiology is the same regardless of where you go, and this is what drives a lot of the workflows we see.

**CEOCFO: *Are there cultural differences which you need to pay attention to as part of global expansion?***

**Mr. Cooke:** When it comes to our platform, most of the cultural differences I see are on the business side rather than about the clinical care of patients. Health systems and insurance agencies are set up much differently in the different geographies. You may experience a tender process or a contract process in Europe, and healthcare is nationalized in Canada, so it's our approach to partnering with systems outside the U.S. that is different.

**CEOCFO: *What would you like to be able to do that you have not figured out yet, either because the technology is not there yet, or the science does not yet know some of the problems that could be solved?***

**Mr. Cooke:** In simple terms, our platform brings together important data to enable clinicians to view one source to make informed decisions, quickly. We continue to build on this one-stop-shop concept, which provides many exciting avenues, including diving deeper into important clinical workflows. For instance, seeing how acquiring more medication data and additional information about the patient from, per se, the electronic medical record, can improve care. We help clinicians annotate and capture what is going on with a patient much easier than having them stand in front of a computer screen for the electronic medical record and have them type everything in.

What if this could be automated? Enabling workflows to manage medical conditions such as sepsis, heart failure, and eventually moving into the homecare space, are key roadmap items for the company. We are on a path to help automate burdensome elements of care to help care teams throughout the world.

**CEOCFO: *Where does cost of your services come into the picture?***

**Mr. Cooke:** In general, the cost of healthcare, especially in the U.S., is something that hospitals have to constantly be mindful of. Aside from discussing DRG (Diagnosis-Related Group) payments and insurance payments, I think the key thing is how to provide the same or better care for a patient and get them out of the hospital quicker without adding more work to already strapped clinical staff. I think that is where technology comes into play, as it helps streamline some of the activities and drive better and more consistent outcomes.

When we talk to hospitals, we discuss the economics a lot. We go into our return-on-investment model. We use our clinical data to show the length of stay reductions and reductions in complications, which can help them with throughput and savings at the hospital level. This is critical today, especially post-COVID, as hospitals continue to struggle financially.

It has to be a solution that makes sense for them financially and can help them economically. First and foremost, it needs to drive improvements in patient care and for the teams caring for these patients. They have a tough job, and we want to make things easier for them.

**CEOCFO: *What if any challenges are you on the lookout for in the next year or so at Etiometry?***

**Mr. Cooke:** One area I'm watching is the financial situation in the world, including the economic landscape, the recession and some of the issues that are going on in the banking industry right now.

The economy also has an impact on some hospitals and their financials; however, we can actually help in this regard. For example, we have data on how the Etiometry platform is reducing length of stay and readmissions. The other challenge we are tackling is not unique to Etiometry. It's the complexity of getting into a new hospital or health system. There are a lot of stakeholders, so we aim to quickly engage those who are interested and get our platform utilized in more and more beds.

Finally, as we continue to experience high growth, there's a persisting need to quickly expand our team. Our priority here is to maintain a great place to work and create positive experiences for our talent in order to get in front of any growing pains and continue to attract smart people.

**CEOCFO: *What if anything should people know about Etiometry that we did not discuss?***

**Mr. Cooke:** We talked about a lot of things, but it's interesting that a key contributor to advancing the Etiometry mission continues to be a track-record of developing clinical evidence while working closely with our hospital partners. The relationships we have with the clinicians and the hospitals we partner with directly influence the enhancements we make in our platform. We've archived more than 150 million hours of deidentified physiology data signals to inform our risk algorithms and research. In fact, there are than 120 ongoing research projects and 12 published journal papers to date. The clinical evidence amassed, and the strength of those relationships are second to none. Throughout my entire career, I have never seen anything like it.