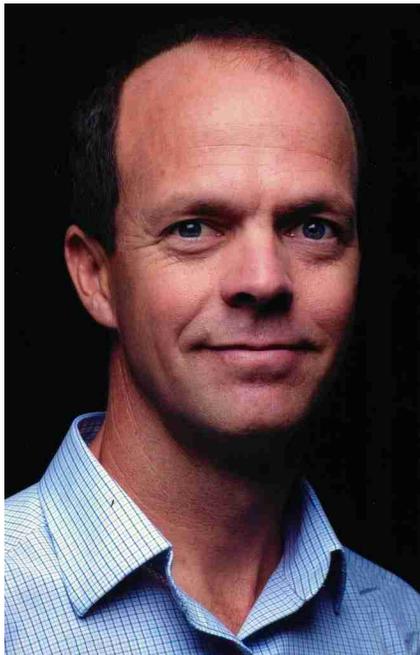




Using Inhaler Sensors, Mobile Applications, Advanced Analytics and Feedback, Asthmapolis is helping Physicians identify Asthma Patients needing more help Controlling their Disease before a Severe and Costly Exacerbation

**Healthcare
Asthma**

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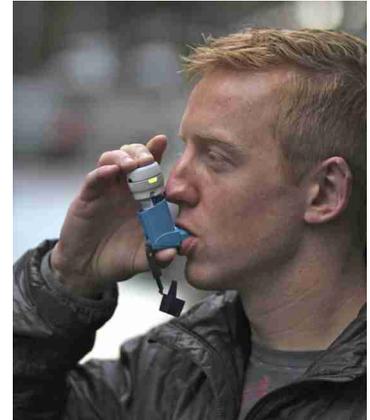


**David Van Sickle
CEO**

About Asthmapolis:

Asthmapolis is dedicated to improving the management of asthma for patients and healthcare professionals. Despite advances in our understanding of the disease and the development of more effective medications, morbidity and mortality from asthma have not declined. Our understanding of asthma has been limited by a lack of timely data, and our inability to col-

lect information about where and when people develop symptoms. Asthmapolis is using inhaler sensors, mobile applications, advanced analytics and feedback to help physicians identify those patients who need more help controlling the disease before they suffer a severe and costly exacerbation.



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



CEOCFO: Mr. Van Sickle, what is your plan and vision for Asthmapolis?

Mr. Van Sickle: The idea emerged out of a career working on asthma and public health, and recognizing that our ability to field public health interventions that made a difference was limited. We have really suffered from a lack of information about the day-to-day burden and management of the disease and doctors and patients have been facing the same kind of information gap. Between visits, physicians cannot really understand how well their patients are doing. There are many people with asthma who could be doing much better if they only had different expectations about how a disease might be well managed. The idea is that we can actually put sensors onto a patient's inhaled medications in order to track the time and the frequency it is used. This gives us an important marker of how well the disease is being managed and suggests ways in which they might be able to do a better job of

managing it. We use the information from the sensors, together with smart phone apps and patient and physician facing websites to provide guidance back to people with asthma, their families and their physicians about how well the disease is being controlled and to provide personalized guidance and education to help them do a better job.

CEO CFO: Are people unwilling to keep records or is it that the electronics are capturing more than people could capture even if they were diligent?

Mr. Van Sickle: In the past we have asked patients to take on much of the burden of recording when and where they had symptoms, how often they use their medications, and to keep track of that information in a daily diary. Those types of approaches essentially added to the burden of managing asthma. At Asthmapolis, our goal is to use technology and the tools we now have available like sensors and smart phone apps to lessen the burden and make it easier for patients to be more effective at managing asthma with less effort rather than more. This means using sensors to passively build an accurate and objective record of how often they use their medications, which is a very important signal of how well they are doing.

CEO CFO: How does the inhaler work?

Mr. Van Sickle: People with asthma tend to carry around inhalers and use them at the time and place where they have symptoms. We build a sensor that grabs onto the end of that medication—it does not change anything about the medication they use or anything about the delivery of the medicine. It just is an attachment that securely fastens to the end of the medication, and is easily switchable to a new canister when they refill their medication.

CEO CFO: Would you give us a typical scenario? How does it make a

difference when a physician has all of this information?

Mr. Van Sickle: We sell to health plans and integrated delivery systems and other organizations who have a financial interest in improving the management of asthma. Patients receive our kits through their physician or clinic, or it can be distributed through the pharmacist or sent directly to the patient in the mail. One way or another, they end up with a kit that has a sensor in it and they mount the sensor onto the end of their medication. They have to pair the sensor with their smart phone or in the case of a household that does not have a smart phone, we provide them with a base station that plugs into the wall. Then they go about their routine, with

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- David Van Sickle

sensors on their medications that is tracking when and where they use it. All of that information is really captured on our end by a server and is then presented back to patients on mobile phone apps, which gives them an overview of their level of asthma control - how well they are doing - and a view of what is happening around them in the community, and what kind of triggers people are reporting. We also offer personalized guidance and education drawn from the data collected by the sensor. For example, if you are reporting that you are often using your medication at night, we can provide you with specific tips from the guidelines and evidence-based literature that suggest ways in which you might be able to address your specific problems. The physician

can look at a secure website to get a view of how their hundreds or thousands of patients are doing. That allows them to quickly identify those patients who are not doing well and then target their energy so they become more efficient and effective at managing a large group of patients in a proactive way.

CEO CFO: Must the doctor be involved or can the patients decide they are going to do that on their own?

Mr. Van Sickle: The patient has complete rule over how much and what information they share and with whom. It’s an entirely patient-centered program focused on the patient and their family. In some cases, the physicians are heavily involved, they serve in the distribution of the sensor, they monitor their patients routinely, the print reports from the system before the patient comes in for an appointment. It depends a lot on our customer, and what kinds of partnerships they have with provider groups and physicians.

CEO CFO: What is the revenue model?

Mr. Van Sickle: Patients with uncontrolled asthma, which is about sixty to seventy percent of patients with asthma in the US, spend about \$2000 to \$4000 a year in additional healthcare. Our

revenue model targets the organizations who bear that cost, such as provider groups, payers, and integrated delivery systems. Our goal is to help them avert a significant fraction of that preventable cost by bringing patients’ asthma under control.

CEO CFO: Do many of the known providers make it available or is that a work in progress for you?

Mr. Van Sickle: We received FDA clearance on the whole system – the sensor, the smartphone apps, and the patient and physician facing websites – in July 2012, and we went to market essentially in the winter. Our reception has been very enthusiastic. There is a great deal of frustration about the continued costs of uncontrolled asth-

ma, and more and more physicians and organizations are getting involved in risk sparing arrangements where it is incumbent upon them to make sure that diseases are effectively and proactively managed well.

CEO CFO: In your testing, what is it that you found out which surprised you in the control of asthma?

Mr. Van Sickle: I think what surprised me is how many patients who think they have the disease under control recognized how much more could be done for them after a short period of using the system and getting feedback. It is a surprise to me that people learn to accommodate symptoms when they really should be expecting that the majority of their days to be symptom-free. As a parent, it is heartbreaking to think about a child suffering from asthma symptoms and not being able to participate fully in activities they choose when there is much more that we can do for them given what we know about asthma and how to treat it.

CEO CFO: Development is expensive; does Asthmapolis have adequate funding to see you through the next steps?

Mr. Van Sickle: We have a great group of angel investors who funded

the company initially in summer of 2012. We received some strategic investment in July of 2012 and we will be raising our Series A round in the first quarter of 2013.

CEO CFO: Would you tell us more about the timetable?

Mr. Van Sickle: We currently have two trials underway that we launched before we received FDA clearance. Those are very significantly sized digital health trials. One in California with Dignity Health has about 440 patients. Another program in the city of Louisville has 500 patients. Those are underway and proceeding well and we are seeing great results from those. Up next for us first and second quarter of 2013 are our first big commercial implementations, which we will be announcing in the beginning of the year.

CEO CFO: What have you learned in your past endeavors that has been most helpful and will continue to be for you?

Mr. Van Sickle: I was trained as an academic scientist and spent time at the Centers for Disease Control and Prevention in Atlanta. I came here to Wisconsin and joined the School of Medicine in 2006. My background is not in business or medical devices or

commercialization of health IT, I come at it as a career respiratory disease scientist. But I have enjoyed the challenge of building a business in healthcare at a time when the market is changing, and when peoples' involvement in their own health is changing in positive ways. I was lucky to team up with two inspiring, experience and very skilled cofounders that had a background in regulated medical software, and together we have been able to assemble a great team of marketing experts, developers, designers and others here in Madison.

CEO CFO: Why should the business and investment community pay attention to Asthmapolis?

Mr. Van Sickle: Chronic disease poses complex and very costly healthcare challenges to the US; in the case of asthma, about \$56 billion per year, much of which is entirely preventable. There is a great opportunity to significantly improve peoples' lives, to dramatically increase their productivity at work and school, and to streamline the amount of resources we are spending on unnecessary healthcare. It strikes almost everybody one way or another.



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