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‘Is This Doomsday Concern, Or Is It Reality?’ Verily CMO On AI’s Future, Lightpath Metabolic, More

by Marion Webb

Andrew Trister, Verily’s chief medical and scientific officer, discusses Verily’s newly launched Lightpath Metabolic solution, featuring GLP-1 prescription, AI and strengthened clinical support. Plus, the Google health tech spinout's plans for the Study Watch, the Alzheimer’s research landscape, and AI development and regulation in a new era of uncertainty.

[Editor's note: This interview appeared first in our sister publication, Medtech Insight.]

Verily, *Google*’s health tech spinout, continues to reinvent itself. On 11 June, the company announced it will refocus its strategic efforts from the chronic disease management app, Onduo, to a new solution called Lightpath, starting with Lightpath Metabolic. Launched in 2018, Onduo targets people with type 1 and type 2 diabetes and hypertension with a personalized, holistic approach, “connecting on diet, lifestyle and stress management with each unique member on their terms to develop healthy habits,” according to Verily’s website.

Lightpath Metabolic builds on Onduo but is a “much greater offering,” Verily’s chief medical and scientific officer Andrew Trister told *Medtech Insight*.

“It moves more into cardiometabolic disease and has a greater breadth of experiences for people,” Trister said. “We had already used a lot of remote monitoring tools like continuous glucose monitoring (CGM). Now the idea would be that we incorporate additional technologies and close the loop for people to have different cases around these larger diseases.”

Source: Verily

Projected to launch in early 2026, Lightpath will offer tiered programs ranging from managing type 1 diabetes, type 2 diabetes, hypertension, comorbid obesity and/or hyperlipidemia, to less intensive programs aimed at members intent on preventing diabetes or losing weight, including through supporting the use of anti-obesity medications, such as GLP-1 agonists.

Lightpath "will be fueled by continuous data integration and AI," Verily says, adding, "But Lightpath won't be a technology alone. It will be paired with health coaches and an affiliated advanced licensed clinical team – endocrinologists, pharmacists, primary care physicians, nurses and registered dietitians. This will allow Lightpath to serve a variety of acuity levels within a single solution based on member need."

The system's AI capabilities will serve members – monitoring behavior and helping to create personalized pathways – as well as clinical staff as an "at-the-elbow AI assistant."

Onduo will be phased out by the end of 2025.

Verily has undergone significant change in recent years. The company started in 2015 as a "moonshot at Google X to tackle health's biggest challenges."

Its experimentation-centric approach led to multiple partnerships, including with CGM maker *DexCom, Inc.*, and the development of the Verily Study Watch, a clinical-grade biosensing device with customizable features to collect data in clinical trials, such as physical activity in real-world settings. (Also see "*In Five Years, People Will Navigate Their Health Care With An AI Advisor – Verily's Andrew Trister*" - Medtech Insight, 11 Mar, 2024.)

Last year, Verily underwent a reorganization to narrow its focus, which included some layoffs and the departure of former chief medical officer Amy Abernathy.

Trister was named chief medical officer in December, adding to his role as chief scientific officer, which he assumed in August 2023. Before that, he was deputy director of digital health and artificial intelligence at the Gates Foundation, and was a founding member of Apple's health team.

Medtech Insight sat down with Trister during the HLTH Europe conference in Amsterdam, held

17-20 June, to talk about new directions at Verily, plans for the Study Watch, research in neurological disorders such as Alzheimer's, challenges to AI development and regulation, and what the AI-enabled health care future could look like.

The interview that follows has been slightly edited for content and length.

Q **Medtech Insight: Verily recently underwent some big changes, including reorganization and a refocus of its programs. What can you tell us about these efforts and your plans moving forward?**

A Andrew Trister: We have a new chief product officer, Myoung Cha. We have a lot more focus on where things are headed – things like Onduo to Lightpath. There is continuous discussion about where things will land.

Q **The FDA in May approved the Apple Watch's atrial fibrillation feature to be used as a noninvasive biomarker test in clinical trials under the Medical Device Development Tools (MDDT) program, a significant milestone for Apple. Do you have plans to put the Study Watch program under MDDT?**

A Trister: Watching the Apple Watch program be approved – it was a very narrow filing – I thought it might make sense for us for some conditions. MDDT is going to be very specific to this particular condition with these particular applications. We work pretty extensively on Parkinson's disease – that might be an area where we might be able to do this.

Q **How is the Study Watch different from the Apple Watch?**

A Trister: Our device was positioned in the marketplace to support clinical studies. So, clinical studies – translating from research into care – makes a lot of sense. Apple Watch, Fitbit, the Pixel Watch are all consumer devices that have algorithms built on top of them. Our idea is to support the research applications first and then do the translation of this directly.

Q **Do you have plans to translate the Study Watch into a consumer product?**

A **Trister: I can't comment on that.**

Q **You mentioned Verily's extensive work in Parkinson's. Researchers have been making significant advances in Alzheimer's disease in recent years – is that an area of focus for Verily as well?**

A Trister: We have worked in the past with companies like *Biogen, Inc.* [developer of the first FDA-approved Alzheimer's therapy Leqembi] and we are very interested in looking at the entire space in neuropsychiatric disease, which would incorporate our work in movement disorders extending into neuropsychiatric disorders – the big three, Alzheimer's, Parkinson's and ALS. In April, we launched a large-scale registry with [health care company] *Otsuka Pharmaceutical Co. Ltd.*, which will help us understand the utility of doing remote monitoring and phenotyping for complex conditions like major depressive disorder.

Q **Experts believe that biomarkers combined with imaging will offer the most promising paths to Alzheimer's diagnosis. Would you agree with that?**

A Trister: Yes, I agree. I ran a program at *Apple Inc.* in partnership with *Eli Lilly and Company* and Biogen using wearables, different tools that can remotely look at the condition of neurodegeneration and mild cognitive impairment into dementia. The first NIH-funded studies didn't incorporate the longitudinal data from people using wearables. There is an opportunity now to use wearables as a new lens into those conditions. We don't know how it's going to work, but I'm bullish. It gives a different flavor beyond just structural or functional imaging.

Q **When do you project we could see true breakthroughs in Alzheimer's?**

A Trister: It's an interesting question, right? Because we've known for a long time that the pathology of Alzheimer's focused on amyloid plaques that drugs like Eli Lilly's donanemab target. But we don't know how long it takes for amyloid to build up in the brain. There is a lot of effort to understand anti-tau drugs [another protein linked to Alzheimer's], which are not yet on the market. It may be a combination of amyloid and tau that is going to be the most efficacious, but the question always remains, can you detect someone before they present with the condition? My sense is that amyloid

is a byproduct of an upstream cause or something else that's causing the disease, so if we just treat the symptom and not the cause, we're not actually going to cure. (Also see "*ADDF Leaders Discuss Future Strategies In Alzheimer's Research And Crucial Role Of Diagnostic Markers*" - Medtech Insight, 12 Jun, 2024.)

Q **Unsurprisingly, there's been much talk of AI at HLTH Europe. What are your thoughts on approaches in the global community to regulating AI?**

A Trister: I think it's going to be difficult, because of the existing tensions. On the one hand, you have a massive push for innovation, because in almost every field we believe that AI can make a huge impact to augment human abilities, to help find new drugs, find new opportunities in how people are cared for. At the same time, we want to make sure that the algorithms don't harm people. The regulators have taken the appropriate stance trying to work with industry, trying to understand, themselves, what's happening across all of the domains – not just for health care. I think in the EU, there has been a very reasonable approach to include things like privacy. I think the US will adopt similar ideas, but here it takes a little bit longer finding the path forward.

Q **Controversially, a group of researchers at OpenAI [developer of ChatGPT] recently said the firm has a culture of being steeped in secrecy and warned of a "reckless" race for dominance. What is your policy at Verily when it comes to AI researchers' ability to voice concerns?**

A Trister: I'm fortunate that I get to lead our science and innovation part of the organization. We have a very open policy, and we anticipate that people will be able to raise concerns when they exist. We don't do the foundational work that Open or Google might do. But when we think about applications – particularly those applications that sit in front of individual people and say when we're providing care – we need to be absolutely certain that we're not going to do something that's going to cause harm.

With respect to what some OpenAI researchers said and others before them, I would

raise questions: 'Is this doomsday concern, or is it reality?' It's very hard, because things are moving exponentially at this stage and humans are notoriously bad at predicting when things move exponentially. We have questions to what the researcher has seen, which may not be public, so I would take some credibility to this [some of the concerns they raised]. It's hard for me to understand how these technologies could cause so much harm. They do amazing things – and some are superhuman – but it doesn't rise to the point of artificial human intelligence.

Q **Where do you stand on artificial general intelligence (AGI)?**

A Trister: There are recent articles that suggest, with current trajectory, that with $1tr worth of investment, it may lead us to AGI. I don't know if this path will get us there. We've exhausted the totality of all written language. We would need a lot more computing power and way more constraint than we have right now for this to work properly. The idea is you want to sample stuff in real-life, not synthetic data to close the gap.

If we synthesize novel data, we may synthesize what is slightly off what we normally experience. As humans we would recognize this immediately, because we are trained to do pattern recognition – that's how we learn – if the training sets aren't things that are representative in real life, the AI may not actually learn. The way things work now is with the 'human in the loop' or reinforcement learning from human feedback (RLHF) where the algorithm makes a prediction and the human is the observer, saying, 'That makes sense or that doesn't make sense at all.' If you want the AI do that – which is what researchers are working on – you may spin it into a place that doesn't make sense.

The researchers at Google DeepMind, OpenAI and Anthropic are incredibly good. My sense is they would build systems that match the human ability, but at some point there's something where humans will still be better. And my sense is three years is not long enough to see where that exponential will look like. [Trister commented on a prediction made by Daniel Kokotajlo, former researcher at Open AI's governance division, who reportedly raised concerns there is a 50% chance that powerful AGI

models may arrive by 2027. Kokotajlo was part of the group that called for more transparency at Open AI].

Q **So AGI will become a reality?**

A Trister: I think so, I think the question is when. It seems hard to believe it'll happen in this decade.

Q **What could that mean for health care ultimately?**

A Trister: I'd be more bullish about the utility of that as a technology to support very quickly interpreting things that humans would have a difficult time with such as cooperating. Human endeavor requires us to get together. We build companies so we can do more together than we do individually. An AGI may be capable on its own to do a lot of what we do as communities of people. My hope is it would support us to do more together and be a trusted partner.

The analogy right now is the existing state of the art models act more like an "intern." They aren't qualified yet, they haven't gone through their training. When I was training interns in the hospital, standing at the door looking at a patient and knowing that patient is really sick becomes a human intuition when you spend a lot of time in the hospital. These technologies don't have that kind of experience yet. An AGI may have that kind of experience, if trained properly. It's not hard to imagine that we can get there, but it's hard to imagine what this will mean.