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AGILE LEADERS

Insights from the 16th December 2019 Agile Leaders Life Sciences & Healthcare Workshop

What are the Agile Leaders Creative Disruption Workshops

by Barbara Nasto and Graham Combe

The Agile Leaders Creative Disruption Workshops are for leaders, and aspiring leaders, of life sciences and healthcare organizations engaged in innovation. It is a type of "self-help" group of thought-leadership professionals focused on creatively disrupting the old methods of innovation in healthcare and life sciences. The Agile Leaders Workshop allows these people to engage in a creative and trusted environment with like-minded peers, to explore ideas under Chatham House Rules.

WHAT'S INSIDE

More about this content, and Chatham House Rules.

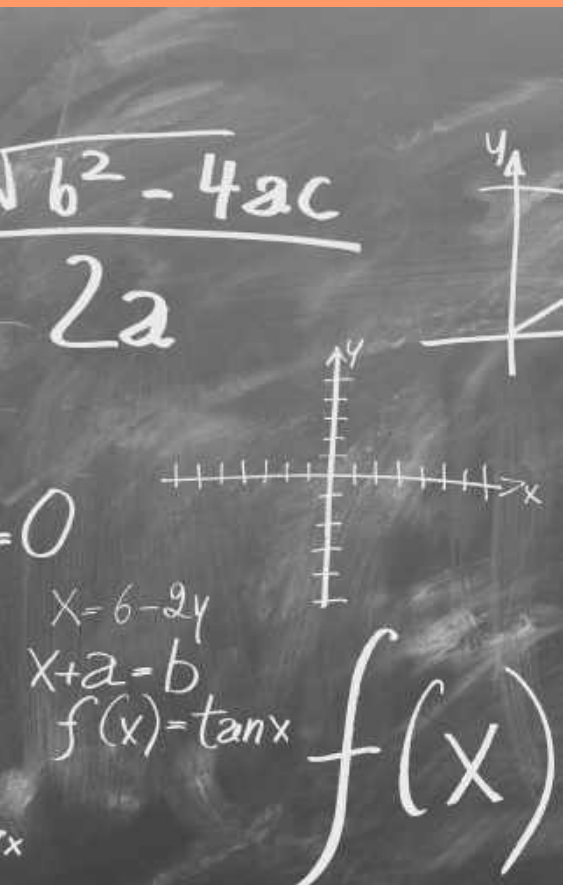
The Agile Leaders Creative Disruption Workshops are moderated by Prof Tony Sedgwick

This is the thought-leadership write up from the 16 December 2019 Agile Leaders Creative Disruption Workshop that Graham Combe and Prof Tony Sedgwick hosted at the Royds Withy King Boardroom at their City of London office. The Workshop was moderated by Prof Tony Sedgwick, and written up by Barbara Nasto, then produced and edited by Graham Combe.

A list of agile leaders who participated in this workshop appears toward the end of this feature. Many thanks go to our main sponsor of this Agile Leaders Workshop, PPD Biotech.

According to Chatham House, the place where international policymakers come together to advance policy, 'When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.' In alignment with that rule, this summary of the latest Agile Leaders discussion will adhere to covering the themes and views that emerged during the meeting without attributing specific statement to any of the attendees.

What is making Niche Busters so attractive to investors?



Introduction & Context

Niche drugs are a hot topic and will be for some time in our industry. We are faced with a conflict of achieving the next blockbuster, the challenges of paying for the programmes, and generally trying to keep the stock prices of the big biopharmas strong. The Agile Leaders forum allows us to have open unbiased discussions, and we wanted to throw this topic out there to get raw opinions from key opinion leaders. This was very much a "part 1" discussion to see what topics surfaced, which ones resonated. As always, a few topics resonated and led us to some takeaways, that you'll find at the end of this write-up.

How does the Maths Work?

The meeting kicked off with the question, 'How does the maths work?' and an early answer highlighted, Genzyme's success with launching a treatment for Gaucher's Disease. Gaucher's is a debilitating rare disease that alters fat metabolism based on a single gene mutation. Cerezyme, the treatment is 'super high priced and costs 100s of thousands.' (More specifically, in 2014, Cerezyme cost $23,800 for a 28-day supply, making the price for treatment slightly higher than $300,000 a year. (Sanofi acquired Genzyme in 2011).

What is making Niche Busters attractive to investors?

'There are lots of unusual diseases. And the recent, RNA drug approval marks a modality breakthrough," raised another participant. (In 2018, the US FDA granted Alnylam Pharmaceuticals an approval for the first RNA interference (RNAi) drug. The agency authorized Patisiran for treating a form of polyneuropathy caused by a hereditary gene mutation). The group reached a consensus on agreeing a strength associated with developing treatments for rare diseases is the ability to define a clear mechanism of action. "Ironing out the nuances delivers it."

Attention turned to Eli Lily's US $8 BN acquisition of Loxo Oncology, a company developing cancer therapies based on single gene abnormalities. Though treating cancer is often associated with blockbuster potential, increasingly, therapeutic targets and indications address smaller niche populations. The market for the drug grows as additional niche cancer indications (where the drug demonstrates efficacy) are added. Similarly, the UK start-up, Valiseek is developing personalised medicines to bring more advanced therapeutic options for the treatment of pancreatic and other cancers.

Other attributes included, 'Clinical trial costs are lower for niche indications' and "Rare disease companies work in a cooperative and open environment uncharacteristic of the wider industry." The non-profit Rare Disease Network [https://www.camraredisease.org/about-crdn/] assists companies in finding collaborators and engaging with the public.

"Manufacturing is ignored for some reason and is a waiting nightmare for young companies."

What are the Main Challenges?

"There are so many unmet needs the paradigm is broken," was among some of the less optimistic and pragmatic views shared. And several participants weighed in with poignant remarks including: "Price point perceptions make for awkward cost models.

"With there being 7,000 rare diseases all cannot be a $100,000 therapy." And, "Political risk exists when you get into pricing, these are easy targets so rarity does not affect overall price. Annual cost versus [a] one time [treatment], in lieu of care for an entire lifetime,

Other challenges associated with niche drug development mentioned include being vulnerable to a 'Hype cycle' and not being first in the market or "Me too late," a phrase coined by Paul Hudson of Sanofi.

Another participant highlighted that 'long term investment was needed to support a niche indication' and that not all approaches to niche indications share the same challenges. "Personalised vaccines require a massive investment while little companies can take a drug to a small market. Orphan drugs a few years ago was at 15% of overall drug investment, in 2018 this was over 20%." This shows a growing interest of these "Niche Buster" drugs, driven by better science and technology understanding. Another distinction is the fundraising for a technology platform or a single asset. Another participant emphasized the point, "With rare or orphan diseases there are more grant funding opportunities."

Manufacturing Issues

After highlighting potential risks (Will the heavy reliance on adeno-associated viral vectors, and potential toxicology risk, cause the industry to collapse?) and successes (i.e., a growing number of CART-T therapeutics) associated with gene and cell therapeutics, the conversation briefly turned to manufacturing. "Manufacturing is ignored for some reason and is a waiting nightmare for young companies. Manufacturing is expensive and not being able to get slots with service providers can delay clinical trials."

Relative to manufacturing, gene and cell therapies differ from small molecules. "Small molecules are much less expensive." Many rare disease companies interrogate the existing pharmacopoeia for their rare disease targets. Small and agile, 'the unmet medical need drives the niche." On the other end of the spectrum, in December, Novartis took steps to acquire CellforCure as part of a long-term strategy to increase their gene and cell therapy manufacturing capacity.

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Advocacy continues be important to the process, the literacy of patients is much higher due to the internet. They now consult PubMed

The Growing Role of Advocacy Groups

The role of parents and advocacy organisations “Advocacy continues be important to the process, the literacy of patients is much higher due to the internet. They now consult PubMed.” “Parents are supermotivated,” was a statement uttered and supported by several examples including the contributions of parents to databases instrumental to drug discovery and development for Tay Sachs Disease and Alström Syndrome

“Some [parents] are so organised they become the companies.” For example, a hedge fund manager whose daughter was diagnose with Spinal Muscular Atrophy founded the SMA Foundation [https://smafoundation.org/about-us/] to accelerate drug development and succeeded in lowering the barriers to entering the field for researchers or companies interested in SMA drug development. In 2019, the FDA approved two drugs for treating SMA: nusinersen (Biogen/Iotix) and AVX-101 (Avexis/Novartis).

“Advocacy groups call the shots, and it’s an agnostic approach.” To illustrate the point, the participant described how the Venter Foundation raised a substantive amount of money for cystic fibrosis drug development and this was a signal to investors. “Companies actually have exits and there is a recycling of the money. Biotech is there to serve the members of the public.”

How Digital Technologies and Data Science is helping Niche Buster Growth

Eventually, the discussion gravitated to digital technologies and data science. “Social media makes it logistically possible to ensure patients have hope and access,” described one participant. Another reacted to a twitter feed hosted by Eli Lilly that invites patients to interact with each other and ask questions of the company’s clinicians as “inviting an adverse events nightmare.”

Others focused on the community-building aspects for rare diseases. “With digital platforms, [parents or patients] find a group, they send a message on Facebook, and they can reach each other.” “Digital health advocacy groups promote the healthcare discussion.” They also assist with clinical trial recruitment or the development of patient databases. “Rare disease databases are interrogative on a gargantuan level.”

And then a question "does the rise of digital engagement makes us subservient to the likes of Apple Pro health or does it provide opportunities?" The discussion shifted to considering questions about the role of digital companies such as Google and Apple on healthcare. “Data interrogation is the key to success. Will the Apple people buy and lend their data?’ asked one participant referring to Apple’s migraine tracking app, Migraine Buddy.‘ What happens as people sequence their whole genome? Will it be the post genomic thing to target biggest symptomatic cluster?”

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The Discussion Comes to a Close

Before coming to a close, the discussion also visited a notable disconnect. "Academia and industry are looking at two different things. The more descriptive stuff is done by pharma. There would be clear benefits to taking a strategic view on funding for academia and private companies co-funding projects in a pre-competitive space."

end.

What were the Key Takeaways? by Dr. Raminderpal Singh, CEO, Anduril

Other than the obvious insight that there is no "magic bullet", there were some interesting focus areas that would make for interesting follow up discussions:-

- **Advocacy / community groups for rare diseases are very much future power players in the industry.** They are a control & access point for patient identification, engagement, and feedback. As they are non-profit oriented, they also create a different type of relationship that life sciences companies will need to establish - a relationship where there is continuous value to the communities.

- **Patient data is being generated in a number of ways today, both clinical and non-clinical.** Direct-to-consumer services (e.g. DNA and smartwatch applications) not only offer new large data sets for mining (for novel targets etc), but can be leveraged alongside clinical data to create holistic views of individuals and populations. Lots of room for new innovation here by smaller companies.

- **Platform-approaches** are great but it's not enough to talk about innovation in the lab, manufacturing is a significant cost burden and experience curve which often stops innovation in its tracks.

- **Pre-competitive open networks** for data sharing and discovery are yet to reach real scale. There is much that can be gained by taking the business profit risk and sharing IP, for example.

A special thanks go to our participants of the Agile Leaders Creative Workshop on the 16 December 2019, where the majority of this Whitepaper insight was taken. The participants included:

Prof Tony Sedgwick, thoughtdisruptor.com
Panteli Theocharous, PPD Biotech
Paul Richmond, PPD Biotech
Tim Luker, Eli Lilly
Genghis Lloyd-Harris, Abingworth
Ross Breckenridge, Arjuna Therapeutics
Roni Jortner, Masthead Biosciences and Cambridge Rare Disease Network
Silvia Ragno, Stargazer Pharmaceuticals Inc
Ramindepal Singh, Anduril, Macromoltek, Agamon Health, and Squad Robotics
Suzanne Dilly, Valirx plc. And ValiSeek
Kristen Albright, Prokarium
Susan Jackson, Versant EuroVentures
Jamie Payne, Executive and Communications Coach
Peter Penny, Mind Studios
Thomas Bjorn, Royds Withy King
Barbara Nasto, Consultant to the humanitarian research and biopharmaceutical sectors

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The Managing Editor and Organiser for Agile Leaders is Graham Combe, a leading PR, Marketing and Events Consultant for emerging life science and digital health companies. (**graham@biosell.co.uk**)

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TESTIMONIALS

“I’ve found the Agile Leadership events extremely useful. As well as being very valuable networking opportunities, I’ve found that the discussions have exposed me to new ways of thinking about the most common problems we face in biotech and there’s always wide range of experience around the table. Tony manages to engender an atmosphere of cooperation-and, crucially, the meetings are also fun!"
Ross Breckenridge, CEO, Arjuna Therapeutics

“It is difficult, amongst all the noise, to understand the root issues and the big opportunities in the biotech industry today. Tony addresses this by discussing relevant topics, bringing together influencers & thought leaders from across the spectrum. The guided discussions effectively unlayer different perspectives in an open collaborative environment. Not only is this interesting, but it is productive and useful. Let's do more."
Raminderpal Singh, Founder, Director and Advisor, for AI startups in Life Science & Healthcare

"It was a joy to attend the Agile meeting the other day. It was unusual to have such a relaxed and unpressured conversation in which ideas and thoughts could simply float up and exist, even if some of them will only exist in that room for that time."
John Hodgson, Former Managing Editor of Scrip and Editor-at-Large, *Nature Biotechnology*

THE ORGANISERS

Prof Tony Sedgwick

Life Science Strategy and “Big Picture Advisor.”

Agile Leaders is facilitated by Prof Tony Sedgwick, the self professed www.ThoughtDisruptor.com. Tony has an esteemed career in life sciences in academia and in business, he is a trained pathologist. His accolades include once being the Global Head of Clinical Trials at Roche AG, and he has also been CEO of four life science companies, as well as having many positions within the academic community. He is also an actively training psychologist which is helping him develop his "Agile" community group development passion.

THE ORGANISERS

Graham Combe

BioSell, Helping R&D Business Leaders with PR, Marketing and Event Solutions.

Graham is an experienced strategic and marketing consultant with a demonstrated history of working in publishing, marketing and events within the life sciences and science led industries. He spent 10 years working with Nature where he pioneered Nature's BioPharma Dealmakers quarterly publication, among other things. In May 2011 he started BioSell which works with with many of the world's leading life science publishers, marketing and event organisations - and runs it's own stand-alone events. Graham has a deep understanding of the life science industries in the space before market approval and commercialization. He has with a BSc (Hons) in Chemistry from University College London.

Graham Combe (right below) with Mike Ward, Editor-in-Chief, Informa Group, Pharma Intelligence Division. We share a love of flowery shirts.