Oxford Biomedica Plc

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Jem de los Santos: Good afternoon, everyone. My name is Jem de los Santos. I'm a vice president in J.P. Morgan's Healthcare Investment Banking team based in London.
Very happy to present Oxford Biomedica. Without further ado, I'll hand it over to Stuart Paynter, the CFO.

Stuart Paynter: Thank you very much. Good afternoon to everyone. Thank you for attending on the graveyard shift on a Wednesday afternoon. It's been a really nice conference. Thank you to J.P. Morgan for hosting and letting us tell our story.

Oxford Biomedica, we're a focused cell and gene therapy CDMO. We've been on this journey from becoming a product company to an innovation led CDMO for a while now. That journey is now complete.

I'm going to take you through the story, a little bit of history, how we're positioned to make a big splash in the cell and gene therapy market, and where we see some of the opportunities for growth.

There are going to be some forward-looking statements.

Here's Oxford Biomedica in a nutshell. We are, first of all, positioned as an innovation led CDMO because we believe that solving customers' problems is at the heart of providing a service in this industry. We have got a deep-rooted legacy knowledge in lentiviral vectors, a newly acquired, highly technical expertise in AAV.

We've been working very recently with adenov vaccines as well, and with the AstraZeneca COVID vaccine. We believe we've got the technologies, the capacity, and the skills to help customers solve their issues, which is a big part of cell and gene therapy at the moment. We believe viral vectors obviously have a key and critical role to play in today's gene and cell therapy space.

There have been some significant issues around getting viral vectors to do what you want them to do. Some of the innovations which we're working on, and have worked on and rolled out, have formed part of the solution and a part of the future solution.

What we're aiming to do is make safe, high-quality, cost-effective vector for our partners. Cell and gene therapy is on the precipice of making a significant impact on medicine globally. We're seeing 500 biotechs in the space.

We've seen Big Pharma come in and out of the space, but there's a good portion of Big Pharma in the space. It's accounting for a significant portion of the clinical pipeline and the preclinical pipeline of the industry. In fact, our partner Novartis, we've seen five-year efficacy data just reported, which is quite astonishing, of 50 percent complete remission after five years for end-of-life patients.

We have a track record, which is very important in this industry, so our track record of being able to produce a pace and scale and of sufficient quality, commercially viable and commercially licensed vectors. We've obviously got our relationship with Novartis where we've manufactured Kymriah. We always have been the sole manufacturer of Kymriah.

We've also turned our hand over the vaccine period to manufacturing the Oxford-AstraZeneca COVID-19 vaccine, which went from naught to 100 miles an hour. Our first interaction with Oxford University was in March. The first time you could take the vaccine was December that year, so that was super-fast.

It just goes to show that, with focus both from the companies and from the regulatory authorities, you can make a big impact very quickly.

Like I said, capabilities, it's key for a service provider to have multiple strands. Our capabilities now run across all three major vector types.

I said a little bit of a picture over the last five years. This is where we've come from and where we are today. Five years ago, revenues just under 40, as of today, roughly 130. We did Â£65 million worth of revenue in the first half, and we guided that we'd do something similar in the second.

Viral vector partnerships, all lenti five years ago. Now, we've got 17 across lenti, AAV, and Adeno. You can see some of the names there, an impressive list. Novartis have obviously stayed with us. We've added BMS, and Boehringer, just to name but a couple on the big side, and then some real innovative names in the field on the smaller side, as you can see there.

Some of them have fallen away. This goes to show that what you need to do is have a portfolio effect. Some of these products won't work, but it won't be for the lack of us trying. We are now a

significant stage of the portfolio effect in our partnerships.

You can see Kymriah had only just been launched five years ago. It's $540 million now. It was the first out, a real trailblazing product with five-year data just out, as I mentioned. It's been a pleasure to work with Novartis over that time period. We no doubt look to continue working with Novartis on their existing and new programs.

The viral vector markets, it's always been quite difficult for us to gauge quite how big the markets are. When you look at the markets, some of the market is addressable, some of the market is in-house. People make their own vectors, of course. We believe that 2.8 billion addressable market by 2026 for all vectors is about where we see the marketplaces. The data is getting better there.

That's a significant market to grow into. We're hoping to grow obviously with the market and beat that by growing our market share within that market. We've got a great chance, with the technologies we have, to get that done.

Proprietary programs. We've always had proprietary programs in-house. We've recently announced that we're going to spin those out. We think that a pure-play CDMO in this space is what is necessary to maximize value for shareholders.

When you think about the risk profile of an innovation at a CDMO and a risk profile of a small biotech taking binary risk, they're very different, and they need to be in different hands. We've made that call with the conversations we've had in the last few days.

We've been talking about pivoting but it's taken 10 years, so it's not really a pivot. It's more of a very slow turn to turn from a service provider with products into finally a pure-play CDMO, but we think this is the right place to be.

We are very excited about those assets which are going to be spun out. They're very, very exciting with preclinical data. We're looking in the first half of 2023 to make a splash in that area.

Then the facilities. We've been very busy building. We used to have three facilities in 2017. Now, we've got six internationally. We've got our facility in Boston from March this year doing the AAV, the AAV Center of Excellence. We've since opened Oxbox, which is an approved multi-suite, vector manufacturing state-of-the-art. Did the vaccine, is approved for commercial supply and now has fill/finish, which has been approved at the end of last year.

A bit more about the addressable markets. AAV is a big market. AAV is the biggest market, and

it's largely because the vector requirements for AAVs are higher. They're typically systemic delivery, so it's going to be a higher volume of vector required. There's some amazing innovation going on in that field. There's just a few examples of that innovation.

We're new to the field, but we have some real amazing technology suite, which we've acquired in our Oxford Biomedica Solutions asset. Really, really impressive titer, really impressive full-to-empty capsid ratio data. We're super excited to make a splash in that marketplace.

We said that we would sign up two new customers by the end of 2022. We ended up signing four, excluding Homology here also and, importantly, the anchor client there.

Integrating vectors, slightly smaller market but still growing at 17 percent CAGR, very, very active. We have got partnerships in Novartis, Bristol Myers Squibb, a whole bunch of other people doing really, really important work in CAR T.

Some in vivo stuff as well. Boehringer Ingelheim with the CF program is extremely exciting and could turn the dial when it comes to commercial clinical manufacture of an indication like CF.

Then adenovirus. It's not a growing market but there is some interesting activity ongoing, and we need to be able to address that. Obviously, with our experience with AstraZeneca, we have put ourselves in a good spot to be able to address that. We will offer that. It's not going to form the backbone of Oxford Biomedica going forward, but it's certainly an interesting offering to potential clients.

This is where how we position ourselves in against that addressable marketplace. What do partners want? Partners want someone, from an expertise perspective, who can advise them and guide them through the early-stage process development. It's tough. They also want people who can guide them towards the end of the process with regulatory requirements, filings, process characterization.

It's a big ask for a CDMO, and, of course, we've got a track record of doing that with Novartis. They want flexibility, they want capacity, they want you to be involved and care about solving their problems. We are of the size where we do care. Getting a client from clinical stage to commercial as a CDMO does make a big difference to us. We do go the extra mile in terms of customer-centricity.

Then the technical capabilities people want, they just want to be able to de-risk. They want someone who's been there, seen it, done it, been able to produce at scale, of quality. We are

multiply timed FDA audited, AMHRA audited, Japanese FDA, and audited by our clients as well -- BMS, Novartis, Boehringer, etc.

We have very, very high-quality standards of GMP, and that does not come simply and easily to people. This is one of the key differentiators for us.

What are we innovating? You can see there's the list of seven there. We're working on all of these. These will produce patents. Some of them will produce know-how. This is what enables us to maintain our licensing model on lenti, and this is what people come to us for.

There's the customer-centricity, problem-solving, and the ability to tap into these areas of innovation which is going to help them ultimately succeed.

This is a picture of...As a CFO, this is this is the meat and drink. How do we make money from this model? We've tried to segment this into five different areas. We've got early-stage, going through to commercial supply and fill/finish and where money is made. We've got different revenue streams. We've got potential up-fronts in license fees. They're variable, of course.

You typically find that Big Pharma are willing to pay a license fee. They want to minimize their royalties. Maybe small biotechs are slightly the other way around. We are big enough now, and we've got the financial flexibility to be flexible there on the license fees.

Development revenues are where they go into PR&D, and you help them solve their issues. You'll typically make money early-stage in that process characterization and validation, where you're doing a ton of work helping them file and helping guide them through the regulatory pathway.

Once it turns commercial, those revenue streams drop away. Then you get by processing revenues -- nothing at the beginning, because you're doing process development work, you're doing scaled-down models, and then you go into early-stage/late-stage process characterization, ultimately commercial. That's where CDMOs can really lever up and make money, which is when you get a certain proportion of commercial clients as opposed to clinical clients.

Cell and gene therapy, obviously, we're waiting for the market to mature. There aren't that many commercial assets to go for. We've got one in Kymriah. We had another one with the vaccine. As time goes, but time is our friend here, time will, if you've got enough shots on goal with your partnerships and your programs, some will make it to commercial.

Of course, we're looking to add to the hopper all the time with our commercial efforts, going into

the marketplace, looking for new clients.

Then you have milestones. Milestones, the orange box means it can be variable, but it's all gravy. We can't predict sometimes when we're going to get these milestones. It takes time, but when they come, they're very helpful for cash flow purposes. They generate revenue, and then ultimately royalties.

All of the clients that you saw on the lenti side have taken a license to our platform, which includes a royalty on the back end. We share in the long-term economic benefit of these products. The same is not true of AAV. That's not a licensing model, but on lenti it is, and it forms an important part of future value.

How have we achieved? What have we got? New agreements announced in 2022 is 10, which was great, particularly busy. Four at the end of the year on the AAV side, and then we had lenti throughout the year. We'll take you through some of those in a moment.

What do we have in terms of size and scale? You can see the technicians there. There are just shy of 500 people at Oxford Biomedica working on those solutions which I talked to you about. Whether they be on the front end or downstream in quality and ASG, these all have significant expertise at scale in two of the major scientific hubs, Boston and Oxford.

Then we have 120-something people in operations. They're the people that make the vector itself. Manufacturing, 159. You can see another 300 people there making what we offer to our clients. Then we've got...18 commercial is an important number, because we're doubling the investment in the commercial area.

Now we've got both an AAV offering, an adeno offering, a lenti offering, we need to get out there and shout and scream about the technology and the capabilities we have and make sure that we give our sales teams the best chance to win.

A little bit about 2022 and the progress. I just said I'd give you a bit of an update here, and here it is. In January, a licensed supply agreement with Cabaletta. In March, we did our transformative AAV deal, which was what we think is a really innovative deal with Homology Medicines. We formed a JV between Homology Medicines and ourselves, Oxford Biomedica Solutions.

We own 80 percent, Homology owns 20 percent, and we carved out their technical operations into a CDMO. Obviously, as a technical operation they weren't running at full capacity. They were running at part capacity, and that latent capacity was immediately available for new clients, which

we thought was quite smart.

Of course, it came with the anchor contract with Homology themselves, minimum $25 million first 12 months. We got a plug-and-play platform, which has since proved itself in the published data to be, we think, best in class. We're making a lot of noise about that in terms of scientific publications. They'll eventually translate into marketing materials.

We had a very, very important deal with BMS Juno for a couple of undisclosed new viral vector programs, which we're very excited about. Another undisclosed partner. We always like to be up to disclose the partners, but sometimes it makes more sense not to for the time being.

The names will tend to become public in the end, but sometimes we're finding, these days, if someone's coming to us from another CDMO, they don't want to give that commercial information away that there's another CDMO involved. We were very happy to be customer-centric and do what we can for our clients in terms of their privacy.

We also signed a longer master services agreement with AstraZeneca. We just finished making, at the end of last year, the last commercial batches of the vaccine. We consider there won't be any revenues from the vaccine in 2023.

That work was extremely important in, firstly, proving to ourselves that we can turn our hand to something we'd not done before, which was adeno, and be pretty successful in their supply chain in creating 100 million-plus doses of the vaccine. Secondly, frankly, it provided the returns that enabled us to make the expansion into AAV.

In August, like I said, fill/finish came online. First time we've had fill/finish proper offering of soup to nuts now for potential clients. We can take them right through from inception of idea, gene of interest, choosing an envelope, all the way through to fill/finishing.

That's important because we're outsourcing fill/finish. It was an area of risk we identified, and now we have a world class gene therapy fill/finish suite in our Oxbox facility.

Then, in December -- like I said, very busy month -- we had a late-stage license supply agreement announced on the lenti side and for an AAV side, so we finished the year with the bang.

We added, as you can see there, we went from 10 to 17 partners in the last 12 months. Momentum is good.

Just a bit about upcoming news flow. We've had an interim CEO in place for a while, Roch Doliveux, who's our chair. He's itching to get back to being the non-exec chair, and we've been successful in appointing Frank Mathias as our new CEO. He joins us in March from Rentschler.

Obviously, a world class CDMO in and of themselves, so we're very happy that Frank comes on board to lead the charge as a very focused innovation led CDMO.

We completed the sale and lease back process where we generated an extra Â£60 million onto the balance sheet from an owned asset, which we thought was pretty smart sort of capital management. We've been doing a lot of stuff in terms of new agreements. We're hoping to announce many more in 2023. We haven't given any guidance out yet, but we expect this positive momentum to continue.

We're launching fourth generation lentiviral vectors in 2023. There will be a scientific conference which we'll choose to do that in. Vectors, higher expression, you can see their safety features, large capacity. These are the next gen sort of developments we're looking to make on the lenti side, which fortify the licensing model.

Then, for therapeutic strategy which I mentioned earlier, we look to have executed by 2023 but ideally by the end of the first half of 2023. We want these to be given an opportunity to have life. They're very exciting, but they need to be backed by investors who understand the science, understand the risk profile.

We're pretty excited about getting this done, which leaves us with potentially an investment on the balance sheet, but no more cash burn on the products leaves us as a laser-focused innovation at CDMO.

It's a bit of an odd time to be giving operational financial outlook given our prelims are a couple of months away and the year is finished and we're still giving this sort of guidance, but like I said, we're expecting to do probably Â£130-odd million worth of revenue this year. That's all booked in, and it was fine.

We know that there'll be continued growth in lentiviral AAV manufacturing volumes with the AstraZeneca volumes coming down and completely off.

We have been actively rightsizing the organization in terms of understanding what it means to be in a post-COVID world.

For us, we had to staff up very quickly to get that vaccine work done, and now, in a very managed and controlled way, we're just rightsizing the organization to be able to deliver on its mission for viral vectors rather than the vaccine as well. We've completed that process in 2022.

Broadly, breakeven second half of 2022 was our guidance and that's a sort of indication of where cell and gene therapy is. Even with a commercial product and a load of programs working on and generating a lot of revenues, it's not a mature marketplace where there are three, four, five, six commercial assets to go for where you can build your margins.

One of the things we are looking to do is provide more clarity and transparency on the way we report our numbers during 2023 and maybe look to guide on revenue CAGRs and when we can be expected to reach EBITDA margins which would be considered gold standard in the CDMO industry, so mid-20s, and how we think that's going to evolve as the market evolves.

Importantly, very strong cash position. The half year was north of Â£110 million, but then we did the sale and lease back and we pushed our gross cash in excess of Â£150 million. To all intents and purposes, given the breakeven nature of the business, we've got in it sort of infinite cash runway here which gives us a very nice position to be in and that we we're not out seeking funds or anything.

We are also looking for the next strategic leg to add to our offering here. We've got some significant ambitions in the M&A field. Yeah, we're a strong robust real company with revenue streams looking to significantly grow over the next three, four, five years as the market matures.

The last slide show to summary rapidly growing market, the proven expertise, which is important, like people who've done this before to deliver and manufacturer at pace. We are vector agnostic, so we'll help our clients choose the best vector and the best envelope in which to put their gene of interest.

We've got the Big Pharma endorsement, which is all important. Big Pharma was willing to take a license to a platform which means that that platform is real. We've had lots of IP lawyers from Big Pharma crawling all over the IP and the know-how. It it's real, it's there, and it's making a difference in patients' lives.

The internal reorganization is important as we are now, like I said, this focused innovation at CDMO. We are looking to deliver on that promise, to deliver growth, do better than the market, which is going to grow. Everyone will rise with the time but we're looking, obviously, to grow

market share at the same time and to deliver the best return we can for our shareholders.

That's back to the original summary slide. Thank you for listening. I'll leave it there.

[applause]

Jem: Great. Thank you, Stuart.

We're now going to progress to the Q&A's portion of the presentation. As you guys know, there's a few ways you can ask questions. You can either go on the digital conference book and ask them there and then they'll appear, and I'll be able to ask them. Alternatively, you can also just raise your hand. At which point, we will have a mic runner run a mic to you so that you can ask the question.

Are there any questions in the room at this time? Great. All right. In that case, I'm going to ask a question, Stuart. Stuart, in previous instances you've discussed your willingness to share the economic benefits of innovation with customers in an efficient way when they provide upside for both parties involved.

I know you've also discussed the new pricing model that you're looking to flow through. My question is, is that pricing model now been implemented? What's the perception of that model and how is that resonating with your customers?

Stuart: That's a great question. The key thing if you're going to be an innovation led CDMO, its being able to monetize that innovation because you can create innovation, you can create more doses per batch, etc., but if you give that away then, what was the point of making the investment in the first place?

The sensible way that we've been addressing this is to start morphing the discussion from price per batch to one of price per dose.

When you think about it, if you're dealing with our customers, you're largely pushing on a bit of an open door because people want to know what a dose is going to cost them. If you can reduce the amount of a dose then, the math is very simple. They'll say, "Yes, please. If you can reduce the dose by making more doses per batch, I'm willing to pay more for the batch to get more doses."

A mathematical example would be, if I can create twice as many doses as you're currently making, I'm not going to charge you twice as much for the batch, but I may charge you 50 percent

more. You're saving 33 percent on your dose cost. I'm making the biggest return I can for my fixed cost and that fixed cost is time in the GMP suite which you cannot avoid.

The quality, and the stainless steel, and the air handling, and all the rest. How do you maximize your revenue for each chunk of time you spend there? That seems to be a sensible thing for us. As a CFO, I'd much prefer to spend a dollar on innovation led R&D to get more doses out of a batch than I would in expanding our footprint.

I want to expand our footprint but only once we've completely sweated the assets and implemented all the technology which is going to get our clients to where they need to be.

Ultimately, reducing the price of a dose is key because that gives our partners the flexibility to be more flexible with the price to attack either bigger patient populations or make more money. We know the price of therapies has to come down if we really want to democratize gene therapy because at the moment it's niched in rare diseases.

There has to be a solution, and we're very proud to be a key player driving down the cost by increasing the efficiency of the manufacturing processes.

Jem: Thank you, Stuart. I think there's a question in the room.

Audience Member: Thanks for the presentation, Stuart. It's interesting to see how the business is pivoted from more of a proprietary pipeline to a CDMO business. I was just wondering what you see as the key strategic objectives that you're hoping to deliver on over the next say three to five years?

Stuart: I think that's a great question. Three to five years in gene therapy is a long time. In three to five years, we can genuinely see many, many more commercial assets coming to market. We've seen the green shoots with a number of approvals in the last three to six months. How do we best position ourselves?

We need to keep innovating. You've seen fourth generation lenti. We need to get the AAV technology story out there. We genuinely think we're one of the best platforms in class from the published data so far. We've been brave, and we've gone out early and published. Tighter data is very strong full to empty capsid ratios. Data is very strong you.

If I shorten that time frame, and apologies for changing the question, just a bit shorter we need to keep attracting clients onto our platform, both lenti and AAV. We need to execute on our product

portfolio strategy as you mentioned. As we pivoted, we need to get that out and we need to give that home where we've retaining a long-term investment interest in that, but not burning cash.

Frankly, we need to on board our new CEO who's going to have his ideas, who's completely behind the strategy, so we're not going to see any sharp turns in the strategy. We may see some course corrections here, so we need to understand what Frank's going to bring. The best indicator is where we're making an active investment now which is our commercial teams.

We truly believe that the missing piece of the jigsaw has been the ability to take what we have and communicate that into the market so we're up skilling and putting far more resources into that commercial effort. Now we've got all the technical capabilities in the world, but we're now shouting about it.

I would say in the next year to 18 months we need to maximize that investment. We need to see new clients, more programs with existing clients, and accelerate it. The more late-stage assets, the better.

Jem: Just maybe leading off that...Sorry, do you have a follow up question?

Audience Member: Yeah. Maybe if I just could sneak a follow up in there as well. As a selling gene therapy focused CDMO, who would you see as your closest peers then, and how would you say you differentiate yourself versus them?

Stuart: That's a nice question we get asked all the time. Now I've got some colleagues in the room who know exactly who the competition are. Typically, when we are talking to clients, they're talking to the usual Thermo Fisher lenses [inaudible] of the world. The key question is how we differentiate.

If we had the same offering as those guys, we don't have the size and scale to accurately compete there. We're going to get kicked in the end because we're just not going to be out there cheaply enough. How we differentiate ourselves is those first two words which we always say, which is innovation led.

If someone comes to us with the proposition of "I need 20 batches," as a team, what we would say to them is, "Do you really need 20 batches or do you need 70 doses? Maybe we can do that for less batches to create the same amount of doses and we can share that economic benefit by making your process more efficient."

Some of our competitors would say, "Well, you bring us the process and we'll make it for you." We're always looking to embed innovation because it's a way for us to share the economic benefit, of course, but it's ultimately a way of bringing the cost down.

The innovation has to be embedded otherwise, gene and cell therapy is not going to achieve everything it could achieve in terms of reaching as many patients as it could achieve. We have, obviously, a strong platform, a licensing platform in lenti which others don't have, and that's all down to innovation.

We'll continue to proudly spend money innovating the manufacturing technologies in order that we can keep making those offerings and keep differentiating ourselves against some of those bigger players.

Jem: I guess then, Stewart, you also mentioned commercialization was going to be strategic priority going forward the business. I want to understand...Obviously, we're in the middle of a difficult, you could say, fundraising environment, and it looks like that's going to maybe remain challenging for just a little bit longer than maybe any of us would like to.

I was just wondering whether maybe the limitations on biotech funding have led to the prioritization of certain assets over others and whether you're beginning to see this in regards to some of the customers you talk to who may be a little bit crunched for funding.

Stuart: Now I've just stood up and said we've got a strong balance sheet and we don't need to raise funds, but, of course, we are enormously empathetic to those biotechs who are trying to do great work, who are feeling significant pain and, in some cases, trading below cash, etc.

That's no fun. We speak to them all the time. We do what we can to let them continue. The good news is that the work we do for them is on the critical path. For the programs they do prioritize, they need to keep pushing these forward because they need to generate the data, which is going to, hopefully, create a value inflection point for it for our partners.

That being said, there's certainly some prioritization going on sensibly. Some of the products which have been worked on have gone away. A good example of that is our partners Homology who went to their gene editing PKU from their first program...That was a plan, but ultimately, they pulled the trigger on that, and that all makes sense.

There are two things that protect us. Firstly, the critical path element, but secondly, the portfolio effect. We have a significant portion of our work coming from Big Pharma. They won't stop. In

fact, they'll accelerate because they see a way of gaining an advantage. It won't be a meaningful impact on us.

It may impact incrementally, but we have a big enough portfolio effect and the backing of partnerships through Big Pharma where we have an inherent protection against that.

Jem: In regards to inflation, because that appears to be the theme of the day in this environment, CDMOs have historically been able to, I guess it's a better sector than most, pass through a lot of the times these costs to their customers. Could you comment on any internal initiatives or anything you guys are doing to help protect the business against this?

Stuart: Pricing is one thing. Of course, most of our contracts come with the ability to raise prices. We do that according to the contract, which is fine. We've got to understand that in a GMP environment, you use a lot of utilities. [laughs] Utilities particularly are rising in a way that's going to outstrip any price increase we can give to our clients.

Our electricity might be several hundred percent higher than it was once. [laughs] Again, we've been sensible in buying forward contracts on utilities, which has protected us. What we all hope and wish, obviously, this doesn't go on for very long. It's got a human cost as well as a financial cost to businesses like ours.

The other area we're investing in is procurement within the business. We need to more actively procure our costs. There's some low-hanging fruit there which we can make a big impact with very quickly. We tasked our chief operations officer to get going on that with the budget.

We do the sensible things. We've got controls in place, but this sort of high inflation environment is going to have an impact. There's just no getting around it because it's very, very high.

The other thing to note that we have done is with our staff, just before the end of last year, we gave cost-of-living pay to the lowest strata of paid individuals in the organization.

We're not going to chase inflation with pay rises, but we will make sure that our staff are looked after in a way which doesn't make the inflation problem worse, but make sure we're recognizing that we have to give people some relief for the increased cost of living.

Jem: I think we have time for one more question. I just wanted to check if there's any in the room.

Stuart, you could say that Oxford Biomedica has historically been concentrated, maybe, on a smaller number of customers -- Novartis, AstraZeneca. Now the company is established and built out a lot of, you could say, bioprocessing infrastructure. Would you say that the focus is now to try and sign up as many agreements to fill out that infrastructure as quickly as possible?

Then, if you could also comment on the nature of the deals that you guys are trying to focus on because right now it might be skewed towards the earlier stage rather than the later stage.

Stuart: It's a great question. Dealing with the last video question first, and very quickly. My orange light of death is on here and it's just gone red. The key for us is to generate value in any way we can generate value. If you get too many clients up front at the early stage, you're going to clog up PR&D. Then you're not going to get the throughput.

You need clients to come on at each of those stages -- early stage, pre-IND, pre-BLA. What will happen in the next few years is second source supply will become a marketable thing. People will be looking for second source supply as the market matures.

We're looking across that piece. We're also looking strategically at gene and cell therapy revenue, but also opportunistically other revenues. If we can sign an opportunistic commercial deal, like we did with the vaccine for example, which helps us generate income before the market matures and it uses largely the equipment we have, why wouldn't we do that?

We're also looking opportunistically to fill the hopper as well.

Jem: That's all the time we have. Thank you very much, Stuart, and thank you everyone for attending.

[applause]
