

**GLAXOSMITHKLINE
SECOND QUARTER 2019 RESULTS
PRESENTATION TO ANALYSTS
Wednesday, 24 July 2019**

Sarah Elton-Farr (Head of Investor Relations): Good morning and good afternoon. Thank you for joining us on our Q2 2019 results which were issued earlier today. You should have received our press release and you can view the presentation on GSK's website. Those not able to view the webcast, slides that accompany today's call are located on the Investor section of the GSK website.

Cautionary statement

Before we begin, please refer to slide 2 of our presentation for our cautionary statement.

Agenda

Our speakers today are Chief Executive Officer, Emma Walmsley, Iain Mackay, Chief Financial Officer and Dr. Hal Barron, Chief Scientific Officer and President of R&D, and we have a broader team for Q&A. We request that you ask only a maximum of two questions so that everyone has a chance to participate. Our presentation will last for approximately 45 minutes - slightly longer than usual - to give Hal time to update you on our R&D progress. With that, I shall hand the call over to Emma.

Emma Walmsley: Thank you, SEF.

Q2 delivers good sales and earnings growth

2019 is an important year of execution for GSK and I am pleased that we have delivered continued good operating performance with growth in group sales and earnings in our first full quarter of generic competition for *Advair*. Group sales growth of 5% in CER terms reflected a particularly strong performance in Vaccines with *Shingrix*, of course, but also with our Meningitis portfolio, and we saw good performance in Consumer Healthcare.

Our group adjusted operating margins were down 1.4 percentage points on a CER basis. We have kept tight control of SG&A spend while investing behind our new product launches and increasing investment in R&D as planned, as we work to strengthen our pipeline and accelerate our priority assets.

On a total basis, earnings per share were up over 100% to 19.5 pence and adjusted earnings per share increased 4% to 30.5 pence.

Reflecting our good start to the year, we are today upgrading our 2019 guidance and Iain will walk you through that shortly.

Our free cash flow year to date was £535 million in line with our expectation and, as guided previously, we expect cash flow to be weighted to the second half of the year.

Q2 progress made on our 3 priorities

Two years ago, I laid out my long-term priorities for GSK: Innovation, Performance and Trust, all to be powered by a necessary culture change. This year, we have continued to make good progress with a number of meaningful achievements in the quarter.

For Innovation, we have continued to execute on our new product launches and have demonstrated strong growth with *Nucala* and *Trelegy* in Respiratory, with the oral two drug regimens in HIV and most notably in Vaccines with *Shingrix*.

Strengthening our pipeline is critical to our long-term success and we have made some good progress here also. Among our achievements, we have had positive data readouts in three core areas - Oncology, HIV and Respiratory - and we have started a Phase III programme with otilimab, our anti GM-CSF agent for rheumatoid arthritis.

We have also signed an important partnership with the University of California to work with the CRISPR pioneers Jennifer Doudna and Jonathan Weissman on improving our success rates in drug discovery, an important element of our long-term approach to improving R&D productivity.

In performance, we continue to make progress and Iain will cover this in more detail in just a moment.

We are on track to complete the formation of our JV in Consumer Health with Pfizer shortly, and we continue to make very good progress on integration planning.

We have also evolved our commercial model: we are making important changes that will allow us to increase our competitive performance and we are continuing to attract new talent to GSK to support our shift towards a more specialty focused portfolio in the future.

Finally, on Trust, we want GSK to continue to lead with a broader contribution to society. The very best way in which we build trust is to innovate and we are committed to giving you regular and transparent updates on our innovation progress, which is why you are going to hear from Hal in just a moment.

We continue to remain focused for impact in our approach to global health, recognising, of course, that all achievement depends on the energy and talent of our people. I was very pleased to see that our most recent employee survey showed a significant improvement in engagement reaching the highest score we have achieved at GSK in a decade.

Data and additional support new product momentum

I'll take just a moment to talk about our new launches in a little more detail, where sales are being driven by new data and further approvals.

In Respiratory, *Trelegy* continues to do well, with sales of £120 million in the quarter. Globally, launches have started well and we now have the only once-daily triple therapy for COPD in 36 countries. We met the primary endpoint in the CAPTAIN study in asthma patients and plan to file for regulatory approvals in the second half of this year.

In asthma biologics, *Nucala* remains the market leader in total sales and continues to grow well. We are confident, too, that we are well-placed with the introduction of self-administration in the US, which is showing some encouraging early signs.

In Oncology, we are delighted that *Zejula* – the PARP inhibitor we acquired in the Tesaro transaction, achieved a positive headline result in the PRIMA study earlier this month. This significantly expands our opportunity to help more women with ovarian cancer, in what is an under-treated segment of the market today. We anticipate that these data will enable us to file for US approval by the end of this year, with other markets to follow. We have also filed for approval for use in treatment of late stage ovarian cancer, on the back of the data from the QUADRA study.

2019 is a pivotal year for our HIV business, with the launch of *Dovato* and a flow of positive data that will help support our new portfolio. Later today, at the IAS conference, we are presenting positive data from the TANGO switch study and the 96 week data from the GEMINI study. We believe these results confirm the durability of *Dovato* and, importantly, there were no cases of treatment emergent resistance in these studies.

This accumulation of positive clinical data, the experience that physicians are building, and the fast progress we are making with reimbursement and access in the US, all reinforce our confidence in two-drug regimens.

Lastly, in Vaccines, *Shingrix* continues to be a major driver of our growth. We continue to see high levels of demand in the US and we also saw strong uptake this quarter in Germany and Canada. We were pleased to receive approval in China in May and are planning a phased introduction there, starting in 2020.

Our capacity expansion plans for this transformative product in our portfolio are making good progress.

With that, I will hand you over to Iain.

Iain Mackay: Thanks, Emma.

Q2 2019 Financial Results

All the comments I make today will be on a constant currency basis, except where I specify otherwise, and I will cover both total and adjusted results.

Headline results

On slide 9, there is a summary of the Group's results for Q2, which was a strong quarter with 5% group revenue growth. Overall, this was driven by strong performances in Vaccines and Consumer, offset by a 1% decline in Pharma, as expected.

Total operating profit is up 80%, with total earnings per share up over 100%, reflecting lower charges for the quarterly remeasurement of the ViiV contingent consideration liability, and the conclusion of the Novartis JV in Q2 2018. On an adjusted basis, operating profit declined 1% and adjusted earnings per share was up 4%. I will go through the drivers behind these in more detail in a moment.

We delivered £370 million free cash flow in the quarter, in line with our expectations and, as guided previously, we expect cash flow generation to be weighted towards the second half of the year.

On currency, a weaker sterling – particularly against the US dollar and Japanese yen, resulted in a tailwind of 2% on sales and 5% to adjusted earnings per share.

Results reconciliation

Slide 10 summarises the reconciliation of our total to adjusted results. The main adjusting items in the quarter were:

- Major restructuring focused on the supply chain, representing non cash charges relating to the ramp up of the programme we announced in July 2018;
- Within Transaction related, a remeasurement of the ViiV contingent consideration liability, primarily driven by changes in exchange rates, and
- Within the Disposals column, the main contributor is a gain from the revaluation of the embedded derivative in respect of GSK's exposure to movements in Hindustan Unilever's share price.

My comments from here onwards are on adjusted results, unless stated otherwise.

Pharmaceuticals

Slide 11 summarises the Pharmaceutical business, where revenues were down 1%.

Starting with Respiratory, sales were up 12%, with continued growth from *Trelegy* and *Nucala*, particularly in Europe and International. However, this was partly offset by *Relvar/Breo*, which declined 16% globally, driven by a 43% decline in the US, reflecting the impact of generic *Advair* on pricing in the ICS/LABA class. We continue to have good growth expectations outside the US, demonstrated by the continued performance of the product which in the quarter grew 15% in Europe and 21% in International.

In HIV, the dolutegravir franchise, was flat in the quarter with the dynamics at a global level highlighting the competitive environment and the shift in the portfolio towards two-drug regimens with growth in *Juluca* and *Dovato* offsetting declines in *Tivicay* and *Triumeq*.

At a regional level, dolutegravir grew in Europe and International but declined 6% year on year in the US with market share holding flat in the quarter. Initial share trends for *Dovato* are encouraging with an NBRx share of 2.5% which is 50% higher than *Juluca* at the same point post launch, but as anticipated it will take several quarters to become an increasing contributor to growth as we accumulate more positive data.

Our Established Pharmaceuticals portfolio declined 7% overall driven by US *Advair* sales which were down 61%, as expected given the first full quarter of generic competition. This was offset by a welcome upside in *Ventolin* which continued to benefit in Q2 from the Authorised Generic launched in the US earlier in the year. We expect this performance to continue until we see substitutable generics enter the market which we anticipate in early 2020.

Outside Respiratory, the remainder of the established Pharma portfolio declined by 1% in the quarter, helped by some tenders and phasing of contract manufacturing while the decline of 5% over the first half of the year was more in line with our longer-term expectations for this part of our established products portfolio.

With the business trajectory for Pharma in line with our expectations, we continue to expect a slight decline in 2019. Turning to the operating margin, we saw a decline in the quarter, mainly driven by:

- an unfavourable product mix, due to the impact of generic *Advair*;
- Tesaro dilution which in line with previous guidance we expect to have a sustained impact over the balance of 2019;

- Pharma R&D spend which increased 21% reflecting our investment behind priority assets.

Vaccines

Slide 12 gives you an overview of Vaccines performance in Q2 with sales up 23% driven mainly by *Shingrix*, although also from strong demand for our Meningitis portfolio with *Bexsero* up 24% reflecting demand in all regions and share gains in the US. We also benefitted from some positive CDC stockpile movements in our established vaccines.

Q2 *Shingrix* revenue of £386 million was driven by continued strong uptake in the US, as well as good signs of uptake in Germany and Canada.

You will recall last year we estimated a dose range in the high teens of millions in the next two to three years. Our capacity expansion plans are progressing well. We continue to be successful in accelerating actions designed to increase our supply capacity and therefore are increasingly confident of achieving the upper end of the range we gave previously at the front end of the timeline.

As we have said before, we do not expect a significant step change in doses until we bring a new facility on line. The Q2 operating margin was driven by enhanced operating leverage, particularly from *Shingrix* in the US.

Consumer Healthcare

Turning to Slide 13, Consumer had a good quarter with stronger growth as anticipated. Sales were up 4%, despite a drag of around 1% from the combined impact of divestments and the phasing out of low margin contract manufacturing.

We are pleased to see a good performance from our Power Brands driven by *Sensodyne* which grew 7% in the quarter and a strong performance in the US.

Operating margin in Q2 was 20.4%, slightly lower than last quarter as expected reflecting seasonal factors as well as the investment in the business in order to drive innovation and stronger growth.

Sales and Adjusted operating margins

On Slide 14 we summarise sales and adjusted operating margins. At a group level, SG&A grew below sales with continued tight cost control despite increased investment in Tesaro and new product launches, while R&D increased as we invest in the development of our pipeline including the Tesaro assets.

Adjusted operating profit to net income

Moving to the bottom half of the P&L, I would highlight the following. The timing of the settlement of a number of open issues with tax authorities benefitted the tax rate during the quarter and drove a 2% benefit to the Earnings Per Share growth in the first half of the year, while we continue to expect a tax rate of around 19% for the full year.

On interest, based on a range of initiatives undertaken in the first half we now expect net finance expense for 2019 to be around £900 million, slightly lower than previously guided.

1H 2019 free cash flow of £0.5bn

On free cash flow, we remain focused on driving greater cash discipline across the group and generated £535 million of free cash flow in the first half of the year, very much in line with our expectations.

This was impacted by the upfront payment of €300 million to Merck KGaA, the launch of generic *Advair* and the related phasing of rebates, offset partly by improved operating profits and working capital management.

As previously noted, and seen in prior years, the generation of cash flows is expected to be weighted to the second half of the year.

2019 guidance

When we issued 2019 guidance at the beginning of the year, we anticipated a number of factors that would lead to an earnings decline of 5 to 9%. These elements – generic *Advair*, the integration of the Tesaro cost base, increased investment in R&D and higher net debt leading to higher net interest payments – are playing out as we expected.

However, we are seeing better operational performance across our Vaccines portfolio, and some in-year benefit from *Ventolin* ahead of the introduction of substitutable generics expected in 2020. Additionally, we saw in Q1 a one-off benefit to share of associates, and we are also benefitting from a lower net interest expense on the back of refinancing activities. Combined, these factors, together with the settlement of a number of open issues with tax authorities, have driven earnings growth of 11% in the first half of this year.

We are pleased to have captured these upsides in the front half, and our view on the balance of the year remains broadly unchanged, with a full six months of generic competition to *Advair*, as well as the phasing of tax and Non-Controlling Interests having a negative impact; and, as anticipated, acceleration of investment in R&D.

Taking these points into account, we now continue to expect an adjusted EPS decline in 2019, but now in the range of 3-5%.

And with that, I will hand over to Hal.

R&D update

Hal Barron: Thanks, Iain. In July last year I shared with you our new approach to R&D and made a commitment to being more transparent about the decisions we were taking and the progress we were making, through regular updates like this one. I will spend the majority of this presentation on our pipeline, highlighting the progress we have made since we set out our new approach one year ago.

Science x Technology x Culture

To recap what I said at Q2 last year, our new approach to R&D is based on the multiplier effect of Science x Technology x Culture. We define this as strengthening our R&D pipeline by focusing on science related to the immune system, the use of human genetics, and the application of advanced technology such as functional genomics, machine learning and cell therapy.

Significant progress since setting out our new approach to R&D 12 months ago

I believe we have made significant progress over the last 12 months, resulting in a much stronger pipeline. I will take you through this in more detail in a moment.

We have also made good progress on our Technology strategy, which I will cover at the end of my presentation. On culture, we have strengthened our peer review process with a focus on smart risk-taking and our single accountable decision-making model. We have also hired some outstanding people and established some exciting new partnerships.

Turning back to the Science, in the last 12 months we have advanced eight assets into Phase 1, three assets into Phase 2 and four into Phase 3. In addition, we have also progressed three vaccines into the clinic. Importantly, we have also gained approval for three new medicines, including *Dovato*, *Dectova* and the *Nucala* pre-filled syringe.

Our R&D pipeline progress over the last 12 months

In this slide you can see a summary of what I just mentioned, with specific details on each asset. I used blue to show progression, green for approval and red for termination.

As you can see, in total over the last 12 months we have progressed or added 18 assets and terminated 11. As I mentioned, four assets have progressed to, or completed, their registrational studies. The first, bintrafusp alpha, previously referred to as M7824, is a

molecule being developed in collaboration with Merck KGaA. We have now started a registrational study in biliary tract cancer. I will speak more about this later.

The second is otilimab, or GSK 165. This is a human monoclonal antibody antagonist to GM-CSF for which we have recently initiated a Phase 3 study in rheumatoid arthritis.

In addition, two of the assets we acquired from Tesaro have recently completed their Phase 3 studies. *Zejula* for ovarian cancer and dostarlimab for endometrial cancer. I will also discuss both of these in more detail in a moment.

Our R&D pipeline

The significant progress we have made over the last 12 months has resulted in the pipeline shown on this slide, with 44 medicines and 13 vaccines currently in development. In addition to the overall progress made within our pipeline, we have also achieved several key milestones in the last 6 months since I spoke with you.

Pipeline progress in the last 6 months

As you can see, we anticipated having 10 pipeline milestones in the last 6 months. In addition, we were able to obtain the headline results from the PRIMA study early, which helped us to achieve nine positive outcomes from these 11 milestones.

We had five proof of concept studies read out positively, two Phase 3 studies read out positively and two submissions all over the last six months. Our anti-IL33, long acting anti-IL5 and HBV ASO assets have just recently achieved proof of concept and we are currently analysing the data and working through our internal governance processes to determine next steps.

Accelerating our Oncology Pipeline

I wanted to take the opportunity today to also focus on the acceleration we have delivered in our oncology pipeline. This slide shows our oncology pipeline as it was this time last year.

Accelerating our Oncology Pipeline

The progress we have made over the last 12 months is clear. Our oncology pipeline is now significantly stronger than it was a year ago, with more than a doubling of the number of oncology assets in the clinic. This has been delivered by the progression of our own assets, the acquisition of Tesaro and our alliance with Merck KGaA. Not only do we now have a significant number of diverse molecules in the clinic, many with a unique mechanism of action, we also believe that many of these molecules can be combined together to enable innovative combination studies.

This has strengthened our overall pharma R&D pipeline and accelerated the pace of development and data read outs. We now have the potential for three oncology launches within the next 18 months. I am now going to take you through five of these assets in more detail.

Zejula

The first is *Zejula*. In my presentation at Q2 last year, I said we were going to focus on using functional genomics to identify gene-gene interactions and explore the concept of synthetic lethality to discover novel targets, novel combinations and novel populations of patients who could benefit from our medicines. We acquired Tesaro primarily to gain access to *Zejula* a member of the PARP inhibitor class which was the first example of a synthetic lethal medicine to be approved.

A commonly held view was that PARP inhibitors only worked in women who had a germline mutation in the BRCA gene, so called gBRCA. This occurs in roughly 15% of patients with ovarian cancer. We hypothesised that other genetic mutations in the homologous re-combination pathway could identify women who may also benefit, so called HRD positive patients. The PRIMA study was designed to answer this question as well as whether *Zejula* would demonstrate benefit in an all-comers analysis.

Based on these data we are confident that the benefit *Zejula* could extend to patients in the first line maintenance setting is both statistically significant and clinically meaningful, particularly given that the PRIMA study enrolled women who were at high risk for recurrence.

We can't comment further on the data until it is presented at an upcoming scientific meeting but we remain on track to file before the end of this year.

Zejula – Broad Development Plan in Ovarian Cancer

In addition to the positive PRIMA data, we are also making significant progress in other areas of *Zejula*'s development, particularly for women with ovarian cancer. The FDA accepted our supplemental new drug application for *Zejula* in late stage ovarian cancer treatment based on the QUADRA data. The application was granted prior to review and it has an action date of October 24.

The AVANOVA data was considered 'best of ASCO' this year and shows the potential for *Zejula* in combination with *Avastin* to provide benefit in the treatment setting. This is very exciting given the toxicity associated with platinum-based regimens. In addition the recently published TOPACIO study demonstrated the potential for *Zejula* in combination with the PD-1 inhibitor to benefit women with platinum resistant ovarian cancer.

The HRD negative cohort response rate was intriguing in this study given that both PARP inhibition and PD-1 inhibition in this patient population has had limited activity.

Lastly, we expect the pivotal MOONSTONE study investigating *Zejula* with dostarlimab, the PD-1 inhibitor we acquired from Tesaro in platinum resistant ovarian cancer patients, to begin enrolment this year. We hope to complete this study actually by the end of next year.

Belantamab Mafatotin GSK '916

Moving onto BCMA which now has the generic name, belantamab mafatotin, this programme continues to advance at an impressive pace and is a good example of our cultural progress in terms of improving our focus and investing behind our most promising assets. Here you can see the full DREAMM development plan across all lines of multiple myeloma, which as you know remains a disease with substantial medical need.

DREAMM-2 is the first pivotal study we started for belantamab in July 2018. Enrolment was faster than expected and we now expect headline data to read out in Q3 of this year. As a reminder we are conducting this study in patients who have failed daratumumab, a more difficult to treat population that was enrolled in DREAMM-1.

These patients have very limited treatment option and thus the unmet need is highest. This data is planned to support filing in the fourth line setting which is on track for the end of this year and we hope to make belantamab available to patients in 2020. The updated data from the DREAMM-1 study that I mentioned in February showing a median progression-free survival of 12 months supports our belief that this is a promising future medicine.

Before moving on, I also want to mention our plans for second line. We have two ongoing combination studies in this population: DREAMM-6 and an investigator sponsored study. This will enable us to design the DREAMM-7 and DREAMM-8 studies optimally and we expect these pivotal second line studies to start in the first half of next year.

We are also planning to start two other Phase-III studies this year: DREAMM-3, a third line monotherapy study, and DREAMM-9 in the first line in combination with Revlimid, Velcade and dexamethasone.

Bintrafusp alpha (M7824)

The next asset that I would like to discuss is bintrafusp Alpha, a molecule we are developing in collaboration with Merck KGaA we announced in February. It is a first-in-class bifunctional fusion protein designed simultaneously to block the TGF- β and PD-L1 pathways.

Despite recent advances with checkpoint inhibition, many patients do not respond to the anti-PD-1/anti-PD-L1 class of therapies. TGF- β is believed to create a suppressive tumour micro-environment and has been proposed as a resistance mechanism to the treatment of PD-L1 or PD-1 blockade.

We have four studies ongoing and are planning to start additional studies later this year. This extensive development plan will allow us to explore a number of hypotheses in parallel.

The most advanced of these studies is in second line biliary tract cancer. This is a patient population for which there is no effective therapy. Our early data, which were presented at ESMO last year, demonstrated a response rate of 20%. The study is progressing but, based on these data, we agreed with regulators to begin a single-arm registrational study in 141 patients. The first line non-small cell lung cancer monotherapy study versus Keytruda in PD-L1 high patients continues to progress well and exploratory studies will be initiated in HPV-positive related cancers as well as triple-negative breast cancer in 2019.

Dostarlimab

Next I would like to discuss dostarlimab, our anti-PD-1 antibody acquired from Tesaro. There are a number of ongoing studies both in monotherapy and in combination, including with *Zejula* in the first study in ovarian cancer.

The GARNET study, which evaluated dostarlimab monotherapy treatment in patients with advanced solid tumours, including recurrent endometrial cancer, was presented at the SGO meeting in March. Preliminary data from this study showed clinical activity regardless of microsatellite stability status. In women with endometrial cancer, there was an overall response rate of 49% in the MSI population and 20% in the MSS group. The full data set will be available in Q3 to support the filing in Q4.

We are very excited about these data and the potential for dostarlimab to help these women, as endometrial cancer is the most common gynaecological cancer in the United States and the GARNET is the largest study of an anti-PD-1 monotherapy in patients with recurrent or advanced forms of this disease.

GSK '609 ICOS receptor agonist

Finally, our ICOS receptor agonist programme. ICOS is a stimulatory receptor on the surface of T-cells that is important for the proliferation, survival and function of these cells against foreign antigens, including neo-antigens expressed by tumours.

Our ICOS receptor agonist GSK '609 is a monoclonal antibody that binds to and activates the ICOS receptor without cell depletion and we believe this latter point could be very important.

At the end of last year, we announced that we achieved proof of concept for GSK '609. We look forward to sharing the data supporting this at ESMO where data in both monotherapy and in combination from the ongoing Phase I/II study with Keytruda in head and neck squamous cell carcinoma will be presented.

We have a number of ongoing studies including one in combination with CTLA4 and an ICOS-based lung platform study. We believe this could be an asset with considerable potential across a range of tumour types.

Broad clinical pipeline with encouraging data

I have spent the majority of this call discussing Oncology but we continue to make good progress across the pipeline. I would now like to highlight five other assets.

Otilimab for rheumatoid arthritis has now started Phase 3. The clinical programme includes patients who have failed methotrexate and targeted therapies and compares otilimab against both a JAK inhibitor and an anti-IL6.

We recently achieved proof of concept for the Hep B anti-sense asset we are developing with Ionis. We are reviewing these data to inform our path forward and we are excited by the potential of this asset as Chronic Hep B remains a very serious disease globally.

In Respiratory we had two proof of concept studies read out positively this quarter, our anti-IL33 receptor antagonist and our long-acting anti-IL5 antagonist. Both molecules are currently being evaluated alongside our broader portfolio to make sure we continue to prioritise our investment behind those programmes that are differentiated and can provide benefit to patients who have a significant unmet medical need.

Another promising molecule is gepotidacin for which we are planning to start two Phase 3 studies in the second half of this year for patients with uncomplicated urinary tract infections and urogenital gonorrhoea. I am excited about this potential new medicine because of its unique mechanism of action and oral formulation which makes using it in the community setting more appealing. *In vitro* activity has been demonstrated against many susceptible, and importantly drug-resistant, pathogens that cause a range of bacterial infections. Developing antibiotics with novel mechanisms is incredibly important and gepo could be an important treatment option for patients with uncomplicated UTI and gonorrhoea.

Approach to technology is gaining pace

Now I would like to give you a brief update on the progress we have made on our approach to leveraging advanced technologies.

In July last year I shared our new approach to R&D which is anchored in the use of human genetics and cutting-edge advanced technologies, such as functional genomics, artificial intelligence and machine learning as well as cell therapy to identify novel targets and medicines for patients.

Collaborations will be key to our technology success

We believe outstanding people working with and for GSK will be fundamental to achieving this vision. In the last 12 months we have reached major agreements with 23andMe, the Laboratory for Genomics Research and most recently with a company called Lyell. As you can see from this slide, we are working with very impressive people, both internally and as collaborators.

Unfortunately, I don't have time to speak about everyone on this slide, but these people are world-class scientists who are pushing their chosen fields to the cutting edge.

In human genetics our exclusive collaboration with 23andMe is going well. We have already agreed to progress six targets together and we continue to evaluate others. We hope to be in a position to move our first joint programme into the clinic in 2020.

In functional genomics we announced the Laboratory for Genomics Research with Jennifer Doudna and Jonathan Weissman. I will talk more about this on the next slide. I am also delighted to welcome Chris Miller, an outstanding scientist who joined us from AbbVie to lead our work in this area.

A new collaboration that I am very excited about is with Lyell, a company focussed on cell therapy and specifically exploring the concept of T-cell exhaustion. We will share more about this later this year, but Rick Klausner and his incredible team will be core to advancing our work in cell therapy as we believe T-cell fatigue may play an important role in limiting the efficacy of both CAR-T and TCR-T therapy.

Finally, a brief word on AI/ML. We have several partnerships in this area but are currently concentrating on building our own internal capability. We are focussing our efforts on early target discovery as we believe this is the best place to apply the power of AI/ML. We are very pleased that Kim Branson, another outstanding scientist, has joined us from Genentech to lead our work here and he is building a very impressive in-house team.

Established the Laboratory for Genomics Research

As you know, we recently formed the Laboratory for Genomics Research in San Francisco. I am very excited to announce this great partnership with the University of California. This project is a great illustration of the point I made on the previous slide that working with outstanding people is fundamental to our R&D strategy.

The rationale for this partnership is very straightforward; take the most advanced technologies in the Functional Genomics field, that is CRISPR, and work with the pioneers of that technology, Jennifer and Jonathan, and work together to develop better medicines faster.

I spoke in July last year about genetically validated targets being twice as likely to become medicines. We are aiming to use CRISPR and other gene editing technologies to better understand why certain genetic mutations are associated with various diseases and use this information to discover new drug targets.

I will continue to update you on our progress across our technology strategy as we apply human genetics and advanced technologies to further accelerate and strengthen our R&D pipeline.

Pipeline momentum anticipated to continue

To close, I will share with you the pipeline milestones we expect to deliver over the next six months. These will inform the basis for my next R&D update at Q4.

By the end of this year we will have the first pivotal data on belantamab in fourth-line myeloma and for dostarlimab in recurrent endometrial cancer. We are looking forward to presenting our ICOS data at ESMO and starting the Phase 3 studies for gepo.

We are on track for six submissions, three of which are in oncology in the next six months; *Zejula* in first-line ovarian cancer, belantamab in fourth-line myeloma, dostarlimab in second-line endometrial cancer plus fostemsavir in HIV, *Trelegy* in asthma and lastly, we will submit daprodustat for regulatory approval in Japan.

There is also the possibility that a number of proof of concept studies in oncology may read out, though the timing of these will depend on the size of the treatment effect observed.

We will also continue to build our AI/ML group and will complete the integration of Tesaro into GSK, including the creation of a synthetic lethality research unit based in Boston.

Personally, I am pleased with the progress we have made in the last 12 months to strengthen our pipeline, improve our technology capabilities and shift our culture.

Over the next six months we will see a number of pivotal data readouts that we hope will further validate our new approach to R&D.

With that, I will hand it back to Emma and look forward to answering any questions you may have in the Q&A.

Emma Walmsley:

Focus on delivering business priorities

Thank you, Hal. As a reminder, we have seen some good progress this quarter on our priorities of Innovation, Performance and Trust, and we are on track with our key areas of focus. We are driving improvements in our operating performance; we are progressing our pipeline with a number of further key read-outs to come. We are investing in our executional capabilities for a specialty portfolio, and we are working towards a successful integration once the Consumer JV has completed shortly.

Successfully delivering these priorities over the coming years will provide a clear pathway for the creation of two great companies – one focused on Pharma and Vaccines, and the science of immunology, genetics and new technologies, and the other on Consumer Health.

We are now joined for Q&A by Luke, David, Brian and Roger. With that, operator, the team is ready to take everyone's questions.

Question & Answer Session

Emmanuel Papadakis (Barclays): Thank you for taking my questions. I should probably start with the obligatory guidance question, perhaps for Iain, the sustainability of the guidance upgrade we have just seen - in terms of thinking about the run-rate for *Ventolin* and established products would be particularly helpful. You referenced some inventory in *Relenza* benefit in Q2 and I am just trying to think about how the run-rate for those two look in the second half of the year and beyond. That would be very helpful.

Then, on a similarly financial topic: free cash flow. You called out H2 weighting for the year. Given its importance for your dividend and outlook, perhaps you could give us just a little more colour on the second half of the year and indeed beyond. Do you think it is now feasible with the revised guidance, to get to or beyond the level of 2018's free cash flow, i.e., just over £5.5 billion? Many thanks.

Emma Walmsley: Thanks, Emmanuel. On guidance and free cash flow, Iain, would you like to reply?

Iain Mackay: Emmanuel, on free cash flow first, the overall outlook that we provided at the fourth quarter and, I think, then went over again at the first quarter, was certainly driven and informed by the genericisation of *Advair* and then the timing of pre-genericisation rebates and that run-off. We would expect to see a step down from overall free cash flow in 2019 versus 2018, which saw a lot of progress made in that regard.

Overall, the themes – certainly as it relates to guidance around the profitability that we referenced momentarily – have a similar read-across to the overall guidance from a free cash flow perspective. As in previous years, we would expect to see strong cash flow generation over the course of the second half of the year. We are very much in line with where we expected to be at the half. In terms of overall for the year, as guided earlier, we would expect to see a bit of a step down against 2018, informed by *Advair* genericisation principally.

In terms of the overall guidance, the guidance that we provide in the fourth quarter, in terms of what was driving the down 5 to down 9 of adjusted EPS, is that those key factors remain absolutely consistent. The genericisation of *Advair* is absolutely key. The broader impact of that genericisation, of pricing in the ICS/LABA class, is an important factor, because certainly when you look at *Breo/Relvar* in the second quarter in the first half of the year, we have seen that tick across into the pricing in the overall ICS/LABA class. That is some of the pressure that we would expect to see continue over the second half of the year and directly related to *Advair* genericisation.

One of the welcome features of the first half was *Ventolin*, perhaps somewhat unexpectedly, but we launched early in the year an authorised generic for *Ventolin*, really in anticipation of other substitutable generics coming to the market. We have seen very, very strong take-up of that and I think it represents an opportunity for lower out-of-pocket expenses for patients. We have seen very good uptake in that regard. Being an authorised generic, we see – quite traditionally – a lower rebate coming through, and so we are seeing some benefit coming through *Ventolin* for the remainder of the year. We expect this effect to be largely limited to 2019, where we would expect to see other substitutable generics coming into the markets in early 2020 in that regard.

The guidance overall for 2019 is absolutely in line with what I have said during the presentation. The key factors actually have not changed a great deal since the fourth quarter and the first quarter but what is very encouraging is a great performance from the Vaccines team, particularly driven by *Shingrix* and the meningitis portfolio - a one-off event, on associates, as we talked about in the first quarter. Then, happily, some timing coming

through, with the resolution of a number of tax matters with tax authorities around the world, very much in the usual course of business.

Emma Walmsley: Thanks, Iain. Next question, please.

Graham Parry (Bank of America Merrill Lynch): Thank you for taking my questions. Firstly, on Vaccines, could you just help us to understand some quantification of the benefit of the CDC stocking, and whether that hit aided *Shingrix* and the run rate for *Shingrix* for the year?

Secondly, on HIV. I wonder if you could comment on the MULATO data which was published at IAS. It is *in vitro* data looking at viral resistance emergence with dolutegravir plus 3TC versus Biktarvy, suggesting increased viral resistance emergence with dolutegravir 3TC. Any thoughts on why that is discordant with the clinical data such as GEMINI and TANGO that you are seeing. Any critique of that study would be useful. Thank you.

Emma Walmsley: Thanks, Graham. I will ask David to pick up on your second question and I'll comment briefly on *Shingrix* outlook for the year.

You will remember at Q1, we guided that we thought it would be roughly maintained at that run rate for the rest of the year, and, as part of the upgrade, we would expect that the second half would be more in line with the full first half this year. We are really pleased with the ongoing strong demand for *Shingrix*, and we are equally pleased with the progress that Roger's team are making in terms of our capacity expansion.

There is a possibility of further progress beyond that, but we will update you on that at Q3. Beyond that, perhaps we can go to David on the HIV question.

David Redfern: Thanks, Graham. I am not going to get into much detail on MULATO because obviously it wasn't our study, although, as you said, it was a poster presented yesterday at IAS in Mexico, and it's an *in vitro* study.

What really matters, and what we are very pleased about, is later today in Mexico, investigators and the team are going to present the GEMINI 96-week data read-out and also the TANGO study which was the switch study we did with *Dovato*. We believe that data to be very positive, both from an efficacy point of view, and importantly across around 1000 patients in those studies on the *Dovato* arm, we have seen zero treatment emergent resistance, so in a clinical setting, with patients drawn from right across the world, I think that will be seen as very reinforcing of the durability of *Dovato*.

The one technical point that I would add that will come out in the TANGO data is one of the things we did is to mark out DNA analysis to look for a resistance, and particularly resistance from the 184v mutation which potentially can cause resistance in lamivudine and therefore, in the Dovato setting, the argument is it could make dolutegravir become monotherapy. We did the archive testing to pick up very low levels of resistance. What was interesting is overall, out of 650 patients in the studies, we only picked up seven cases of 184v, even at a low level, so the instance of it is very small, there were four in the *Dovato* arm and none failed. I think we now have some very specific evidence around that which I'm sure will be very helpful, so we are feeling increasingly confident about the durability and importance of the two-drug regimen.

Kerry Holford (Exane BNP): Just following up on ViiV, thinking about the outlook for the remainder of the year, in the quarter US sales were down 6%. I wonder, David, if you can talk to how you expect that to evolve in the second half of the year. In the first half of the year, that equated to just 1% sales growth globally. Are you still expecting ex-US regions to deliver more significant growth to drive that higher, or are you looking at that remaining at similar levels for the remainder of the year, 1% growth or so?

Then secondly on *Zejula*, for Hal, I know you can't give us details on PRIMA, but if we are to say that data can come at ESMO, can you tell us whether or not we will get the detail results by sub-group – and here I'm talking about HRD positive versus negative. I am also interested in any view you may have on how that data could compare to PAOLA-1 from Astra. If that is also positive, can these two approaches co-exist? Many thanks.

Emma Walmsley: Thanks, Kerry. We will go to David first on ViiV, and then come back to Hal on the two-pronged questions around *Zejula*.

David Redfern: Thanks, Kerry. Dolutegravir was flat in the quarter in Q2, and up 3% year-to-date, and then of course we have the drag which is about 2% of the older product, particularly *Kivexa* and *Selzentry*. Overall that put ViiV into slightly negative territory for the quarter and up 1% on the year.

I think, as we said, in the US, future growth will primarily come from our two-drug regimens, *Dovato* and *Juluca*. Obviously, we hope also in 2020 from cabotegravir, our long-acting, for which we have been granted a priority review to take place at the end of the year, and also a much smaller amount from fostemsavir.

I think we remain very confident in the growth potential of our HIV portfolio overall. It is early days for *Dovato*, but in the US I think overall the launch is pretty much what we

anticipated, as Iain said, NBRx is now about 2.5%, our weekly TRx has gone up to just over 350 scripts a week, and we have about 80% reimbursement coverage now, so that's gone very well and very fast, and overall *Dovato* is about 50% ahead of *Juluca* at the same point.

Of course, we are challenging, as we have always said, a very well-established treatment paradigm, and it will take time to build momentum as physicians gain experience, but we are very encouraged by the data that I talked about earlier in response to Graham's question, and obviously we hope that should have a big impact.

Outside the US, we continue to grow very strongly in international, particularly driven by Japan and Russia, and in Europe we gained market share, dolutegravir volume was up about 8%, there's a bit of a pricing drag there, that will reduce over time. So overall, we remain confident in our growth outlook for the HIV portfolio.

Emma Walmsley: Thanks David. Hal?

Hal Barron: Hi Kerry, thanks for the question. As you know, we have just unblinded the data, so we've only completed a limited number of analyses. We are, as you know, very pleased, though, that the hypothesis that *Zejula* would benefit women beyond those who had the gBRCA mutation, in fact the hypothesis that the HRD positive patients, those with the genetic defects and the homologous recombination pathway, would benefit, was validated. The way the study was designed was once we validated the hypothesis we could ask the question, does the overall patient population benefit?

Those are the analyses we have done, obviously there's a lot of interesting data in the data set, we will be exploring that, figuring out what are the most interesting questions to provide data on. As you know, we can't comment further on either the data or the analyses because it's just too early.

In terms of PAOLA-1 that you mentioned, again, we are looking forward to seeing that data as well, later this year, and I think it's important to remember first of all that PAOLA-1 is exploring whether PARP inhibition benefits the women with ovarian cancer in the first line maintenance setting. Actually, we think that *Zejula* and the PRIMA studies have answered that question: *Zejula* does benefit women in the front-line maintenance setting.

The real question that the world will have, I think, is the incremental value that *Avastin* adds to PARP inhibition, and unfortunately PAOLA is not answering that question. But for the 25% of women who are being treated with *Avastin* currently, we'll I guess have information as to whether the combination works.

I think it's also important to realise that questions that will be evolving relate to *Avastin* and the benefit that it has, both in terms of the improvement of progression-free

survival, but also the recent data from the GOG 218 on overall survival, where there's really no improvement in overall survival, and there is obviously toxicity and there is cost.

All of this will probably be put together in a way that we can digest that and understand how to think about benefitting the women in the first line setting, but again, we are very excited that the hypothesis that PARP inhibition in *Zejula* in particular will benefit women who have the homologous recombination defects in an exciting way in the all-comers analysis, the benefit was there as well. So, we will look forward to sharing more of that data when we have it.

Emma Walmsley: Right Hal, thank you very much. Next question, please.

Seamus Fernandez (Guggenheim Securities): Thanks very much. I guess I have to ask the requisite question around the Senate's Bill and the proposed impact relative to some of those differences that have been proposed. I was just hoping, Emma, if you could just give us your broad stroke thoughts. Then if possible, where GSK sits in the context of that proposal as it sits there. I know it's a moving target, but I think investors would certainly benefit from hearing your thoughts there. Thanks.

Emma Walmsley: Thanks, Seamus. Listen, as everyone knows, these proposals were published late yesterday, it's, I think, a 40-page document with over 30 detailed provisions, so we need to take a bit of time to analyse this and understand the provisions and understand any implications they might have.

It's also - again, just looking at history - very important to note that all of this is subject to discussion, potential amendment, and even if it's ultimately passed, many are not due to take effect until 2021/2022.

All of that said, of course considering the size and the importance of the US market we take these issues very seriously, and today we don't have significant exposure to Part B, but as we're thoughtful on how our portfolio will continue to evolve, within the Pharma business, noting that this quarter our Vaccines business in the US was about 30% of our sales, excluding consumer. The key area we would be looking at near term is Part D, but we will be thoughtful about any evolution in Part B in terms of our approach with new assets.

There are a few principles, I suppose, of which we would be supportive, broad-based rather than talking about this specific proposal. We are absolutely supportive, which is why we were supportive of the previous rebate discussion, of things that reduce the out-of-pocket costs for as many patients as possible and that any of the price reductions that we pass on to payors find their way to patients, so that is a really key principle.

Likewise, we are supportive of principles that incentivise responsible pricing and, most fundamentally, that incentivise innovation, and ongoing innovation and access to that innovation for the patients who need it. We will keep watching it and the answer to this environmental context continues to be: make sure that you price responsibly and, if you look at GSK's track record and where its performance has come from, that is something to which the company has been long committed. Also you need to make sure that you innovate for value, which is why all the work which Hal has progressed with the R&D team is so important and that is why we wanted to outline that with you today. I am sure we shall all be watching this space to see what comes through next. Next question please?

Mark Purcell (Morgan Stanley): Thank you very much for taking my questions - I have two. First, on *Zejula* can you help us to understand your plans to float the drug outside ovarian cancer on the back of the PRIMA and the AVANOVA data which are very interesting, implying a role I guess in the hypoxia caused DNA damage to the synergistic effect with this molecule. I ask the question because there are some unique advantages of it over other PARP inhibitors including better blood-brain barrier penetration and potential possibly in tumours such as lung cancer.

Secondly, on belantamab and the neutropenia SAEs we saw recently, could you discuss the risk maintenance initiatives you have put in place and how successful you believe these are in terms of improving the risk/benefit of this drug for patients as you move forward into early lines of therapy? Thanks very much.

Emma Walmsley: Thanks and I think both of those are for you, Hal.

Hal Barron: Good, complicated questions so let me take a few minutes to think about that. The question about *Zejula* beyond the front-line ovarian is a good one and we have a very robust development plan that includes a number of studies as you highlight in ovarian cancer. You are right that the AVANOVA study is very exciting and it is important to realise that was a treatment paradigm study that looked at the combination of *Avastin* in combination with niraparib as a potential treatment. This is exciting on a lot of levels and we did see a pretty significant effect in an uncontrolled single-arm trial but we are excited about where that might be able to take us in terms of latter line therapy when patients have progressed on their platinum-based frontline therapy. It is really tough on patients to take platinum continuously in the second, third and fourth line and, if we can potentially design studies to find drugs like niraparib and *Avastin*, that would be as good maybe even better. Certainly, with a better safety profile that would be a really significant advance for these

women, because, as you know, they are very sick by this stage and likely to die, so improving quality of life is critical and that is an exciting approach.

I am also excited by the TOPACIO data: these are small numbers but there are some intriguing signals in there, particularly when you look at the combination of niraparib plus dostarlimab where we are starting to learn a little bit about what PARP inhibitors may be doing beyond simply blocking the replication fork and the homologous recombination repair process. It looks like when you do that, you activate the STING pathway and, almost by definition because you have this DNA damage, you start to present more new antigens.

If you think about it, that could be an exciting synergy with PD-1 inhibition, because it has been known that T-cell infiltration in ovarian cancer is seen in about 60% of patients but the T-cells are not getting in there and activating to kill the tumour in the way we would hope. Therefore, we think that by presenting more neo antigens through the STING activated pathway and presenting more neo antigens, we might be synergistic with PD-1 and there are a lot of preclinical data to support that as I said. It is also exciting that we have a systemic IV STING agonist that we could think about. Therefore, the idea of that synergy, particularly when you look at the data in the TOPACIO study, where we have significant responses in the gBRCA wild-type platinum-refractory group where we typically don't see any kind of responses and, in fact, the PD-1 class has been particularly unimpressive in that setting as well, so the fact that we are observing about an 18/19% response rate in that group, if I remember correctly, that is encouraging. So, MOONSTONE is going to follow up on those data and potentially provide some interesting findings.

As you point out, there are a lot of other places we could think about trying to help patients, particularly exciting given the concept now that we think is real which is that it's beyond BRCA and in lung cancer, although gBRCA mutations are extremely uncommon, HRD abnormalities are actually not uncommon and so it's possible that by identifying patients who have defects in homologous recombination, through are other non-BRCA like RAD50, AKT and ATM and all the other ones that are known to be mutated in lung cancer, we may be able to find a population that would respond PARP inhibition and we have a number of trials.

The same concept that I described where there may be synergy between niraparib and PD-1, not to get too ahead of ourselves, but that's an exciting combination as well because we might be able to improve on the already impressive findings of PD-1 and lung cancer, so that's an exciting opportunity.

Lastly, as you point out, and I think this is a very good point that you make, is that while you don't see typically many women who develop brain mets which is thankful in

ovarian cancer, it is unfortunately not uncommon in lung cancer and so if these PARP inhibitors are actually effective in lung cancer, we think we would have a uniquely advantageous approach because of the fact that we have crossed the blood-brain barrier and that is something that we are thinking about how to get a better handle on.

With that, and of course there are always opportunities to think about other diseases like prostate, pancreas and triple negative breast cancer in the synergies, there is an enormous amount of development opportunity that we can do and with the other 15 molecules in the clinic, including BET inhibitors and STING agonists, there is just a lot of places where we can do combinations and with Functional Genomics, we are hoping we can actually rank our opportunities so that we go over the most compelling projects first. So yes, it's just a very exciting time.

Emma Walmsley: Thanks, Hal. Do you want to comment on bela as well?

Hal Barron: Yes, right, sorry. Belantamab, so BCMA, it's important to remember that myeloma is a plasma cell dysplasia and so just the disease alone causes some thrombocytopenia, that's known. BCMA is known to cause thrombocytopenia and so the combinations of various drugs where we know there is going to be additive tox, it is important to get a strategy to minimise that, as you point out.

Without going into excruciating detail, the modifications we are putting in place are several-fold. First, and probably most importantly is that these findings are usually dose-related and we are using a lower dose in the Phase II studies, the DREAMM-6 and the ISS and that should help us figure out whether it's a Cmax or it's a Cmin area under the curve, etc, how do you optimise the dosing to minimise this problem as well as are there ways of simply educating the sites to ensure that when a patient does get some toxicity that it is managed well. We think the combination of doing both of these will result in us having a safe and effective window for providing this drug, and particularly given how active it is, we think that the risk-benefit is likely to be something we can demonstrate but of course that is why we are doing the trials.

Emma Walmsley: Thanks, Hal. The next question, please.

James Gordon (JP Morgan): Hello, thanks for taking the questions. Two questions, both about *Zejula*, please.

It's a clarification around the PRIMA study result, because in the press release it said that the study hit statistical significance and the way I read it was across biomarker status and the study's original endpoint was just in the HRD+ patients and then I think from what

Hal was saying on the call, it sounded like the study did hit the original primary, so it did show a benefit in just HRD+ first and also in the whole population. Could you just clarify what was the primary that was tested and is it that this worked in sub-populations and in all-comers, please?

Then the second question is also on *Zejula*. The press release referenced AVANOVA and talked about the strong data we saw presented at ASCO, so *Zejula* plus *Avastin*. Were you flagging this data because there is the potential to get this data on the label, so you could actually have a mono and an *Avastin* combo, that's why it's being flagged or do you think that whatever the merits of *Avastin* combo, that's something that only Astra are likely to have as a label, please?

Hal Barron: Let me explain the design of PRIMA, and it's a relatively common approach to designing trials and unblinding. The primary endpoint was tested hierarchically, so by that I mean the first question you asked of the data is the one that we had the most confidence in which is the HRD+ population and the analysis plan calls for answering that question and if positive, only if positive, you go on and then assess the all-comers.

Because the HRD population was positive, we then went on to test the all-comers analysis and what I said in the script is that that was also positive, so that's how that works and it's done to avoid having to split or I should say share alpha. It doesn't matter, but it's a common way of doing what's called hierarchical testing.

Your other question was about AVANOVA. Yes, we were pleased with the data, it's very intriguing, the combination, as I mentioned, as a possible treatment regimen. It is interesting I think that because it's in the treatment setting it is going to be important clinical data to look at but the plan is not to be filing that with the PRIMA study.

Tim Anderson (Wolfe Research): I have a question on PRIMA again. In a short top-line press release, you said it was clinically significant today. The top-line released only described safety as 'in line with prior datasets'. Did PRIMA look to a lower starting dose, to try to avoid thrombocytopenia? From my prior conversations with you, I think the goal was to have thrombocytopenia in line with competitor PARPs like Lynparza. So, I am wondering whether, on safety, if you could say whether that was achieved in Prima with that dosing modification?

The second question is about the *Shingrix* opportunity in China. My understanding is that it will be a cash pay product with no government reimbursement, which is not uncommon with multinational vaccines. If I think of Gardasil, which is also cash pay – it has

had explosive growth and consumer awareness was high, but there is a big difference here with your product. Cervical cancer is potentially fatal, while shingles is not, so I wonder whether you can just lay out what you think the commercial case for *Shingrix* will be over time, and what the awareness of shingles already is.

Emma Walmsley: Just to give Hal a break for a moment, I will come to Luke, to comment on the *Shingrix* launch in China. Obviously, there is a question both of capacity and of market creation from our point of view.

Luke Miels: I think the analogy of the parallel you make with HPV is interesting. If you look at us with *Cervarix* right now, we are doing about 90,000 doses a month. If you go back a couple of years, the awareness was relatively low. I think that once a product enters the marketplace and companies begin to be active, and physicians have a solution, then the patients become engaged.

You are correct: our assumption is that it will be a private market product. If you look at pricing for *Cervarix* and *Gardasil*, again, these are very much in line with the prices in the US, and that is our assumption in China.

In terms of what would drive that, as you can imagine, we have looked at this in some depth. There are a few things that are a very favourable. You obviously have an older population, with relatively concentrated families with children working, and also a pretty well-developed appetite for information on the web. We think that a number of these things are in line with it.

The broader question – and this is really where it fits in the context of supply with *Shingrix* – is that we are trying to work out, beyond the US, Canada and Germany where we are now, which are the other markets we would enter. Right now, the focus is likely to be in the private market.

Hal Barron: Thanks, Tim. That's a good question. In the PRIMA study, as I said, the primary endpoint was in the HRD positive and subsequently in the all-comers if positive. There was, as you point out – and it is an important subgroup – a smaller subset of patients who were randomly allocated towards the end of the trial to the so-called 'weights and plates' dosing regimen, where women whose bodyweight was less than 77kg and whose platelets were less than 150,000 were administered a lower dose, 200mg.

I should point out that the concept of lowering dose for lower bodyweight patients, particularly those with low platelets would make sense, given that this is non-target effect, and in fact clinicians often do this in the real world. It is not uncommon to see patients

identified, and then do this. However, we thought it was important in the PRIMA study to study it in a controlled way.

As you pointed out, I can't comment further on the data in terms of subgroups or sub-analyses now, but much of this data will be presented at upcoming scientific meetings. We look forward to discussing it with you then.

Emma Walmsley: Thanks, Hal.

Hal Barron: Luke, did you have anything you wanted to add there?

Luke Miels: It is interesting, Tim, if you look at usage rates in the US, where we have the best data. Obviously, patients start on 300mg, but around 50% automatically drop down to 200mg immediately, and so physicians are adapting their behaviour in line with the profile.

Jo Walton (Credit Suisse): I have two quick questions. On Vaccines, I wonder whether you could help us on the improvement in profitability? How much of this should we build into our future modelling, because it comes from the leverage of *Shingrix*, which doesn't look as though it is going away and therefore should give us a strong, sustainable base? How much could be attributed to one-time factors?

A second question is for Emma, on the new marketing scheme, whereby you are paying your reps more in line with the prescriptions that they are responsible for. How will you decide whether that is successful or not? As shareholders and investors, what should we look at to see how that is maturing?

Emma Walmsley: Thank you very much. I will let Iain comment on the Vaccines margin delivery and outlook, and then I will come back on your last question.

Iain Mackay: Thank you very much. Overall, clearly, we are very pleased with the performance of the Vaccines business, and *Shingrix* is a stand-out in that regard.

With the margin where we have it right now, in the high 30s, that is informed by an effect in the first quarter and an inventory adjustment which we mentioned and also you will have seen that both SG&A and R&D are fairly tightly controlled with in that business.

As we move forward we probably see a step up to some degree in SG&A to support as we gradually move to expand market launches for *Shingrix* in the longer term and then also from an R&D perspective as Hal had mentioned earlier, there are couple of interesting priority assets coming through vaccines where the step up in R&D to support that development are key features.

In terms of the medium term, from an operating margin perspective we very much see that margin for vaccines in the mid 30s, notwithstanding the very good performance we have seen on higher volumes and good cost control coming through the first half of the year.

Emma Walmsley: Thank you Iain and finally on the update of our policies which as you know has been around sales force incentives but also around engagement with HCPs so that they can hear from practising HCPs where we have new data.

We have laid out several key priorities for the company, we know we want to deliver on improvements in operating performance and we want to deliver a much stronger pipeline and we have been pleased to be able to demonstrate, although there is always lots more work to do, some progress on both of those.

Within that, we are talking fundamentally about a shift in our portfolio to more speciality medicines and the update to sales forces incentives was linked to that. We are building under Luke's leadership an ever strengthening speciality team and we want to be able to attract the very best including in the field and there is specific expertise around that competitively and as you know, when the initial policies were rolled out there was no follow-on from other players in the industry, so we think this is very important but it is contained to our specialty workforce and certain key geographies, particularly where we are launching new assets in the same way as our HCP engagement is from practising physicians is contained to new data, either around existing products or new launches.

The answer to how to know whether it is working is to make sure we are successful with the new products that we bring to market, either the labels we extend, or new launches we are talking about coming through in 2020 and beyond and that is why we are delighted to have seen some of the progress that we have had on data, that we are going to filing with six new registrations hopefully in the next six months and Luke is building out the team that he has so we will see with the numbers that come through.

With that, thank you very much, thank you for joining the call obviously it's a busy day today and we look forward to talking to you soon. Thank you.

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