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GSK’s R&D strategy is based on four linked elements

- Focus on the best science
- Re-personalise R&D
- Diversify through externalisation
- Focus on return on investment
Committed to improving returns in R&D

R&D returns over the last decade have been disappointing¹

Our estimates for GSK’s late-stage portfolio²

Our goal is to improve this return by 25% via our R&D strategy

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2. We have estimated the projected rate of return based on the investment made to create our late stage pipeline and our expectations on future long term sales performance. Our current late-stage portfolio includes pharma assets (eg small molecules and biopharms) and vaccines launched from 2007 onwards plus current phase IIb & III pipeline.
Five levers to improve returns in pharma R&D

1. Shift R&D spend from early to late
   - More rigorous focus on potential differentiation prior to commit to full development

2. Increase Discovery externalisation
   - Drive efficiencies throughout R&D
   - Do more with the same or less cost

3. Grow biopharm pipeline

1. Early = pre-Commit to Medicines Development (C2MD); Late = post-C2MD
2. Discovery = Start of Chemistry to C2MD
Before you start you need to believe....... 

- That there is an opportunity to discover valuable new medicines.
- That we understand what went wrong with pharmaceutical R&D in the last 2 decades.
- That we know what levers to pull to fix it.
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Unmet need
Scientific growth
Value
Before you start you need to believe…….

That there is an opportunity to discover valuable new medicines

That we understand what went wrong with pharmaceutical R&D in the last 2 decades

That we know what levers to pull to fix it

Unmet need

Scientific growth

Value

Industrialization

Infrastructure
Before you start you need to believe…….

That there is an opportunity to discover valuable new medicines

Unmet need
Scientific growth
Value

That we understand what went wrong with pharmaceutical R&D in the last 2 decades

Industrialization
Infrastructure

That we know what levers to pull to fix it

Selection
Execution
Rigorous capital allocation drives selection

Drug Discovery*
- Discovery Performance Units

Drug Development*
- Pharmaceuticals
- Vaccines
- Dermatology

Discovery Investment Board
Business Plans & Funding

Portfolio Investment Board
Progression and Investment Decisions

Scientific Review Board
Scientific Assessment and Development plans

Global Safety Board
Patient Safety

New Product Supply
Product Supply & Manufacture

Medicines Vision
Value Propositions to Patients, Physicians and Payers

Portfolio Review
ROI and Risk Profile in the Context of the Overall Portfolio

* R&D spend: ~40% Discovery, ~60% Development
Execution to drive returns

**Obtained the highest number of FDA approvals (10) over the last 4 years whilst growing a sustainable late stage pipeline (c.30 assets)**

- With a significantly reduced workforce
- .. and major reduction in infrastructure
- ....reduction in sites recruiting zero patients
- ...increase in number of patients per site
- ...reduction in clinical trial supply overages
- ... reduction in clinical study country footprint
- .. Streamlining of CRO strategy

- 28% decrease since 2006
- 29% decrease in m² since 2006
- 29% to 16% (2006-2010)
- Doubled from 5-10 (2006-2010)
- Resulting in ~$120m cumulative savings (2006-2009)
- From 78 to 48 countries (2006-2009)
- 100+ CROs to 2 (2006-2010)
Late stage pipeline potential will play out over next 24 months

10 new NCE / vaccine
Ph III starts 2010 / early 2011

- '212 (MEK)
- '273 (Telethon)
- '436 (Braf)
- '786 (CCX282)
- '968 (DMD)
- Integrase
- Integrase + Kivexa
- IPX066
- LABA / LAMA
- migalastat HCl
- Zoster

~ 30 in Phase III / registration

~ 15 assets with Phase III data by end 2012
GSK’s R&D strategy is based on four linked elements:

1. Focus on the best science
2. Re-personalise R&D
3. Diversify through externalisation
4. Focus on return on investment
Reference Slide: Methodology to estimate the IRR of GSK R&D’s late-stage pipeline

**Estimated Sales**
- Late-stage pipeline includes pharma NCEs and vaccines launched from 2007 onwards plus current phase IIb & III pipeline. (Sales taken from 2007 in order to match the R&D costs from 2001 onwards)
- Actual sales 2007-09 for products launched since ‘07.
- Estimated future sales for all products through 2030.
- Future sales estimates include risk-adjustment which is inline with current industry attrition rates.

**R&D Costs**
- R&D costs associated with the development of our current late-stage pipeline projects are included (including the costs of failed assets as well as infrastructure costs).
- For pharma, the following approach was used:
  - Total R&D costs split proportionately into early-stage (pre-CS), mid-stage (CS-C2MD) and late-stage (C2MD to launch).
  - In order to allocate all costs for this set of projects (eg late-stage pipeline) as accurately as possible, costs were included as follows:
    - 2001-03: All early-stage and 50% mid-stage costs
    - 2004-07: All mid-stage and all late-stage costs excluding PLE and market support.
    - 2008 and beyond: All late-stage cost estimates for the assets which are included in the sales projections, and estimates for increasing regulatory support
- Actual upfront and milestone payments for in-licensed assets, as well as estimates for future milestone payments, were also included.
- For vaccines, a similar approach was used.

**Key Financial Assumptions**
- Forecast operating profit margins after deduction of CoGS, selling and marketing and direct administration costs. Estimates are similar to current margin ratios.
- Includes estimates of capital investments and working capital requirements.
- Includes the Group tax rate of 28%.

The methodology above was applied to estimate the annual net cash flows used to derive the estimated IRR %