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R&D Strategy is Focused on Continuously Improving Quality, Novelty & Cost Efficiency

Discovery

- Focus on the best science
- Re-personalise R&D
- Diversify through externalisation

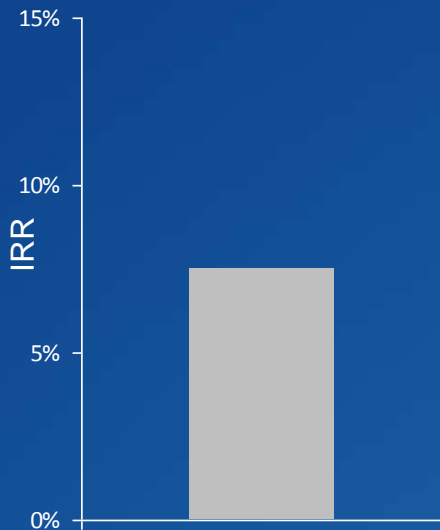
Development

- Simplify development
- Invest in the pipeline
- Eliminate predictable attrition

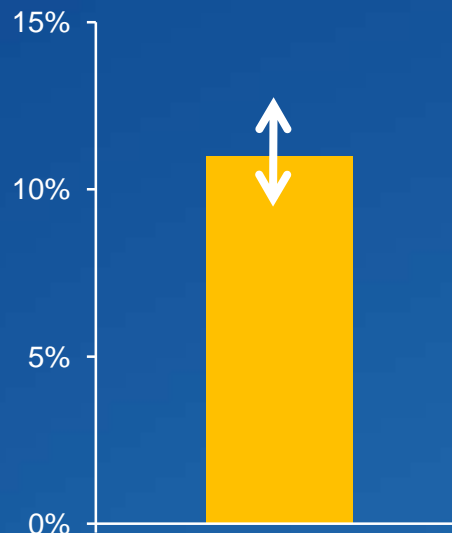
Focus on Return on Investment

Committed to Improving Returns in R&D

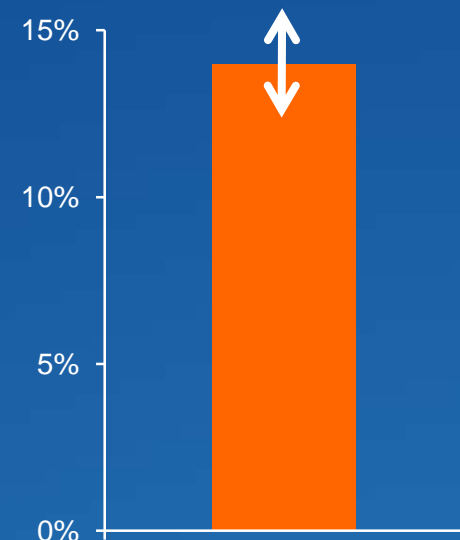
R&D returns over the last decade have been disappointing¹



Our estimates for GSK's late-stage portfolio²



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



Cost



Attrition

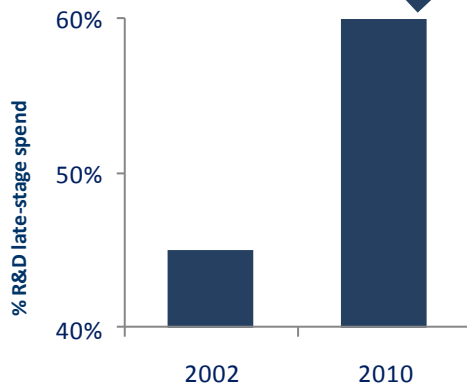


Sales

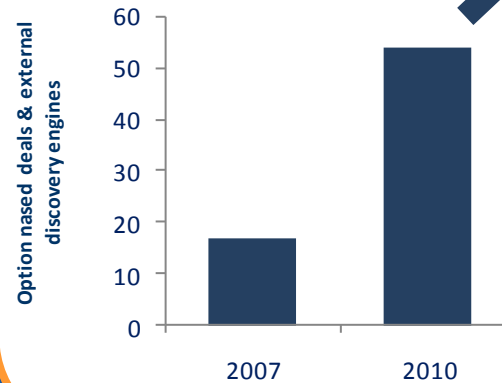
1. McKinsey, *Nature Reviews, Drug Discovery* (Aug 09) for small molecules. 13% for biopharms.
2. We have estimated the projected rate of return based on the investment made to create our late stage pipeline and our expectations on future long term sales performance. Our current late-stage portfolio 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

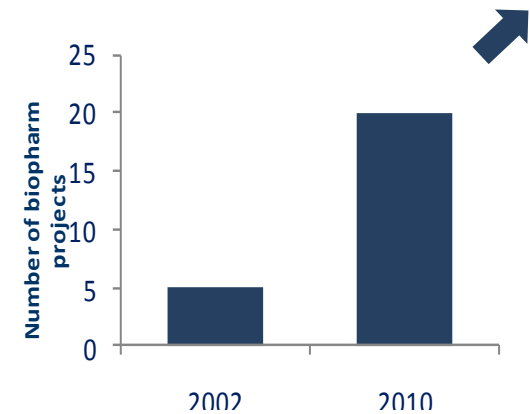
Shift R&D spend from early to late¹



Increase Discovery² externalisation



Grow biopharm pipeline



More rigorous focus on potential differentiation prior to commit to full development

Drive efficiencies throughout R&D

Do more with the same or less cost

1. Early = pre-Commit to Medicines Development (C2MD); Late = post-C2MD

2. Discovery = Start of Chemistry to C2MD

Driving Efficiencies – Do More With Less

....significant decrease in workforce

~28% decrease since 2006

... major reduction in infrastructure

~29% decrease in m² since 2006

...reduction in number of sites recruiting zero patients

29% to 16% (2006-2010)

...increase in number of patients per site

doubled from 5-10 (2006-2010)

..streamlining of CRO strategy

100+ CROs to 2
(2006-2010)

.. reduction in clinical study country footprint

from 78 to 48 countries
(2006-2009)

.. reduction in clinical trial supply overages

resulting in ~\$120m cumulative savings (2006-2009)

Rigorous Capital Allocation Process Within R&D

Drug Discovery

Discovery Investment Board (Pharma R&D)

- Allocates DPU funding on a 3 year business cycle
- Commits Discovery Performance Units to deliverables and costs
- Earmarks 3 year funding but can revoke if DPU underperforms
- Clear financial incentives for successful DPUs

Drug Development

Portfolio Investment Board*

- Asset Investment Decisions at Phase IIB, Phase III, File and Launch
- Annual Funding re-distribution across all R&D Units (incl. Rx and Vx)

Scientific Review Board

Scientific Assessment & Development Plans

Global Safety Board

Assessment of safety profile and risk /benefit

New Product Supply Board

Assessment of Product Development, Supply & Manufacture

Medicines Vision

Value Propositions to Patients, Physicians & Payers

Portfolio Review

ROI and Risk Profile in the Context of the Overall Portfolio

*PIB governs Pharma R&D. An independent parallel body with equivalent inputs governs Vaccines (Vaccines Investment Board operates from Phase I)

R&D Pipeline Promise: Will it Deliver?

Late Stage Visibility

- ~30 PIII assets; 15 with PIII data by end 2012
- Willing to make big bets:

Albiglutide
(type 2 diabetes)

Benlysta
(lupus)

Darapladib
(atherosclerosis)

MAGE-A3
(melanoma, NSCLC)

Relovair
(asthma, COPD)

Mid Stage Flow & Decision Gate

- Rigorous decision making to reduce attrition
- Focus on medicines that will make a difference



Early Stage Sustainability

- >20 publications in Nature and NJEM
- 38 DPUs & 54 external discovery engines



Why Big Pharma?





GlaxoSmithKline