

GSK VACCINES: KEY GROWTH DRIVERS

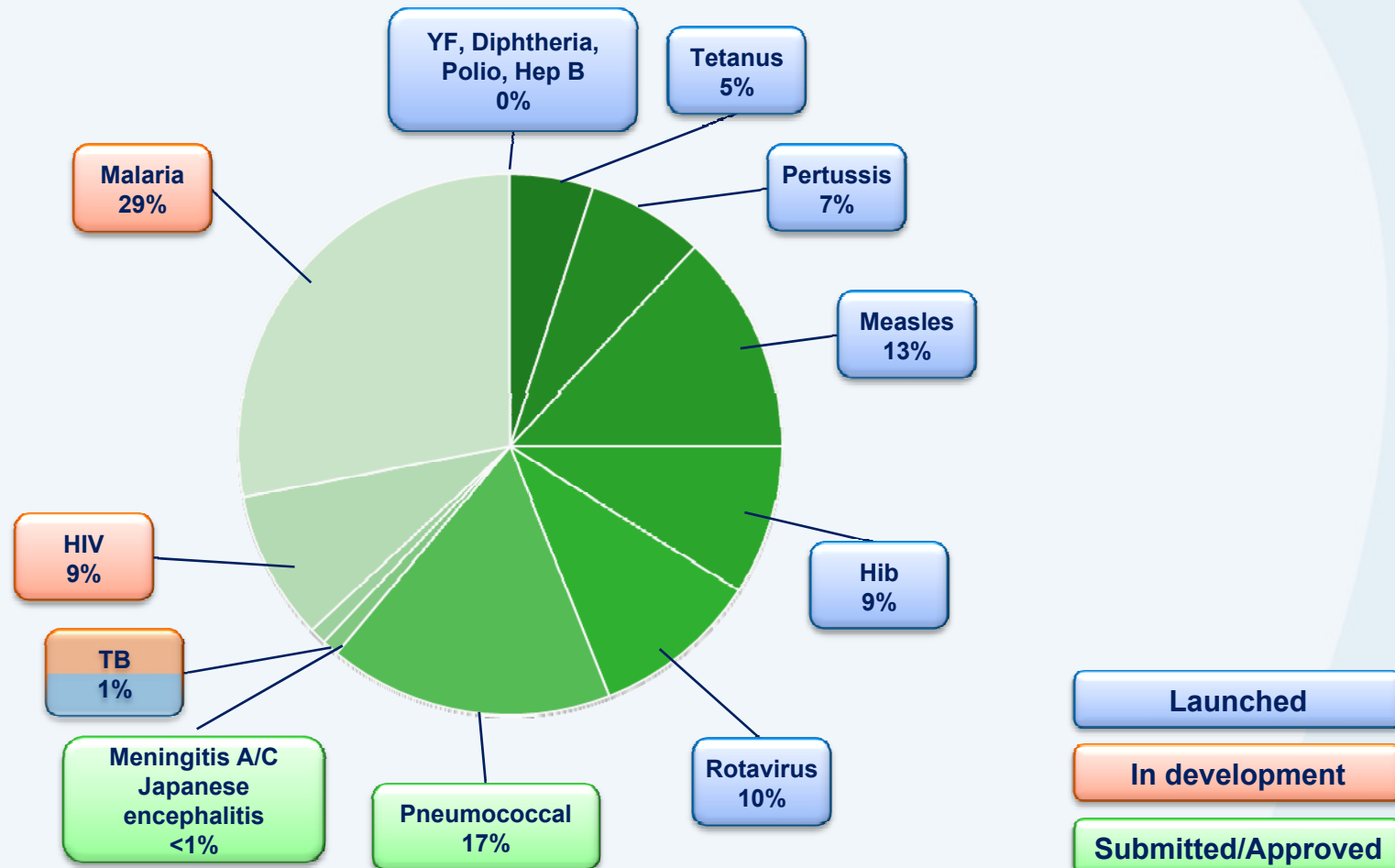
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Millions of children die from infectious diseases

Many of these deaths are preventable
By 2015 vaccines could reduce these deaths by 90%



What have vaccines achieved so far?

SMALLPOX

Eradicated

POLIO

99% reduction

MEASLES

**Dramatic
reductions**

**TETANUS
DIPHTHERIA
RUBELLA
MENINGITIS**

**Significant
reductions**

Hib

90% reduction



Economic benefits of vaccines

In the **developing** world

- With the exception of clean drinking water, vaccines are the most cost-effective public health measure¹
- A 10-year gain in life expectancy translates into additional ~1% of annual growth of income²

In the **developed** world

- For each birth cohort vaccinated, the US saves³
 - \$10 billion in direct medical costs
 - \$33 billion in indirect costs

¹ WHO IVB State of the World's Vaccines and Immunization. 3rd Edition, 2009

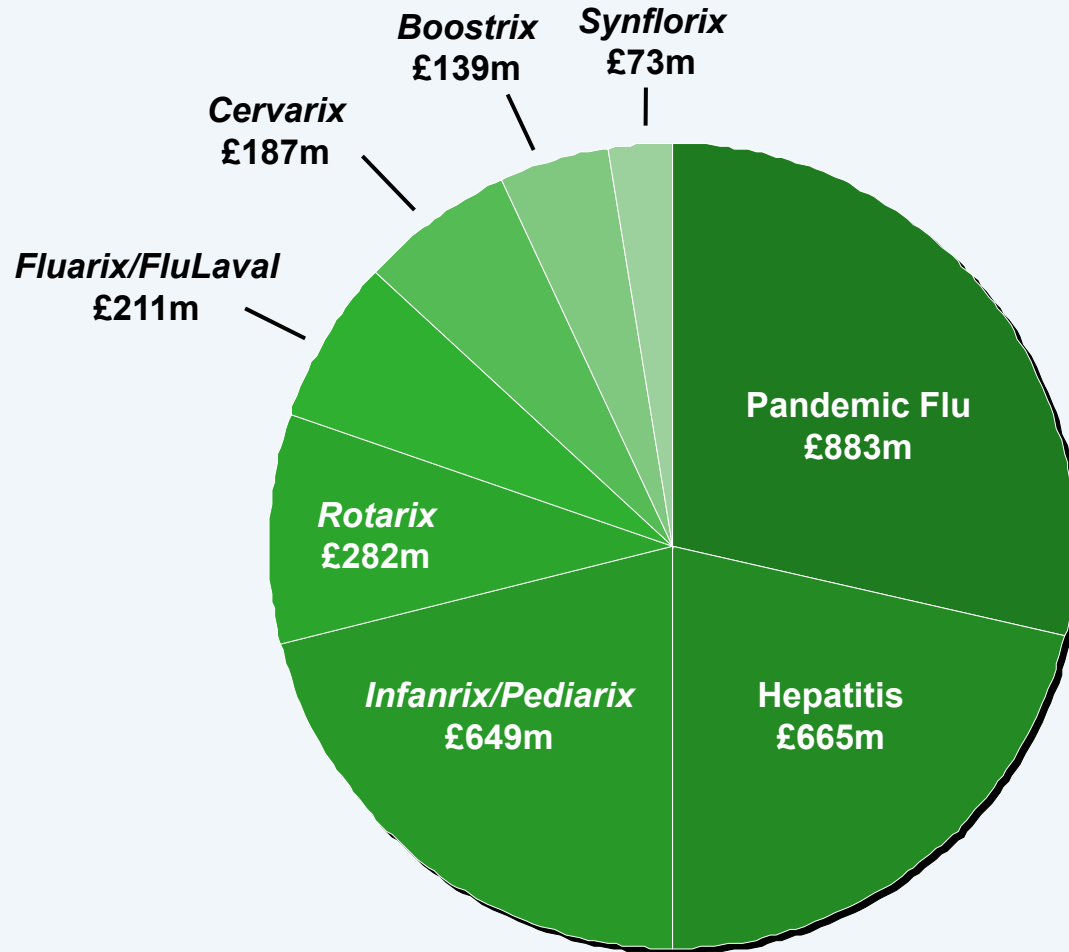
² Bloom, ESPID May 2005

³ Roush & Murphy *JAMA* 2007; 298: 2155-2163

GSK vaccines: fastest growing part of GSK in 2009

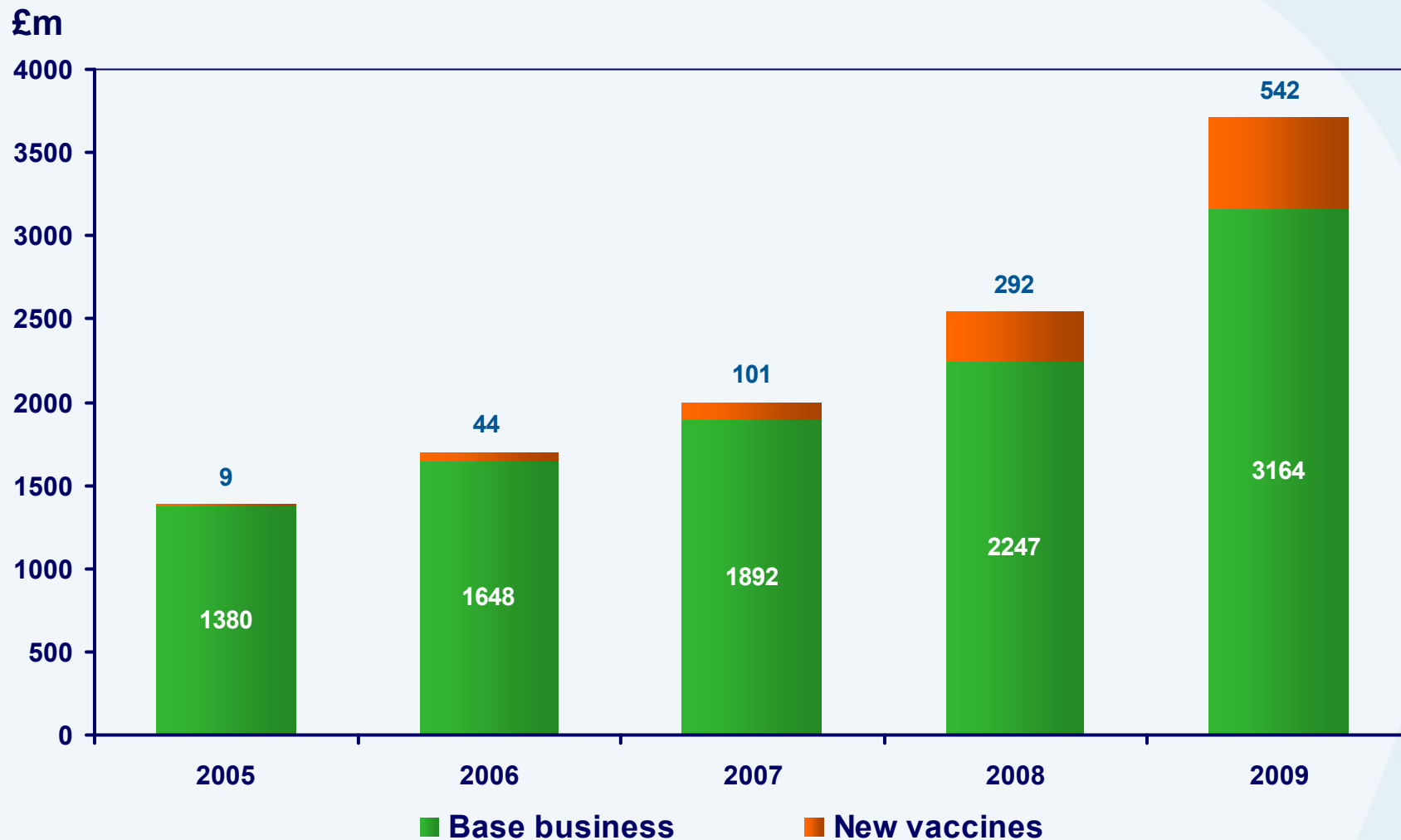
	2009 Sales	Share	Growth (CER)
Respiratory	£ 6,977m	25%	+5%
Consumer	£ 4,654m	16%	+7%
Anti-virals	£ 4,150m	15%	+12%
Vaccines	£ 3,706m	13%	+30%
CV & Urogenital	£ 2,298m	8%	+8%
CNS	£ 1,870m	7%	-44%
Anti-bacterials	£ 1,592m	6%	+2%
Metabolic	£ 1,181m	4%	-14%
Oncology & Emesis	£ 629m	2%	10%
Stiefel	£ 248m	1%	n/a
Other	£ 1,063m	4%	+1%
Total	£ 28,368m		+3%

GSK key vaccines: 2009 sales



2009 sales: £3.7 billion (+30%)

Growth of base vaccines business plus contribution of new vaccines



GSK vaccines: current key growth drivers

Rotarix
Rotavirus Vaccine,
Live, Oral

Cervarix

Synflorix

BOOSTRIX

PRODUCTS

- *Rotarix* Approved 2005
- *Cervarix* Approved 2007
- *Synflorix* Approved 2009
- *Boostrix* Approved 2005

GEOGRAPHICAL

- **Emerging Markets**
 - Annual growth of Emerging Markets 'middle classes' equivalent to population of UK
 - Annual birth cohort in China equivalent to population of Australia
- **Japan**
 - Underdeveloped vaccine market
 - Non-Japanese companies make up just 4% of vaccine sales
- **US**
 - Potential for increased market share

Rotarix in 2010: continuing growth



Approved in 116 countries

Filed in Japan (November 2009)

2009 sales £282 million

(Q1 2010 sales £65 million +19%)

Geographic expansion into EM & Japan

US currently accounts for 60% of global market

WHO prequalification (June 2009)

Developing world data

Significantly reduced severe rotavirus gastroenteritis in African babies¹

Rotarix and PCV update

- **Most frequently used rotavirus vaccine worldwide**
 - GSKs largest clinical trial programme (90,000 participants)
 - Excellent safety & efficacy profile: over 71 million doses distributed
- **March 2010: presence of PCV-1 material in *Rotarix*¹**
 - PCV-1 does not multiply in humans and is not known to cause any illness in humans
 - PCV-1 found in everyday pork products
- **FDA requested suspension of use in the US (15 March – 17 May)**
 - VRBPAC review of rotavirus vaccines (7 May)
- **Key regulatory authorities supportive of continued *Rotarix* use**
 - FDA
 - “Benefits of vaccinating infants worldwide against rotavirus disease clearly outweigh the theoretical risks associated with the presence of PCV”
 - EMA
 - “No evidence that the presence of PCV in *Rotarix* presents a risk to public health and that there is no need to restrict its use in the EU.”
 - WHO
 - “WHO does not recommend any change to use of *Rotarix* vaccine”

Rotarix: protection with two oral doses

Developing world



Saves lives

- 95% of children are infected with rotavirus by the age of 5 years¹

Developed world



Reduces hospitalisation

- Annual cost of rotavirus gastroenteritis hospitalisations in the EU is >€100 million²

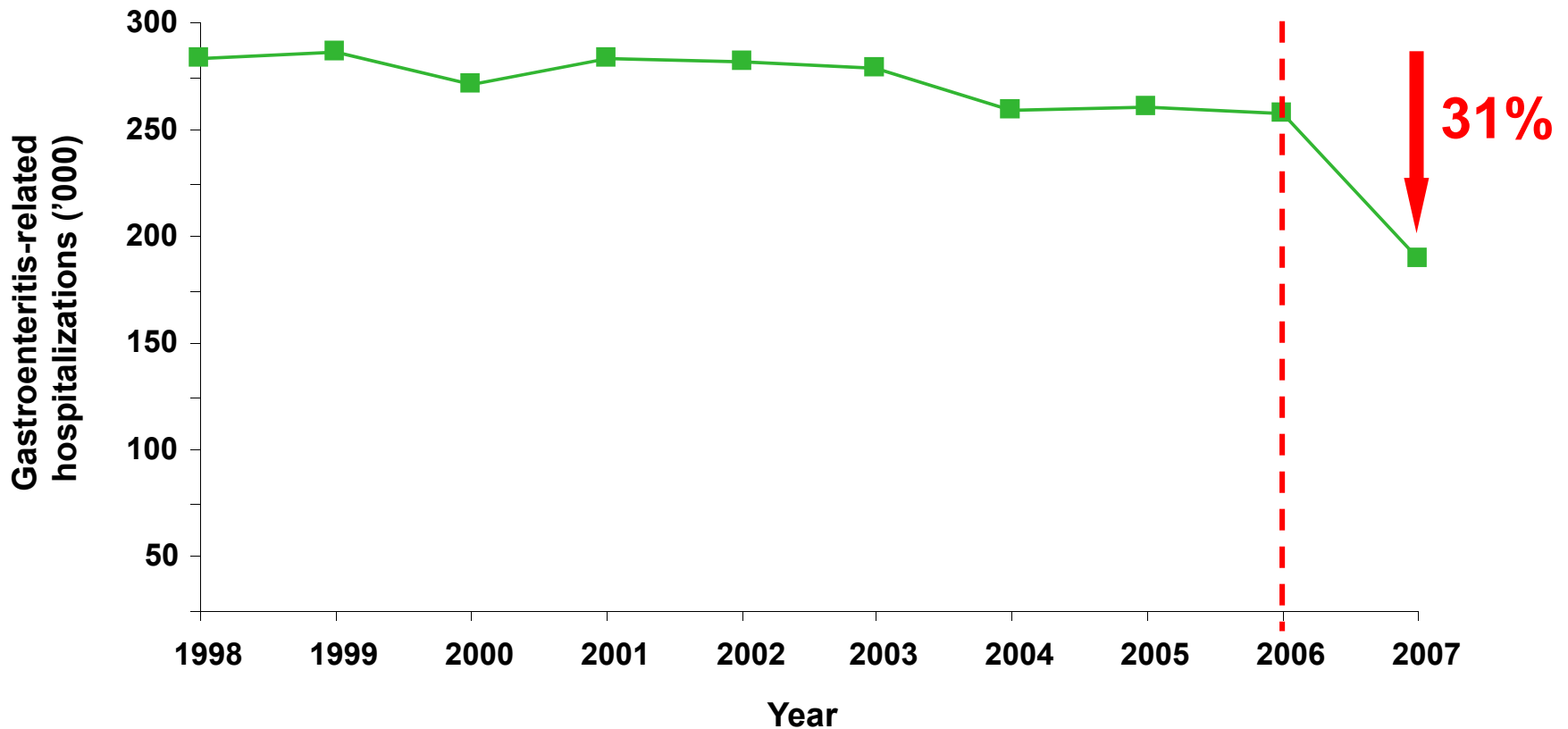
Immunisation against rotavirus gastroenteritis

Differentiate from *Rotateq*

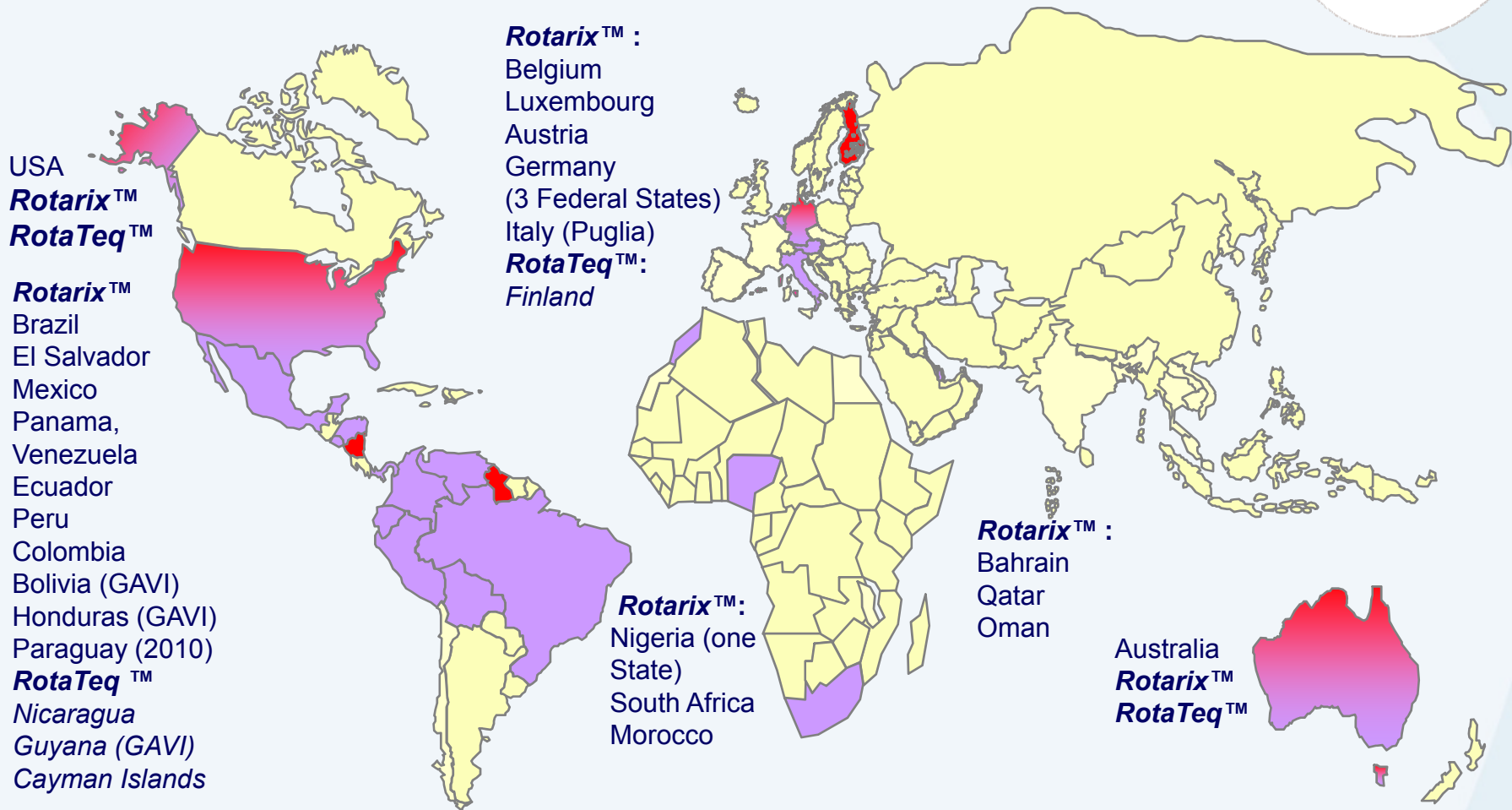
Only *Rotarix* completes the course at the earliest possible age

Impact of rotavirus vaccination: Brazil

Gastroenteritis hospitalizations (1998-2007)



Rotarix: rotavirus UMV programmes



 Countries with national/regional rotavirus immunization with **Rotarix™** (purple) and/or **RotaTeq™** (red)

 Countries without national rotavirus immunization

**Approved in 110 countries
Including US and Japan (October 2009)**

**2009 sales £187 million (+38%)
Q1 2010 sales £77 million (+60%)**

**Over half of competitive tenders won
Over two-thirds by volume**

**WHO Prequalification (July 2009)
Global access to *Cervarix* via UNICEF & GAVI**

Cervarix: fulfilling the promise

**Significant
new data
presented and
published**

Study-008

**High efficacy against HPV-16/18 confirmed
& significant protection beyond HPV-16/18**

Study-010

Superior immune profile

Study-007/023

Continued efficacy: 8.4 yrs so far

All studies

Long-term safety

**Current global HPV vaccine market
currently approx. £1.3 billion**

**Significant potential in Japan, US & International
First cervical cancer vaccine approved in Japan**

Seeking improved European & International label

**Globally only 5% of 12-18 year old girls
currently vaccinated against HPV**

**Potential individual benefit for up to 99%
of 18-25 year old women**

Synflorix: successful launch



Approved in 65 countries
Filed in 37 countries

Significant tender wins and market share gains
Q1 2010 sales £45 million

Long-term contract signed with Brazilian government
€1.5 billion over 10 years

Advance Market Commitment (AMC) for pneumococcal vaccines launched (March 2010)
300 million doses of *Synflorix* over 10 years



WHO prequalification (October 2009)
Enables UN agency purchase



Increasing market share range in key retail markets

Won over two-thirds of competitive tenders (by volume)

Additional launches & new UMVs

Proven efficacy against acute otitis media (AOM)

- **Despite effective childhood DTPa vaccination programmes, immunity wanes, and the number of cases is increasing**
- **dTpa and Td booster markets growing**
 - *Boostrix sales £139 million (+73%)*
- **Future dTpa market potential**
 - Switch of adolescent booster programmes from dT to dTPa
 - Development of adult vaccination strategies (US, France & Germany)
 - Switch of adult Td boosters to dTpa

GSK vaccines in 2010

- A world leader in vaccines
- One of the broadest portfolios and fastest growing vaccines businesses in the world
- Unique expertise in adjuvant technology
- Strong pipeline including innovative therapeutic vaccine approaches
- Global footprint: ideally positioned to capture a significant market share in all territories



GlaxoSmithKline