


R&D Seminar: Late-stage Pipeline Review

3 December 2012

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Strategy to maximise growth and returns to shareholders

Grow a diversified global business

Deliver more products of value

Simplify the operating model

Reshaped R&D to deliver sustainable new revenue contributions

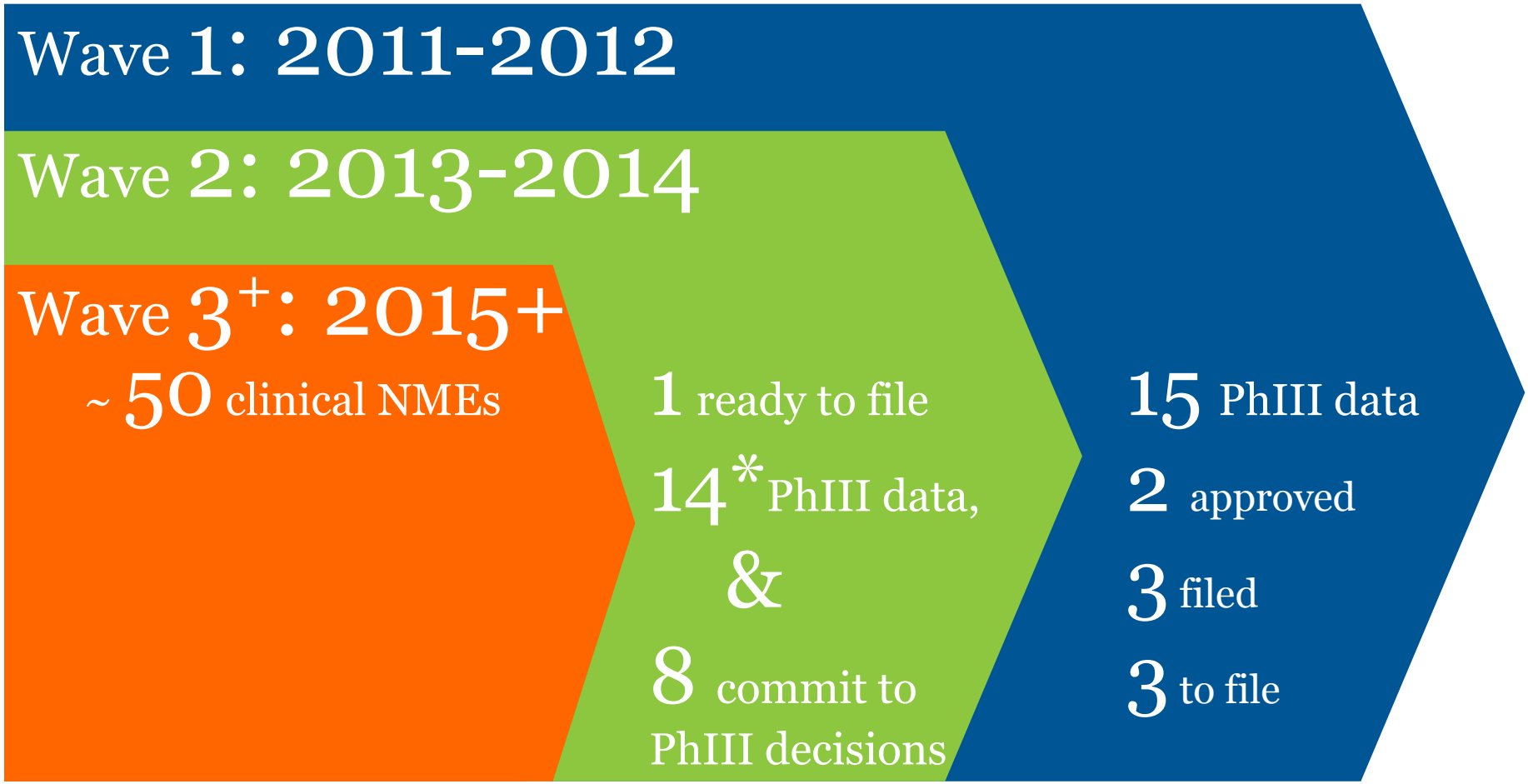
Grow a diversified global business

Deliver more products of value

Simplify the operating model

- Re-engineered drug discovery organisation
- Built late stage pipeline while improving efficiency
- Enhanced returns on R&D investment
- Restructured commercial & manufacturing to support the pipeline

Sustainable pipeline with potential for around 15 launches in the next three years



* Includes some assets from Wave 1

Disciplined allocation of capital in R&D and Commercial for success

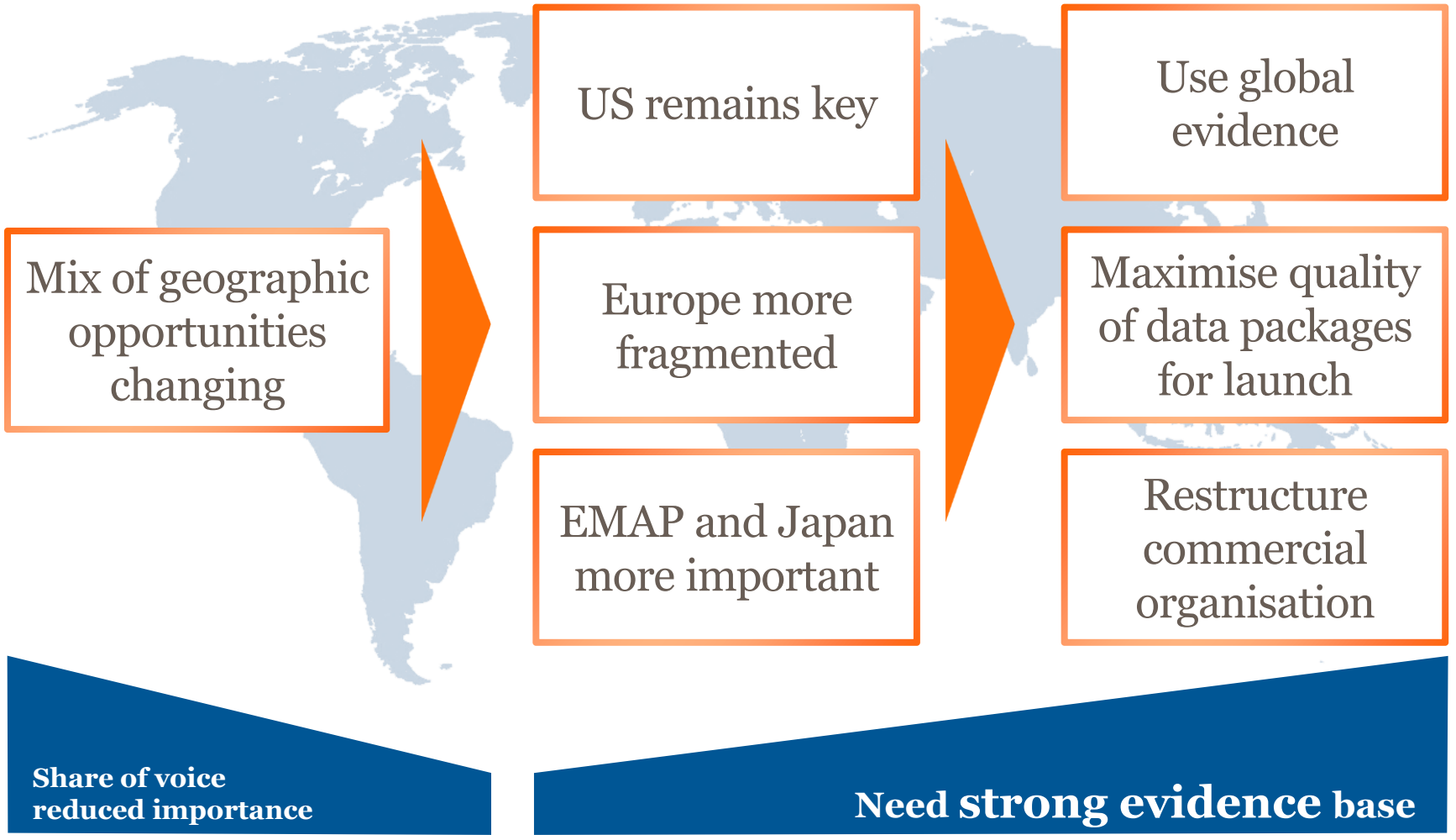
R&D

Returns driven investments behind generation of global, evidence rich data packages in R&D

Commercial Capability

Returns driven global allocation of selling and promotional resource behind our key assets

A new phase of significant launch potential requiring a different commercial model



Recent launch history

Focused on R&D value creation

Continued core therapeutic area focus

- Respiratory
- HIV
- Vaccines
- Oncology
- Rare Diseases
- Cardiovascular/ Metabolic
- Immuno-inflammation

Allocating capital to maximise returns

Flexible on monetising assets

R&D Journey Video

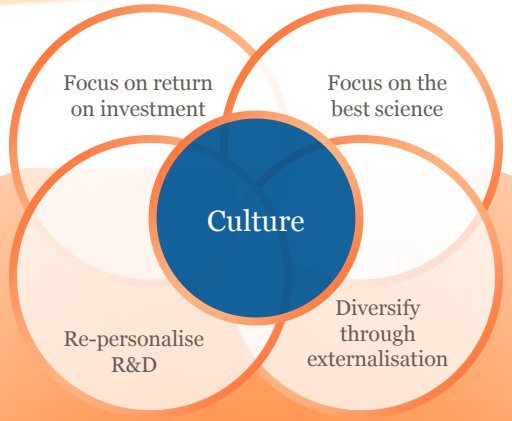
Available to view on www.gsk.com




Dr Moncef Slaoui

Chairman of R&D

Transforming R&D - How did we do it?



Disciplined decision making

Focus on Culture

Enhanced focus on evidence generation

Unprecedented progress of the late stage pipeline in 2012

3	new vaccines (Nimenrix, Menhibrix, QIV)	1 launched, 1 to launch, 1 filed
2	new indications approved (Promacta Hep C, Votrient aSTS)	1 launched, 1 to launch
3	new drugs filed (Relvar /Breo*, dabrafenib, trametinib)	
3	to file around end 2012 (albiglutide, UMEC/VI**, dolutegravir)	
3	new phase III starts (dabrafenib /trametinib combination, sirukumab, mepolizumab)	

* Relvar/Breo is the proposed trade name for fluticasone furoate/vilanterol; **UMEC/VI is umeclidinium/vilanterol

We will apply the learnings from R&D to support Global launches

Disciplined decision making

- Focussed launch strategy
- Allocation of investment
- Franchise model

Focus on Culture

- Individual accountability
- Leadership
- Consistency of approach
- Key talent

Enhanced focus on evidence generation

- Global evidence
- Data for key markets (not just US, EU)

Our Wave 1 portfolio will be launched into both primary care and specialist therapeutic areas

Assets

Highly prevalent disease areas

Unmet need

Differentiated profile

Expertise

Launching into therapy areas we know and where we have capability

Therapy Area Reviews: Focus on 6 assets which completed Phase III in 2012

Oncology	Diabetes	HIV	Respiratory
dabrafenib	albiglutide	dolutegravir	Relvar/Breo*
trametinib			UMEC/VI**

* Relvar/Breo is the proposed tradename for fluticasone furoate/vilanterol
** umeclidinium/vilanterol

Patient Video

Available to view on www.gsk.com



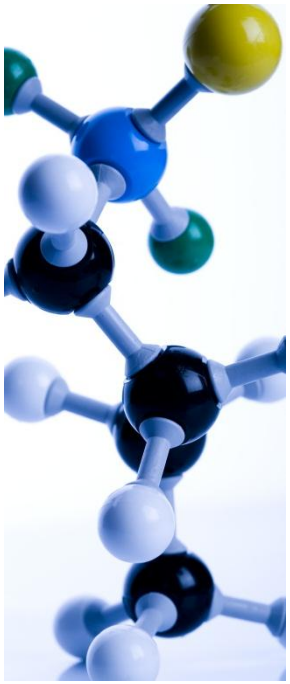

Oncology

BRAF inhibitor - dabrafenib
MEK inhibitor - trametinib

Dr Moncef Slaoui

Dabrafenib & trametinib are not approved as a treatment for metastatic melanoma or any other indication anywhere in the world

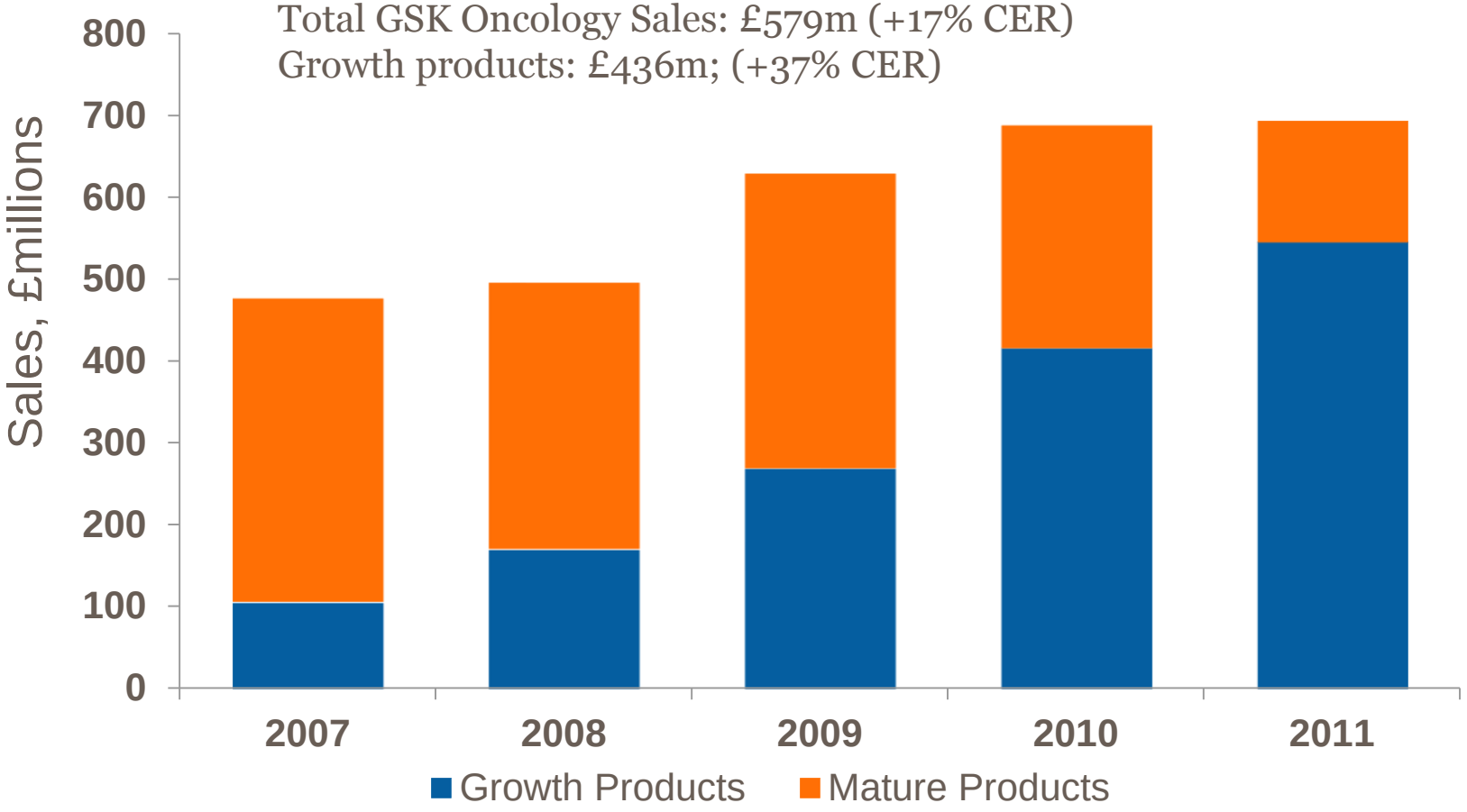
Focus on the best science



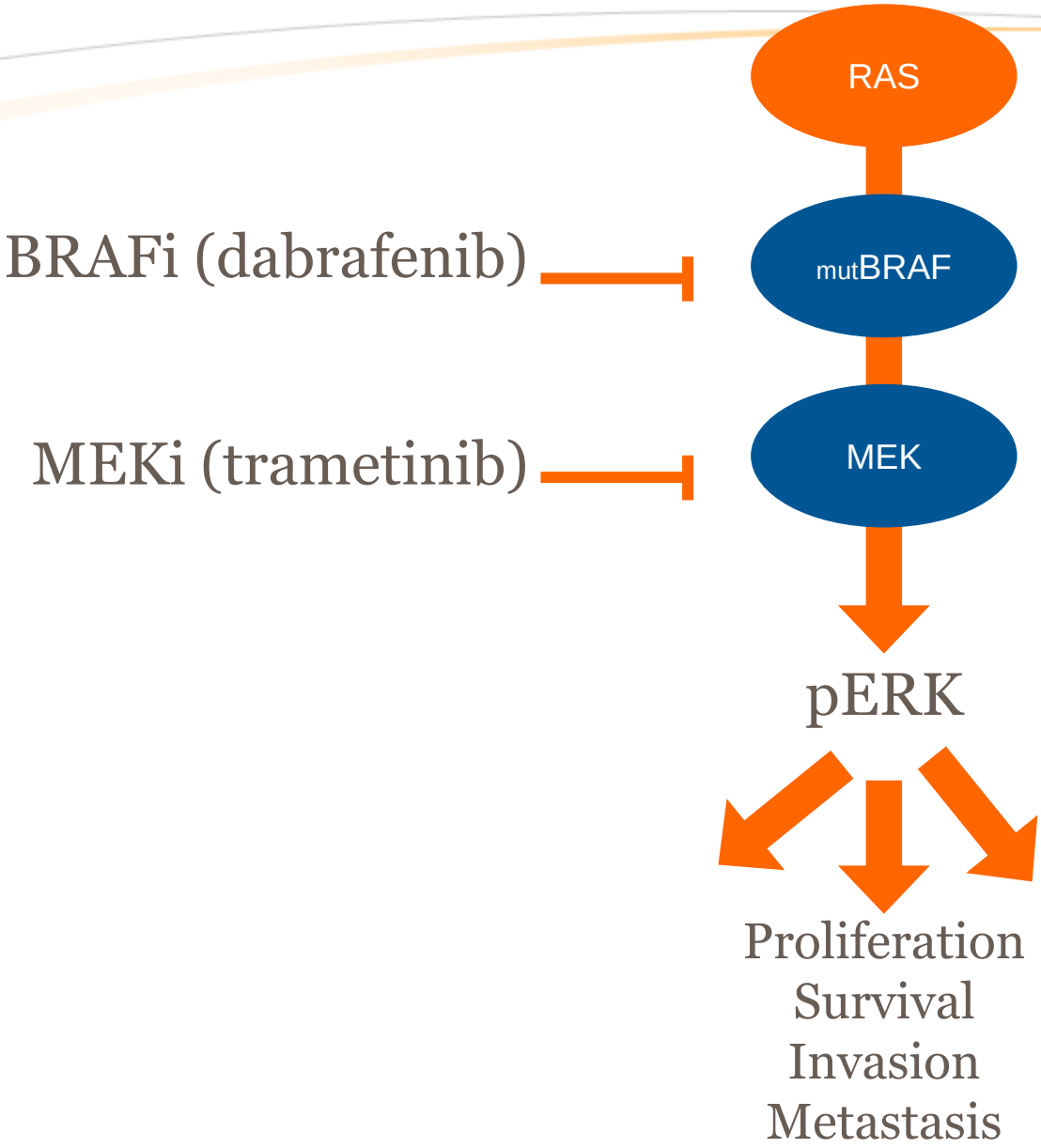
Precision medicine delivering targeted therapies to appropriate patients

Innovation is the key driver of growth

Nine months YTD 2012:
Total GSK Oncology Sales: £579m (+17% CER)
Growth products: £436m; (+37% CER)



Focus on interrupting tumour signalling pathways



Melanoma is the fastest growing cancer worldwide

Melanoma

about 50% of melanomas have a BRAF mutation

incidence rate has more than **doubled** since **1973**

people under the age of **45 years** account for **25%** of all melanoma cases

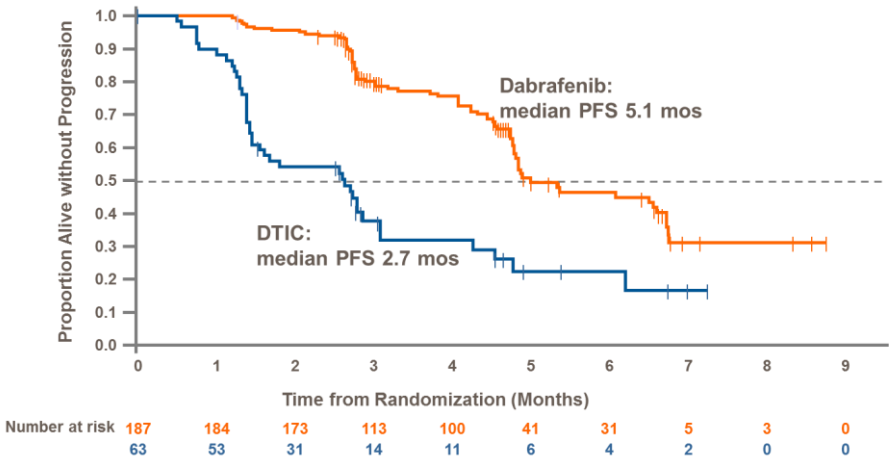
incidence is the highest in **N. America, EU & Australia**

estimated **4-5000 new cases of metastatic melanoma** will be diagnosed in the US this year

until recently, no treatment proven to improve survival in advanced melanoma

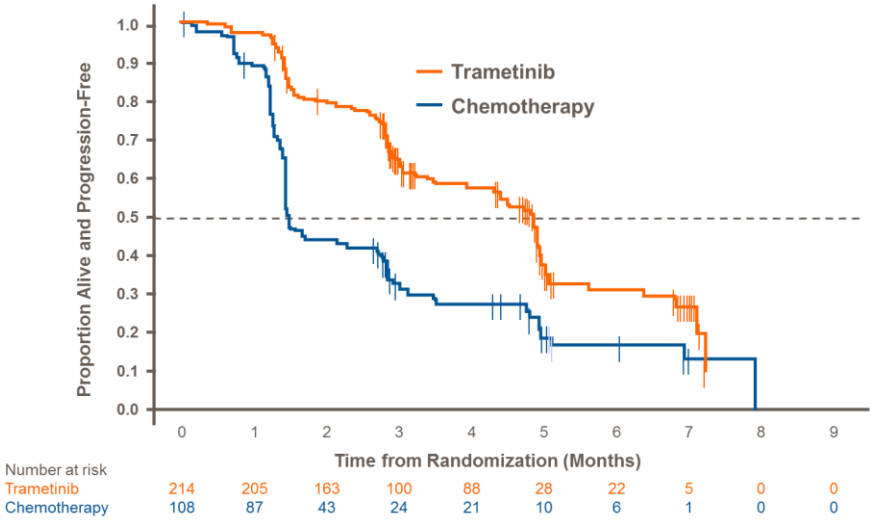
Two highly active monotherapy agents

dabrafenib (BRAFi)
(70% reduction in risk of progression or death)



	dabrafenib N=187	Chemotherapy N=59
Median PFS	5.1 months	2.7 months
HR (95% CI) P-value	0.30 (0.18,0.51); <0.0001	

trametinib (MEKi)
(55% reduction in risk of progression or death)

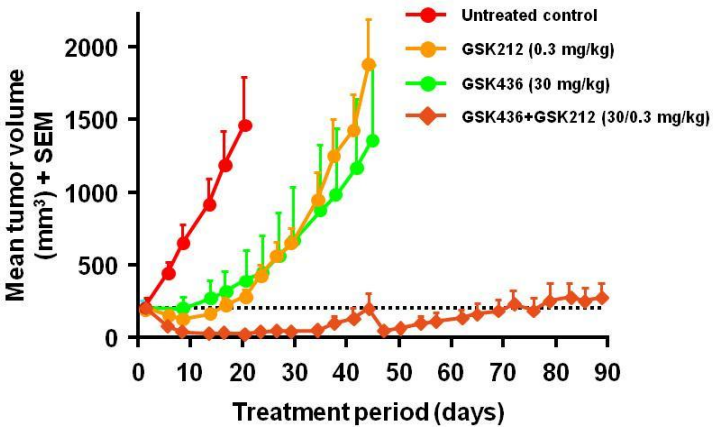


	trametinib N=214	Chemotherapy N=108
Median PFS	4.8 months	1.5 months
HR (95% CI) P-value	0.45 (0.33, 0.63); <0.0001	

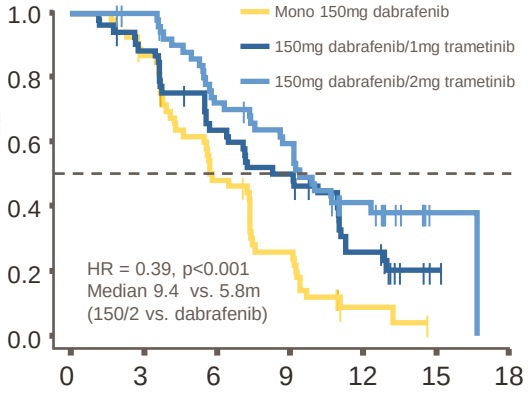
The full data including the safety profiles of these investigational assets were presented at ASCO2012

Translating preclinical science into patient benefit with the combination of dabrafenib & trametinib

Pre-clinical data

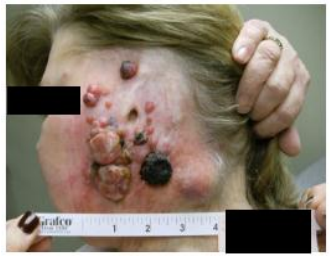


Clinical data

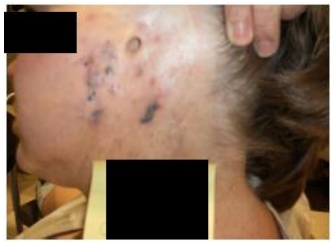


Clinical evidence

Before



After



Goals of combination therapy

- more complete blockade of critical pathway
- prevent or delay emergence of resistance
- Phase III combination trials ongoing; Phase III adjuvant programme to commence imminently

Compared to dabrafenib monotherapy, **combination therapy** results in more fever/fever-related events & adverse events associated with MEK inhibition, such as peripheral oedema, hypertension, decreased ejection fraction and ocular events while reporting a lower incidence of BRAF inhibitor-associated skin effects

Melanoma: targeted approach with dabrafenib & trametinib

High unmet need	Scientific advances & precision medicine	Fastest growing & highly competitive marketplace	Changing regulatory & payer environment
Deadly disease if not caught early	*From "Untreatable Cancer" to potential medicines*	*Innovative and efficient development*	*Evidence-based value proposition*




Diabetes

GLP1 agonist - albiglutide

Dr Moncef Slaoui

Albiglutide is not approved as a treatment for type 2 diabetes or any other indication anywhere in the world

Diabetes: an enormous public health burden

Factors include urbanisation, economic development, dietary changes & lack of physical activity

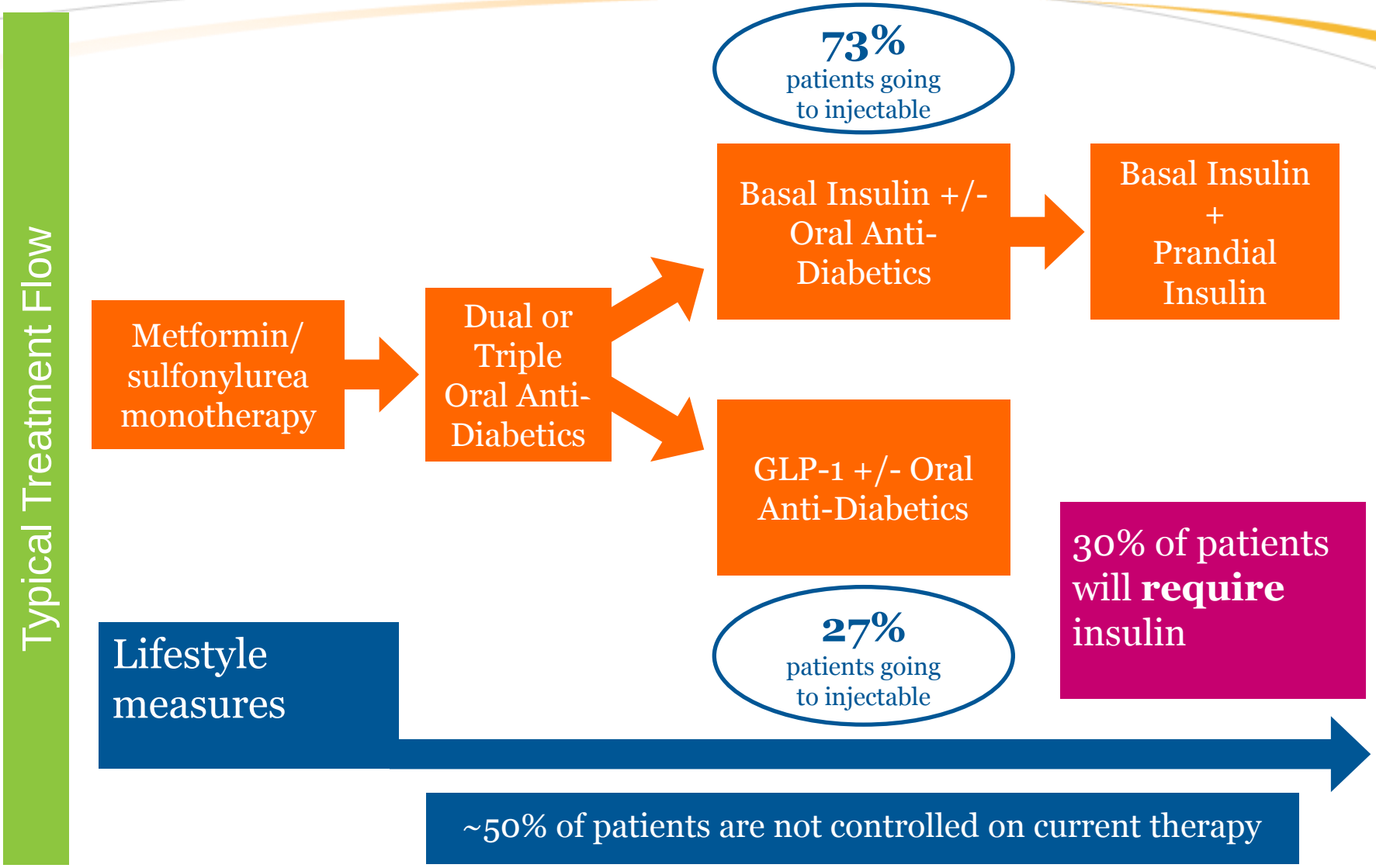
8% of adult population live with diabetes in developed markets (rising to 1:10 adults worldwide by 2030)

Incidence of Type 2 diabetes increasing at a rapid pace worldwide

By 2030, 7 of the top 10 countries with diabetes will be in Asia. India and China expected to be the largest diabetic-prevalent countries in the world

Diabetes is a chronic, progressive and generally irreversible condition; 30% of patients will end up on insulin therapy over time

Type 2 diabetes typical treatment flow



Based on current ADA / EASD published guidelines

The GLP-1RA class is forecast to grow

Current global market for diabetes is ~£26b including ~£1.3b for GLP-1RA class[1]

GLP-1RA class has significant growth potential due to efficacy (reduction in HbA1c), modest weight loss & probable CV outcome

Professional acceptance of GLP-1RAs may increase with the availability of once-weekly injections, and the potential to delay insulin initiation

GLP-1RA use recommended earlier in disease progression in latest ADA/EASD guidelines (April 2012)

[1] IMS Health 2012

Albiglutide: the most comprehensive GLP1 clinical registration programme in Type 2 diabetes

24 studies, including 8 large pivotal PhIII studies with up to 3 years of treatment in ~6500 patients (HARMONY) & studied in combination with and vs. a range of active comparators

3 studies completed; **overall registration package complete and supports filing around end of 2012**

Harmony 6: albiglutide vs prandial insulin added on to insulin glargine; both produced **clinically significant reductions in HbA1c** from baseline ; **weight loss greater with albiglutide** and maintained through 52 weeks

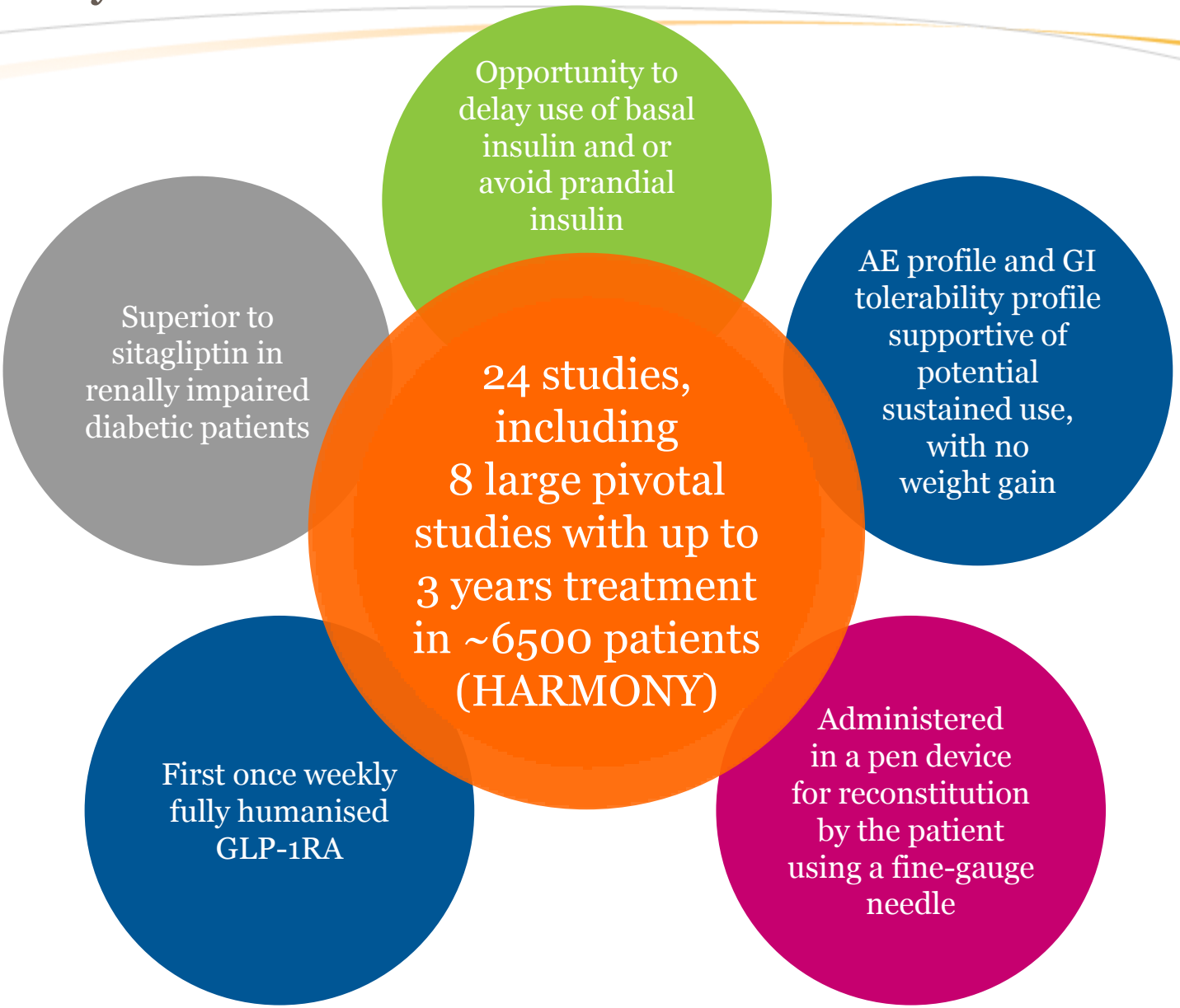
Harmony 7: liraglutide and albiglutide **clinically and statistically reduced HbA1c** from baseline; treatment difference did not meet non-inferiority criteria vs. liraglutide; nausea and vomiting lower with albiglutide and weight loss greater with liraglutide

Harmony 8: **Clinically and statistically significant reductions in HbA1c** and superiority versus sitagliptin in patients with severe renal impairment, weight loss greater with albiglutide

Safety profile supports filing; most common AEs were gastro-intestinal, hypoglycaemic events and injection site reactions

The full data from Harmony 6 & 7 studies were presented at ADA 2012

Albiglutide profile is emerging, support plans to submit regulatory file around YE 2012






HIV

Integrase Inhibitor - dolutegravir

Dr Patrick Vallance

ViiV Healthcare

Dolutegravir is not yet approved as a treatment for HIV or any other indication anywhere in the world

Latest UNAIDS global estimates for HIV in 2011

34 million people living with HIV

3.3 million of them are children

72% of those eligible for treatment do not have access

Overall, the number of people accessing HIV treatment increased by 63% from 2009 to 2011

2.5 million new HIV infections

1.7 million deaths due to AIDS

24% fewer deaths than in 2005

However, majority (1.2m) of deaths were in in Sub-Saharan Africa

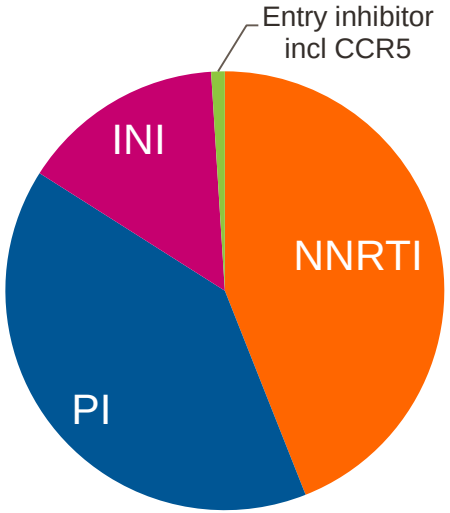
World Health Organization

UNAIDS

Current HIV Treatment Paradigm

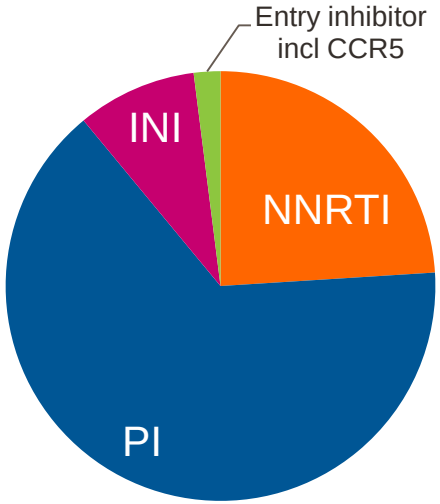
- The majority of people on treatment receive a combination of three anti-retrovirals
- A backbone of 2 NRTIs + a third agent (NNRTI, PI, INI or CCR5 Inhibitor)
- Third agent choice varies according to patient characteristics and physician/patient preference

US 2011



Source: Synovate patient monitor

EU 2011



Source: RP Therapy Watch patient monitor

NRTI: Nucleoside Reverse Transcriptase Inhibitors , NNRTI: Non- Nucleoside Reverse Transcriptase Inhibitors, PI: Protease Inhibitors, INI: Integrase Inhibitors

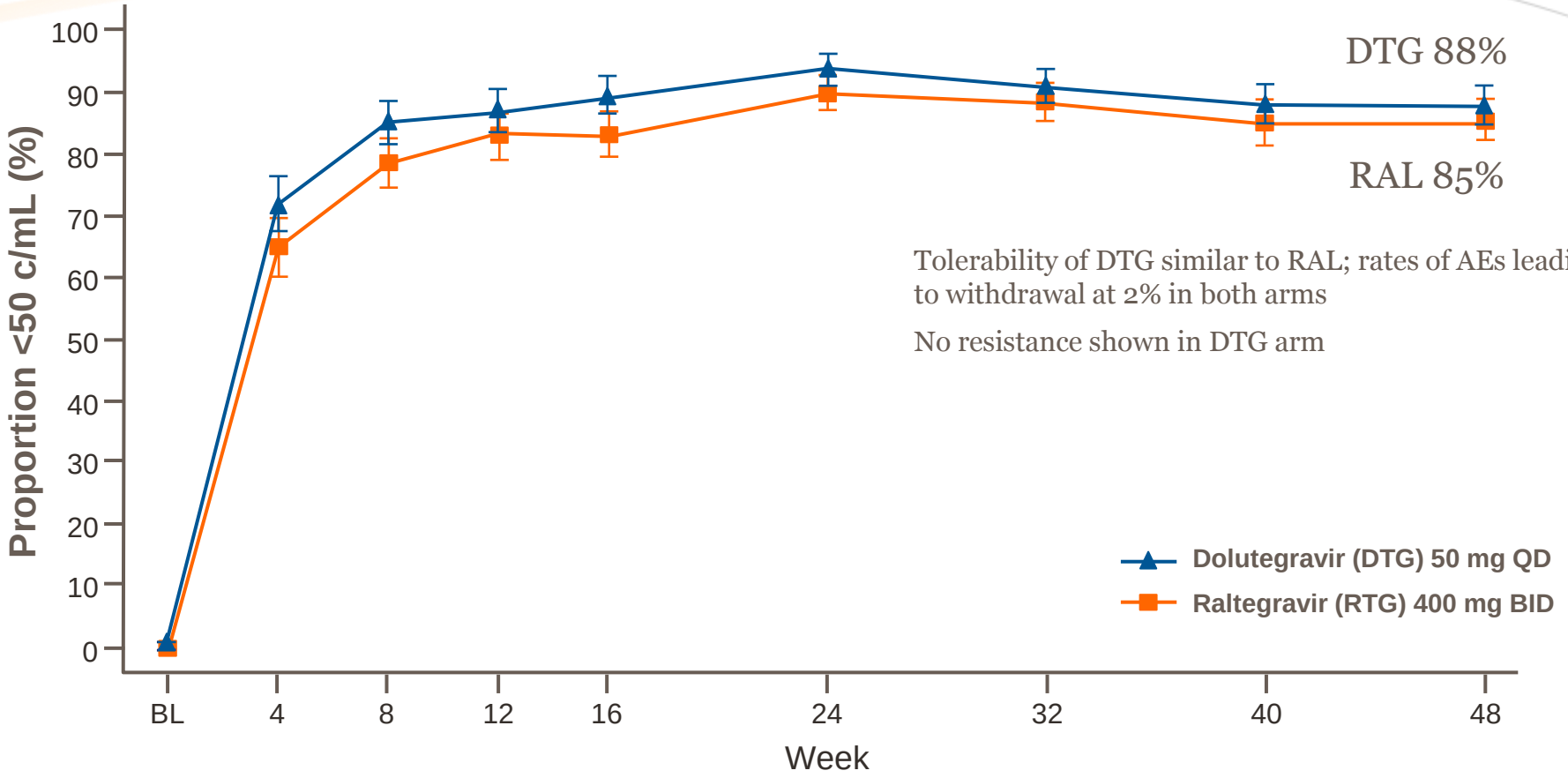
Global HIV treatment trends

- Treatment is starting earlier at higher CD4+ T-cells counts
- Patients are aging and diversifying
- Naïve patients stay on therapy longer
- Trade-offs exist in the early or long-term with all 3rd agents **currently** used first line

Integrase inhibitors	✓ Efficacious Tolerable	✗ Resistance profile: fragile twice daily or require booster
Protease inhibitors	✓ Efficacious Durable	✗ Tolerability Lipids
NNRTIs	✓ Efficacious Tolerable?	✗ Resistance profile: fragile

Once-daily dolutegravir was non-inferior to twice-daily raltegravir over 48 weeks

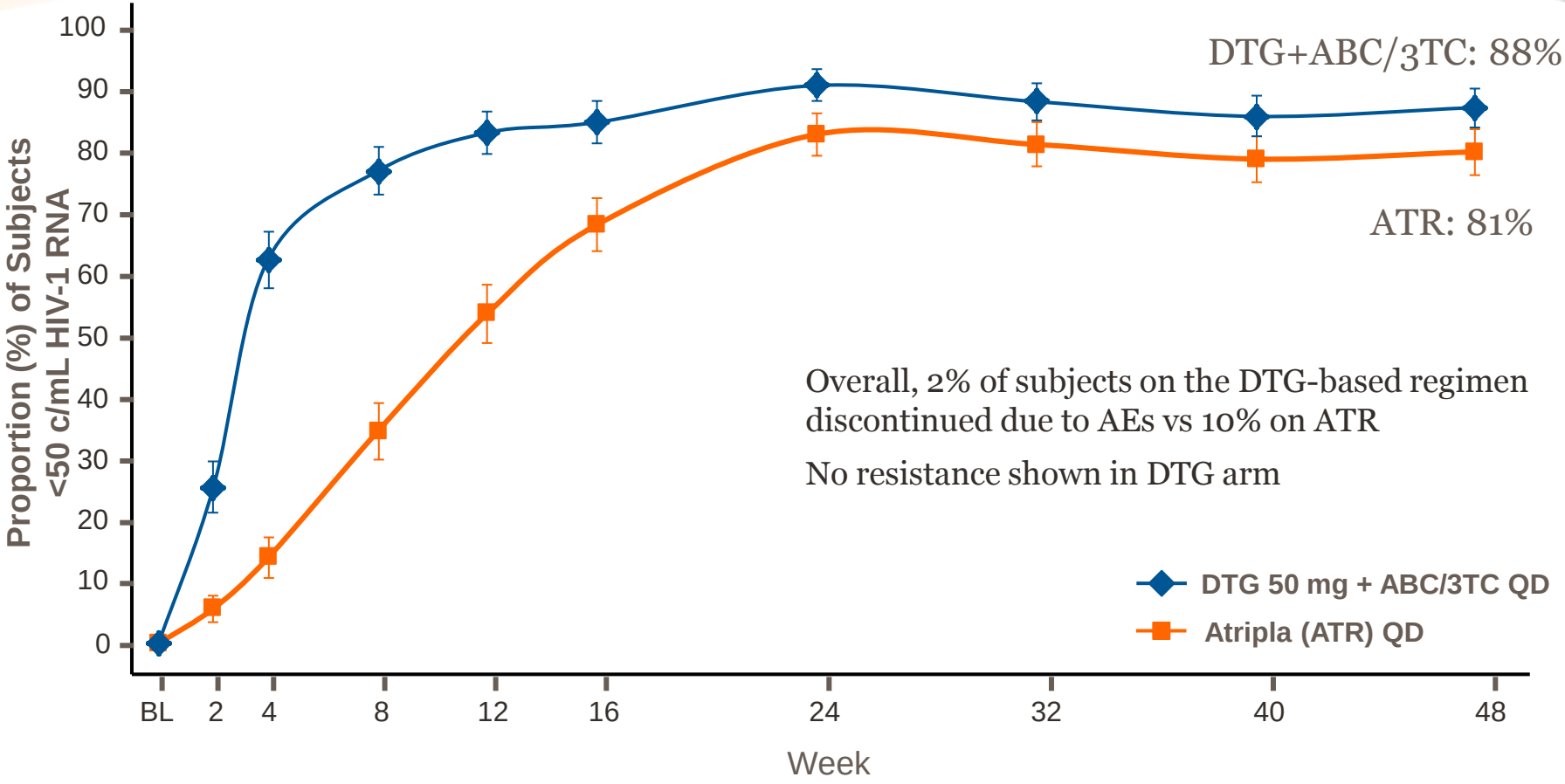
SPRING-2



	Median (IQR) change from baseline CD4⁺ cell count (cells/mm³)					
	W4		W24		W48	
DTG 50 mg QD	87	(26, 149)	183	(100, 295)	230	(128, 338)
RAL 400 mg BID	88	(32, 163)	182	(94, 296)	230	(139, 354)

Full data on this investigational asset including safety data have been presented at the International AIDS Conference (IAC) 2012

Dolutegravir 50mg +ABC/3TC QD was non-inferior & statistically superior to Atripla at Week 48



Subjects receiving DTG+ABC/3TC achieved virologic suppression faster than those receiving Atripla, median time to HIV RNA<50c/mL of 28 days (DTG+ABC/3TC) vs 84 days (Atripla), p<0.001

Full data on this investigational asset including safety data have been presented at the Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) 2012

Pivotal phase 3 studies cover full spectrum of adults with HIV; support plans to submit regulatory file before YE 2012

	Study design	Results
SPRING-2	**Treatment naïve** DTG 50mg OD vs. RAL 400mg BID	Non-inferior to RAL
SINGLE	**Treatment naive** DTG 50mg + ABC/3TC OD vs. Atripla	Superior to Atripla*
VIKING-3	**Treatment experienced INI-resistant** DTG 50mg BID	63% virologically suppressed at wk 24 3% discontinued due to AEs
SAILING	**Treatment experienced, INI-naïve** DTG 50mg once daily	Results in house Presentation at future scientific meetings
FLAMINGO	**Treatment naïve** DTG 50mg OD vs DRV/r 800mg/100mg OD	Data expected in 2013 (not part of initial regulatory package)

*The SINGLE study was designed to demonstrate non-inferiority of the dolutegravir-based regimen versus Atripla, and the primary analysis met this criterion. Statistical superiority was concluded as part of a subsequent, pre-specified testing procedure.




Respiratory

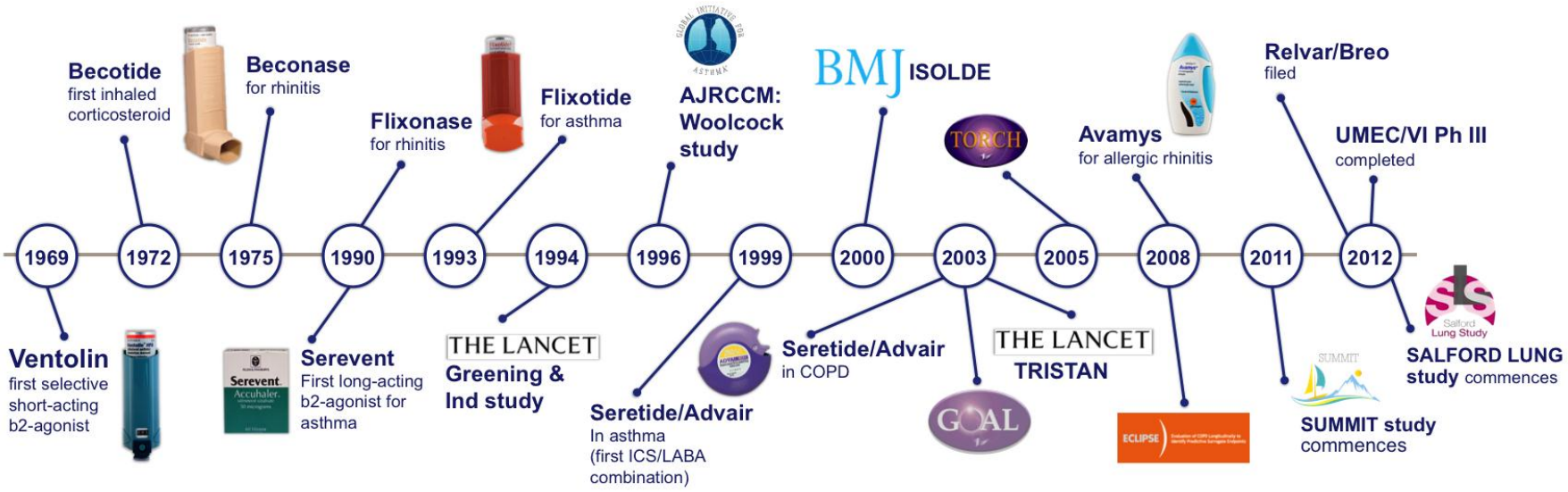
ICS/LABA – Relvar, Breo

LAMA/LABA - UMEC/VI

Dr Patrick Vallance

Relvar/Breo and UMEC/VI are not yet approved as a treatment for asthma or COPD or any other indication anywhere in the world

GSK's Respiratory heritage – the story so far

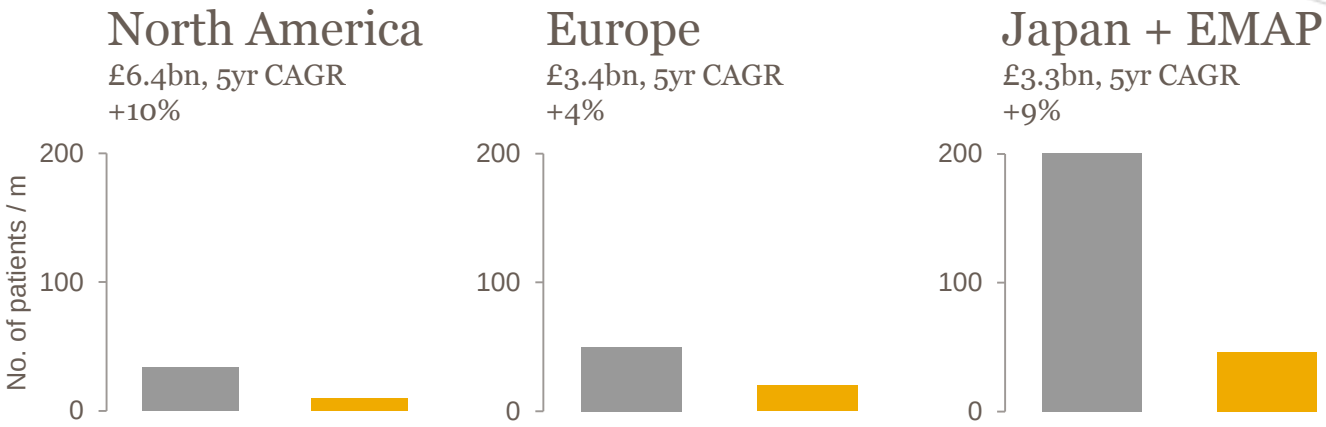


Both Asthma and COPD have significant unmet need

Almost

300 million

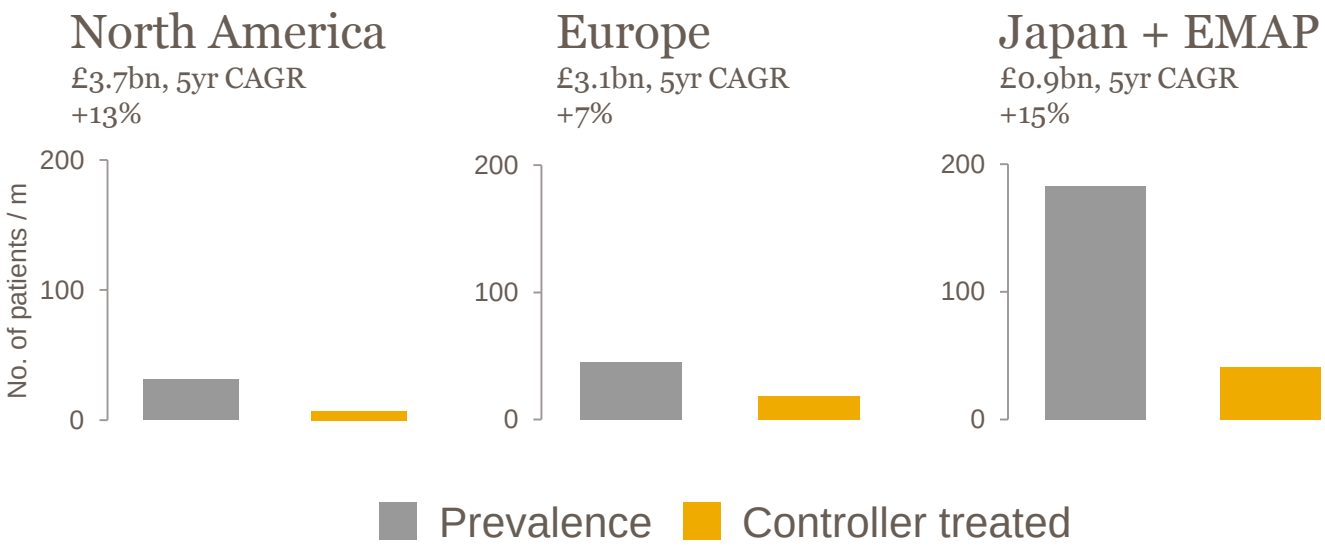
people globally have asthma



Over

250 million

people globally have COPD



Source: Epidemiology, Decision Resources, IMS Health, WHO, GSK analysis

Broad respiratory portfolio targets existing and new areas

	SABA	ICS	LABA	ICS/ LABA	LAMA	LAMA/ LABA	MABA	ICS/ LAMA	Anti-IL 5	p38	FLAP
GlaxoSmithKline	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Company 1			✓	✓	✓	✓					
Company 2			✓		✓	✓					
Company 3			✓	✓	✓	✓	✓				
Company 4			✓	✓	✓	✓					
Company 5		✓	✓	✓	✓		✓		✓		
Company 6										✓	

£2.3bn: rescue	**£4.7bn:** maintenance bronchodilator
£7.8bn: ICS/LABA	**£0.6bn:** biological severe asthma
£2.7bn: steroid	**£2.9bn:** oral asthma

Source: GSK R3 Model based on IMS Health MAT June 2012.

Includes marketed and development products for GSK and other companies

Relvar/Breo extensive data package supported filings in asthma and COPD

Once a day ICS /LABA (FF/VI)

ELLIPTA device, dry powder inhaler

- Once daily FF well tolerated and efficacious at lower doses compared to FP
- Addition of VI to FF significantly reduced risk of severe asthma exacerbations
- Significantly greater improvements in lung function v FF or FP
- FF/VI had generally similar safety profile to FF

- FF/VI 100/25mcg significantly reduced annual rate of moderate & severe COPD exacerbations vs. VI alone
- FF/VI 200/25mcg confers no additional benefit compared with FF/VI 100/25mcg in terms of reduced risk of COPD exacerbations
- FF/VI 100/25mcg demonstrated superiority vs. Advair 250/50mcg in one of two studies
- Overall rates of serious and fatal AEs were similar across 4treatment groups. The increase in risk of pneumonia with FF is consistent with previous studies of ICS in COPD. Pneumonia occurred approximately twice as often in the FF/VI groups than in the VI group.*

2012 Filings	Asthma	COPD
US	Additional PhIII study ongoing	✓Breo 100/25mcg
EU & Japan	✓ Relvar 100/25mcg & 200/25mcg	✓Relvar 100/25mcg

*There were 6 cases of fatal pneumonia and one case of fatal COPD exacerbation with concurrent pneumonia in the FF/VI 200/25mcg group, all of which occurred in the HZC871 study and the majority of these cases were reported from one site; one case of fatal pneumonia occurred in the FF/VI 100/25 group of the HZC970 study. Full data on this investigational asset including safety data were presented at ERS2012

Relvar/Breo - an innovative approach to evidence generation

Salford Lung Study

- Relvar/Breo being studied in the **COPD and asthma populations** in Salford, England
- Unique pre-approval open-label controlled, minimum intervention trial to **mimic real-world usage**
- Paperless, fully integrated electronic records allowing capture of real time data to assess total impact on healthcare utilisation

SUMMIT

- **S**tudy to **U**nderstand **M**ortality and **M**orbid**ITy** in COPD
- Extensive **global** study of **16,000 patients** to assess the potential for FF/VI to improve survival in those with COPD and a history of, or at risk from, cardiovascular disease
- Secondary objectives will evaluate the effect of FF/VI compared with placebo on the rate of decline in lung function, as well as on cardiovascular endpoints including cardiovascular death, heart attacks and strokes

UMEC/VI profile is emerging, support plans to submit regulatory file before YE 2012

Once daily LAMA/LABA for COPD; potentially first in class in the US

Global regulatory filings to commence from end of 2012; data supports UMEC monotherapy filings in 2013

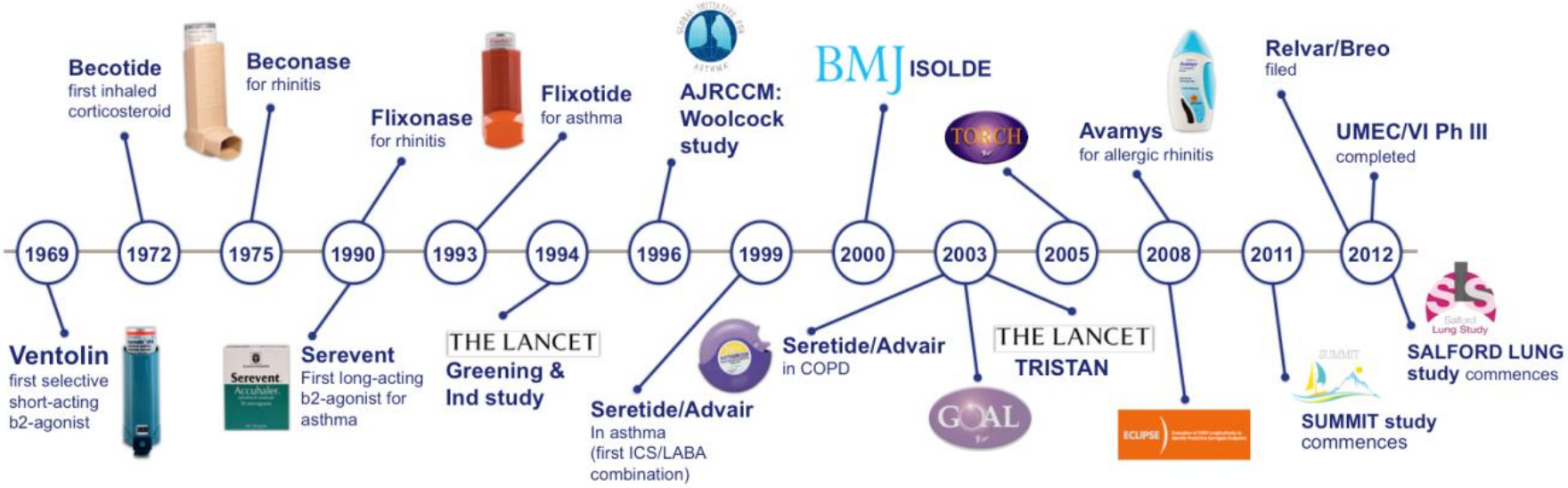
Statistically significant improvements over placebo & individual components on trough FEV1

Global development programme, 7 pivotal studies investigating 62.5/25mcg & 125/25mcg doses in ~6000 patients

Administered in the investigational Ellipta device

Incidence of CV events and all other serious AEs similar across all treatment groups

We continue to progress our Respiratory portfolio



Advanced portfolio

LAMA mono - COPD	LABA mono - COPD
mepolizumab - asthma	MABA - COPD
FF monotherapy (ICS) - asthma	LAMA / ICS - asthma




Pipeline Sustainability

Dr Patrick Vallance

Re-engineered drug discovery delivers sustainable flow

Wave 1: 2011-2012

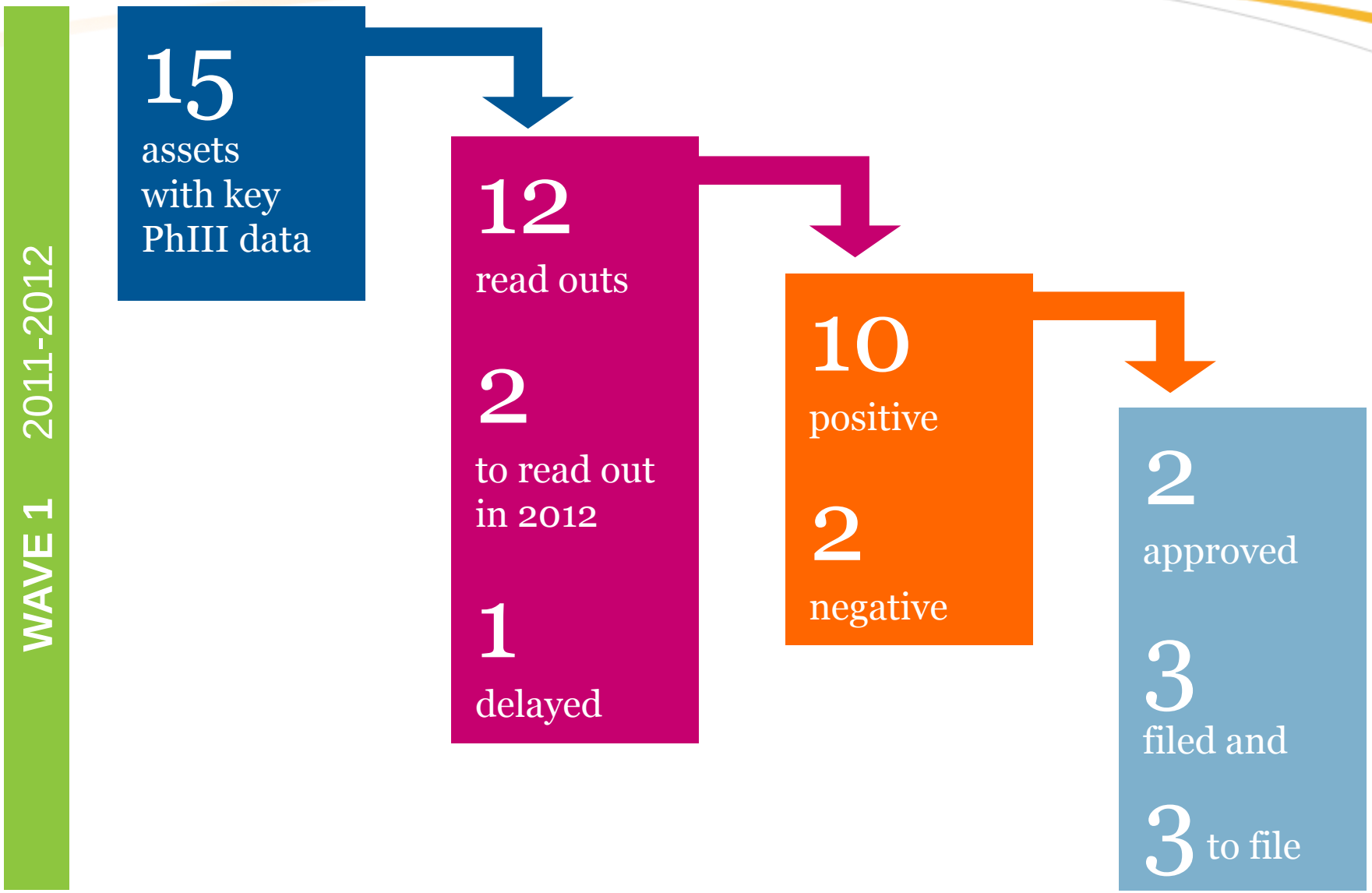
15 PhIII data

2 approved

3 filed

3 to file

Visibility of multiple waves of pipeline delivery



Wave 1 delivered with accelerated cycle times

dabrafenib

Fastest cycle time for an NCE in history of GSK: Less than 5 years from CS to planned launch (vs. industry bench mark of 8.8 years)

trametinib

From FTIH to Ph III results in just over 3 years

UMEC/VI

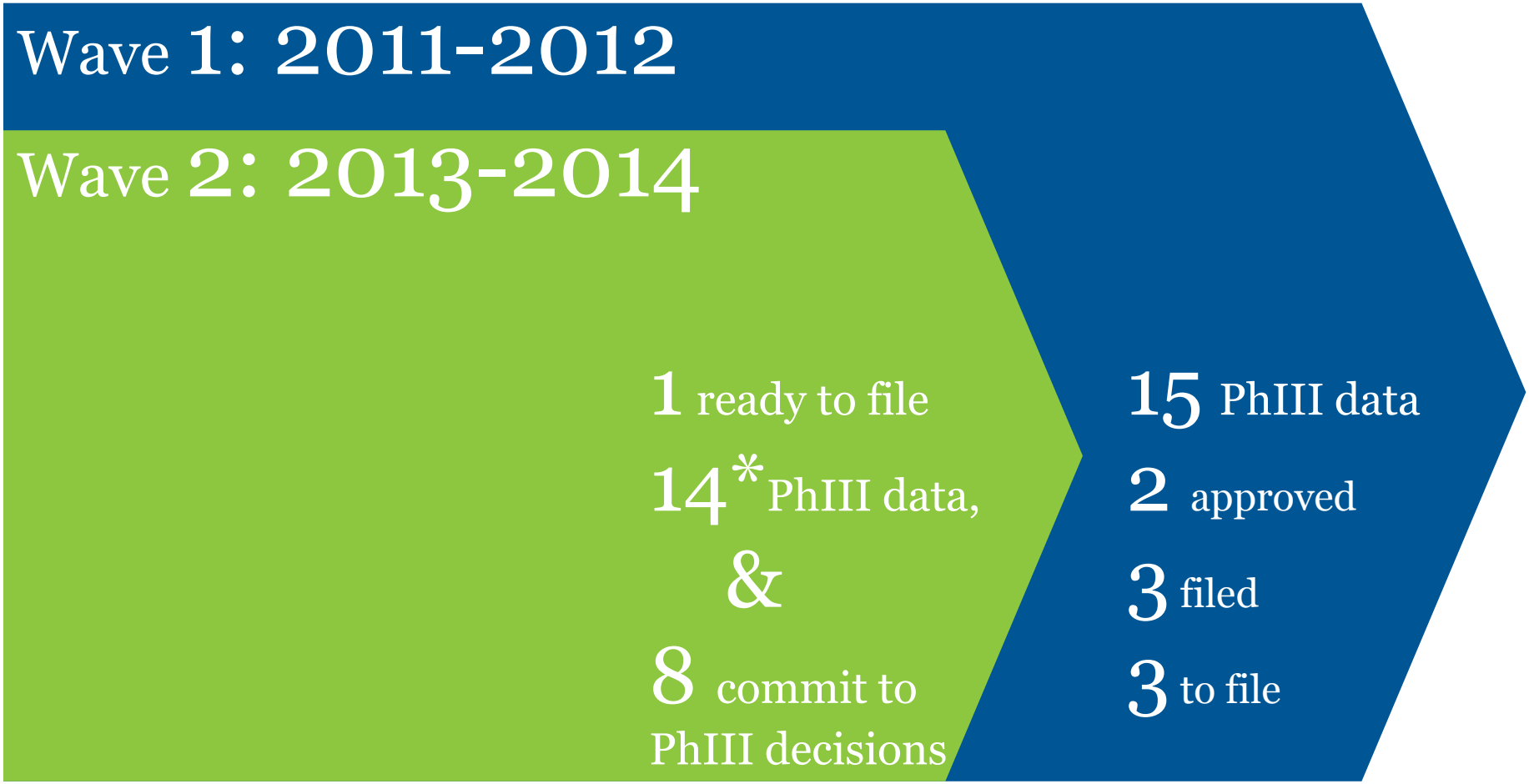
Commit to Ph III to decision to file in 2 years

dolutegravir

FTIH to completion of registration programme in 5 years

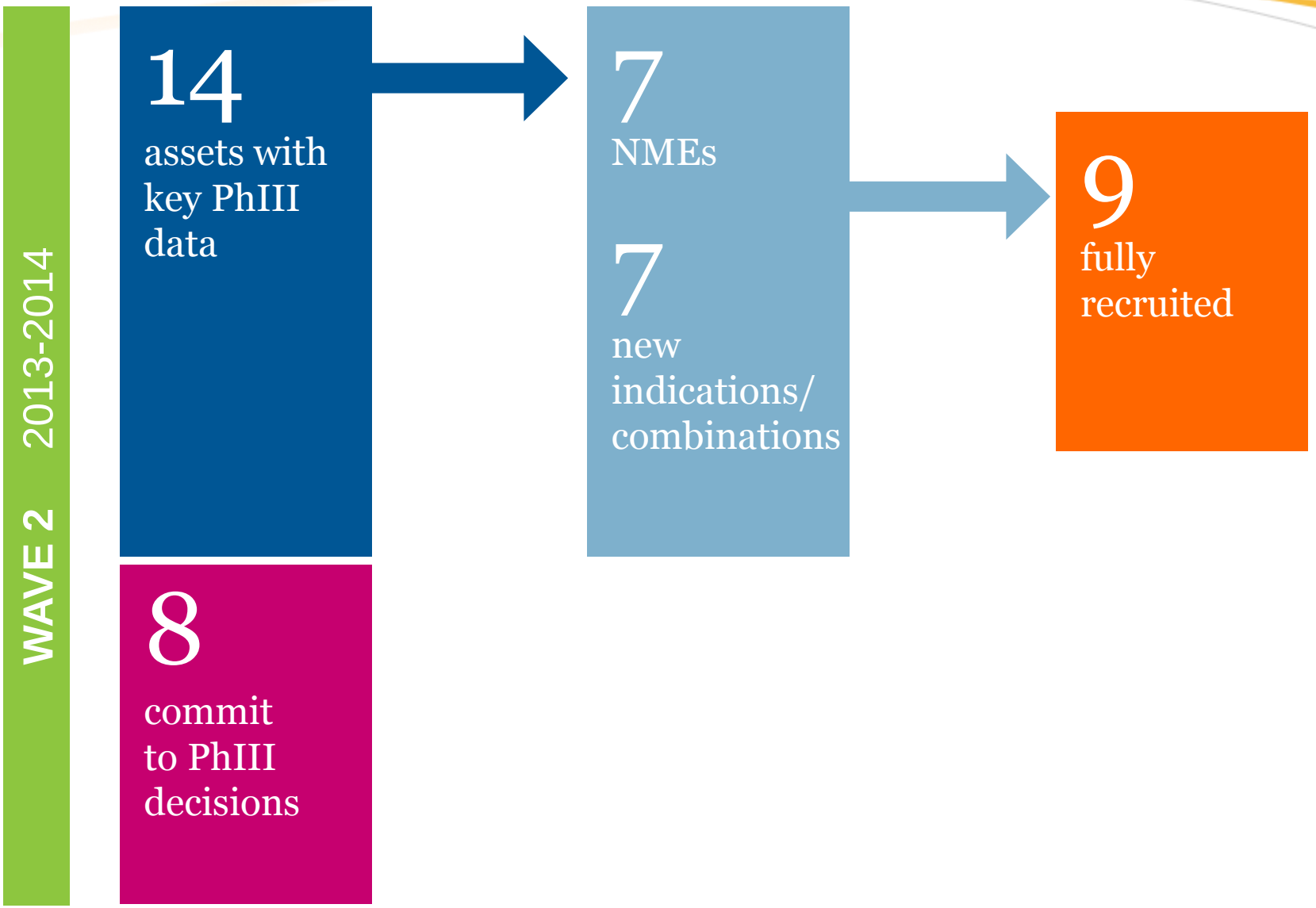
CS: Candidate selection; FTIH: First time in humans

Re-engineered drug discovery delivers sustainable flow



* Includes some assets from Wave 1

Visibility of multiple waves of pipeline delivery

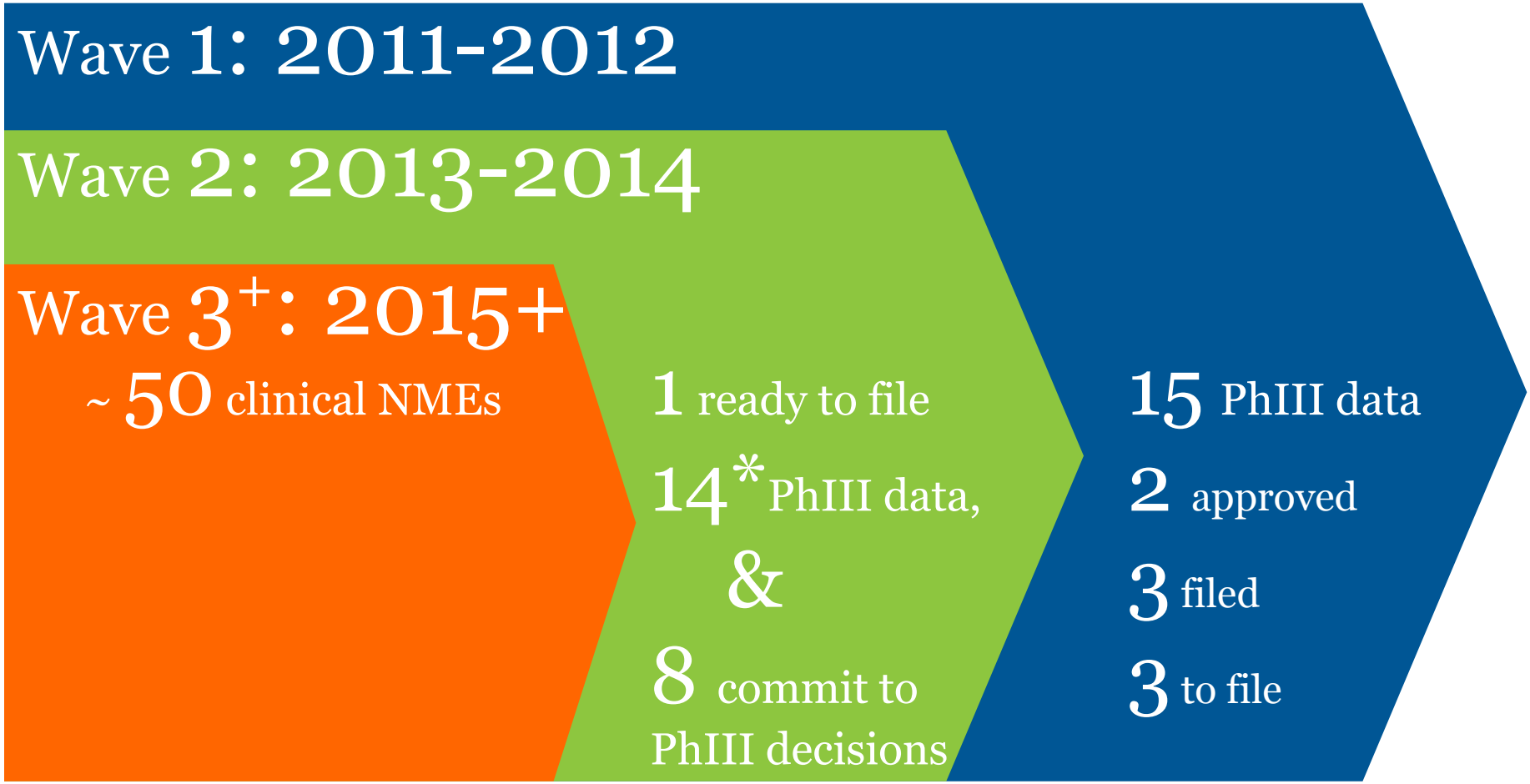


Wave 2: Key PhIII data delivery in 2013-2014

Respiratory	FF monotherapy (asthma) mepolizumab (severe asthma)
Oncology	Arzerra (CLL, DLBCL) MEK/BRAF combo (melanoma) Tykerb (H&N, gastric) Votrient (ovarian)
Vaccines	MAGE-A3* (therapeutic vaccines) Zoster* (shingles)
HIV	dolutegravir/Trii (HIV)
Immuno-inflammation	Benlysta subcut (SLE) vercirnon (Crohn's)
Rare diseases	drisapersen (DMD) migalastat HCl (Fabry's)
CV	darapladib* (atherosclerosis)

* Event driven

Re-engineered drug discovery delivers sustainable flow



* Includes some assets from Wave 1

1 ready to file




Thank you

Q&A

Reference Guide to Wave 1 Key Clinical Data in 2012: Medical Conferences and Press Releases

Oncology

- Trametinib: METRIC phase III (ASCO)[1,2]
- Dabrafenib: Break 3 phase III (ASCO) [1,2]
- Combination Trametinib/Dabrafenib phase II (ASCO, ESMO) [1,2,3]
- Votrient: Comparz phase III H2H vs sunitinib (ESMO) [3,4]

1: http://www.gsk.com/content/dam/gsk/globals/documents/pdf/ASCO-Investor-Meeting-June-2012.pdf
2: http://www.gsk.com/media/press-releases/2012/gsk-presents-positive-results-for-investigational-braf-and-mek-inhibitors-dabrafenib-and-trametinib-at-asco.html
3:http://www.gsk.com/content/dam/gsk/globals/documents/pdf/Investors/presentations/2012/ESMO-analyst-presentation-1-oct-2012.pdf
4: http://www.gsk.com/media/press-releases/2012/head-to-head-study-of-gsks-votrient---pazopanib--vs-sunitinib-in.html

Diabetes

- Albiglutide: Harmony 6 phase III add on to insulin glargine (ADA, EASD)[1,2,3]
- Albiglutide: Harmony 7 phase III H2H vs liraglutide (ADA)[2,3]
- Albiglutide: Harmony 8 phase III renal impairment [4]

1: http://www.gsk.com/media/press-releases/2012/gsk-receives-further-data-from-phase-lll-studies-of-albiglutide-in-type-2-diabetes.html
2: http://www.gsk.com/content/dam/gsk/globals/documents/pdf/ADA-Investor-Meeting-June-2012.pdf
3: http://www.gsk.com/media/press-releases/2012/gsk-announces-new-52-week-data-from-phase-iii-study-of-once-weekly-albiglutide-in-type-2-diabetes.html
4: http://www.gsk.com/media/press-releases/2012/gsk-announces-positive-data-from-harmony-8-and-completion-of-clinical-registration-package-for-albiglutide-in-type-2-diabetes.html

HIV

- Dolutegravir: Spring 2 phase III vs raltegravir (IAC)[1,3,4]
- Dolutegravir: SINGLE phase III vs Atripla (ICAAC)[2,4]
- Dolutegravir: VIKING-3 phase III integrase resistant (HIV-11)[5]

1: http://www.gsk.com/media/press-releases/2012/shionogi-viiv-healthcare-announces-initial-data-from-pivotal-phase-iii-study-of-dolutegravir-in-hiv.html
2: http://www.gsk.com/media/press-releases/2012/shionogi-viiv-healthcare-announces-positive-initial-data-from-phase-iii-study-of-dolutegravir-based-regimen-vs-atripla-in-hiv.html
3. http://www.gsk.com/media/press-releases/2012/once-daily-dolutegravir-is-non-inferior-to-twice-daily-raltegrav.html
4: http://www.gsk.com/content/dam/gsk/globals/documents/pdf/media/presentations/ViiV-Presentation-27-July-2012.pdf
5: http://www.gsk.com/media/press-releases/2012/ViiV-healthcare-presents-phase-III-data-from-viking-3-study-dolutegravir-hiv-infected-integrase-inhibitor-resistant-adults.html

Respiratory

- Relvar/Breo: Asthma phase III exacerbation and FEV-1(ERS)[1,3]
- Relvar/Breo: COPD phase III exacerbation and FEV-1 (ERS)[3]
- LAMA/LABA: Headline results from four phase III trials [2]
- Umeclidinium: Phase II dose ranging (ERS, CHEST)[3,4]
- Mepolizumab (Wave 2): DREAM phase II (ERS)[3]

1: http://www.gsk.com/media/press-releases/2012/gsk-and-theravance-announce-completion-of-the-relovair-registrational-programme-and-topline-results-from-relovair-vs-advair-phase-iii-studies-in-copd.html
2: http://www.gsk.com/media/press-releases/2012/gsk-and-theravance-announce-positive-results-from-four-pivotal-phase-iii-studies-for-once-daily-lamalaba-umecvi-in-copd.html
3: http://www.gsk.com/content/dam/gsk/globals/documents/pdf/media/presentations/GSK-Analyst-meeting-ERS-Sept-2012.pdf
4: Presented at CHEST 2012, Oct 20–25, 2012, Poster No 2076

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

GSK cautions investors that any forward-looking statements or projections made by GSK, including those made in this document, are subject to risks and uncertainties that may cause actual results to differ materially from those projected.

Factors that may affect GSK' s operations are described under 'Risk factors' in the 'Financial review & risk' section in the company's Annual Report 2011 included as exhibit 15.2 to the company's Annual Report on Form 20-F for 2011.

Nothing in this document should be construed as a profit forecast.