Rejuvenating the portfolio

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2 legislative and regulatory developments and economic conditions;
3 delay or inability in obtaining regulatory approvals or bringing products to market;
4 fluctuations in currency exchange rates and general financial market conditions;
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Replace and extend the business

Through continuously improving standard of care

Replace existing businesses		Entering new franchises
MabThera/Rituxan	Gazyva, Venclexta, polatuzumab vedotin, mosunetuzumab (aCD20/CD3 TCB1)	**Multiple Sclerosis:** Ocrevus
Herceptin	Perjeta, Kadcyla, H+P SC	**Hemophilia A:** Hemlibra
Avastin	Tecentriq, entrectinib, ipatasertib	**Neuroscience:** SMA, Autism, Huntington's, Alzheimer's, NMO
Lucentis	faricimab (VA2) Port Delivery System	
Tamiflu	baloxavir marboxil	

Why did we get more optimistic over the past years?

(+) **New molecular entities (NME) fast approval and up-take** for Ocrevus, Alecensa, Perjeta, Venclexta, Hemlibra

(+) **Pipeline development with highest number of NMEs in late stage**, in particular in Neuroscience, Ophthalmology, Infectious Diseases

SMA=spinal muscular atrophy; NMO=Neuromyelitis Optica; SC=subcutaneous; H+P=Herceptin+Perjeta

Differentiation and market opportunities

Oncology

Hematology/Hemophilia A

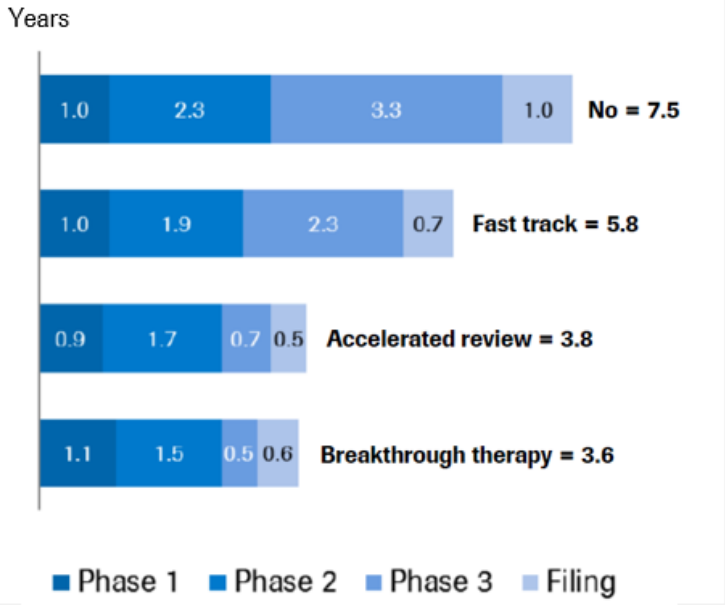
Ophthalmology & infectious diseases

Multiple sclerosis

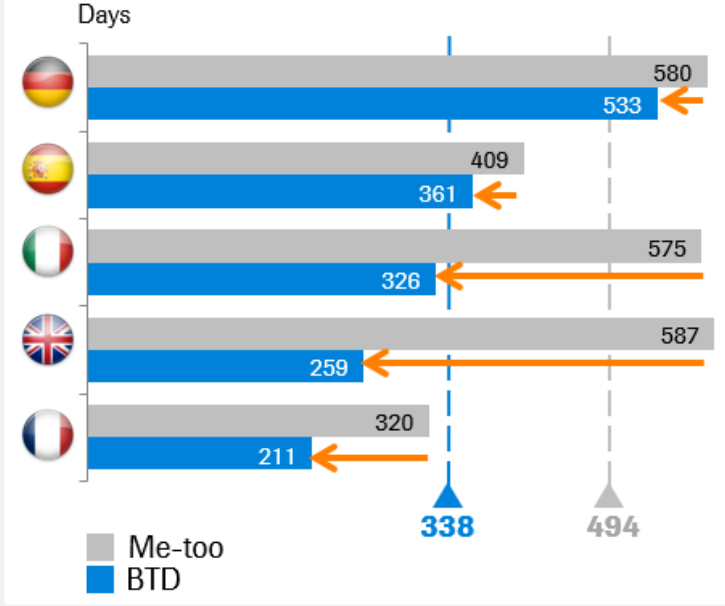
Summary

Breakthrough innovation remains key for pharma

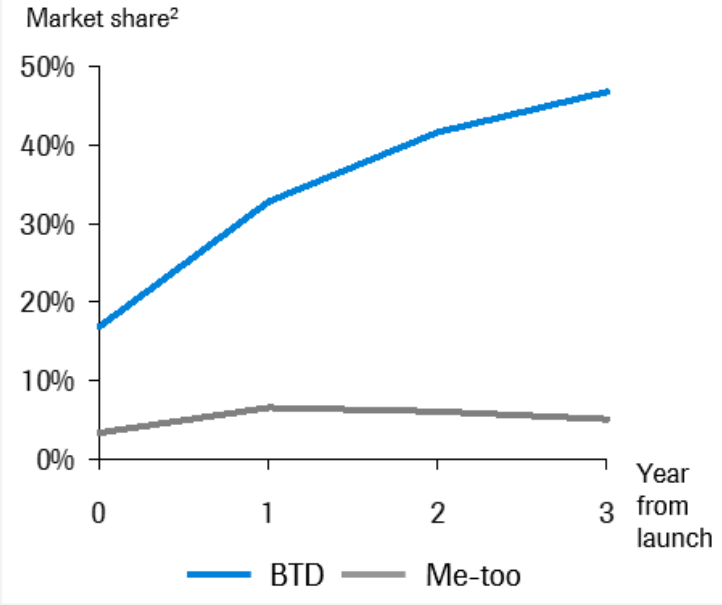
FDA phase duration



EU5 reimbursement timelines[1]



Product launch uptake in oncology[1]



Roche: Highest number of BTDs in the industry reflecting the quality of our research

1 Selected oncology products launched over 2013-2016; 2 Market shares represent sales of target product relative to sales competing products in similar indications; BTD=Breakthrough Therapy Designation; Data source: Evaluate Pharma, Decision Resources, Prismaccess

Highest number of BTD's reflecting the quality of our research

23 *Breakthrough Therapy Designations*

Year	Molecule	Indication
2018	**Xolair**	(Food allergies)
	Tecentriq + Avastin	(HCC)
	Hemlibra	(Hemophilia A non-inhibitors)
	entrectinib	(ROS1+ NTRK+ solid tumors)
	balovaptan	(Autism spectrum disorders)
2017	**polatuzumab vedotin + BR**	(R/R DLBCL)
	Venclexta + LDAC	(1L unfit AML)
	Zelboraf	(BRAF-mutated ECD)
	Rituxan	(Pemphigus vulgaris)
2016	**Actemra**	(Giant cell arteritis)
	Alecensa	(1L ALK+ NSCLC)
	Ocrevus	(PPMS)
	Venclexta + HMA	(1L unfit AML)
	Venclexta + Rituxan	(R/R CLL)
2015	**Actemra**	(Systemic sclerosis)
	Tecentriq	(NSCLC)
	Venclexta	(R/R CLL 17p del)
	Hemlibra	(Hemophilia A inhibitors)
2014	**Esbriet**	(IPF)
	Lucentis	(Diabetic retinopathy)
	Tecentriq	(Bladder)
2013	**Alecensa**	(2L ALK+ NSCLC)
	Gazyva	(1L CLL)

6 *Current priority reviews granted*

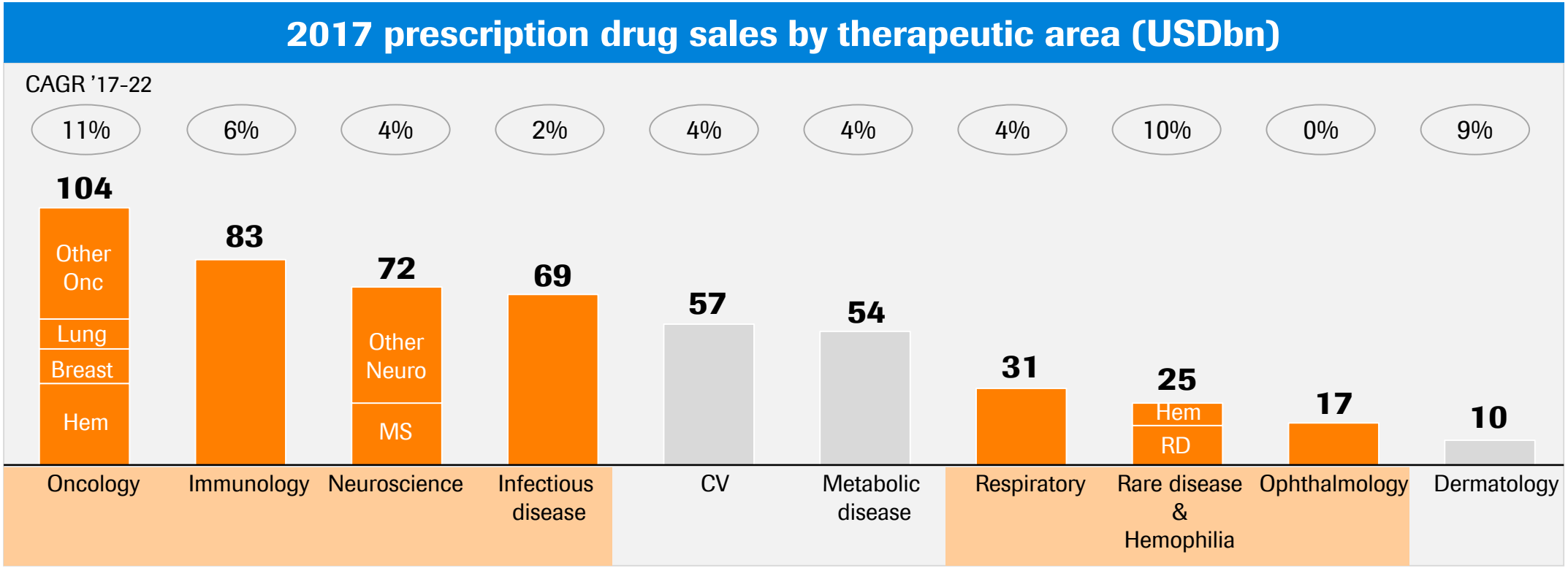
Year	Molecule	Indication
YTD 2018	**Venclexta + HMA/LDAC**	(1L unfit AML)
	MabThera	(Pemphigus vulgaris)
	Hemlibra	(Hemophilia A non-inhibitors)
	baloxavir marboxil	(Influenza A and B)
	Tecentriq + Avastin	(1L NSCLC)
	Xolair	(Pre filled syringe)

2 *Breakthrough Device Designation*

Year	Device	Indication
2018	**Elecsys® β-Amyloid (1-42)**	(Alzheimer's disease)
	Elecsys® Phospho-Tau (181P)	
	Cerebro Spinal Fluid assays	
	FACT CDx (liquid biopsy assay)	70 oncogenes + MSI + bTMB

Portfolio evolution in industry context

Roche has strong development presence across large therapeutic areas



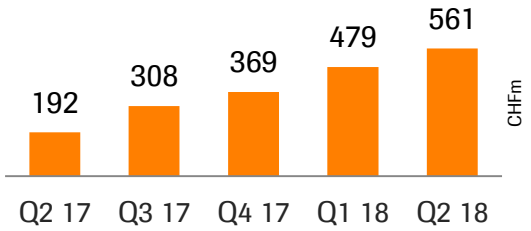
Source: EvaluatePharma; MS=Multiple Sclerosis; CV=Cardiovascular; RD=Rare Diseases

Focus: Accelerate success of recent launches

Successful launches across multiple disease areas

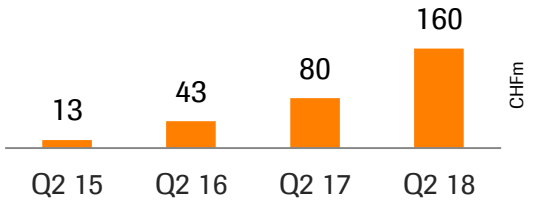
OCREVUS ocrelizumab

- Blockbuster in just 10 months
- 10% total market share (US)
- ~32% share of new/switch patients



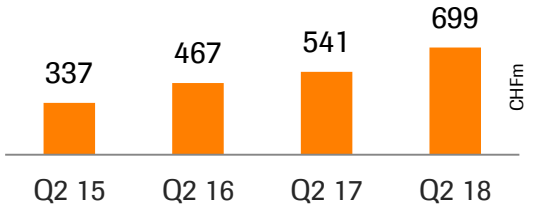
ALECENSA alectinib 150 mg capsules

- US market leadership in 1L ALK+ NSCLC achieved within 8 months of launch
- China National Drug Administration granted rapid approval



PERJETA pertuzumab

- Accelerated growth by adjuvant launch
- Listed on NCCN, St. Gallen



Key line extensions

HEMLIBRA emicizumab

Inhibitor launch started in Q4 2017
- Successful launch; >20% US market share

Non-inhibitor launch expected in Q3 2018
- BTD granted, convenient 4 weekly schedule

TECENTRIQ atezolizumab

Positive Ph III results
- **Lung cancer**
  - 1L NSCLC: IMpower150, 130, 132
  - 1L ES-SCLC: IMpower133
  - 1L sq NSCLC: IMpower131
- **Renal cancer:**
  - 1L mRCC: IMmotion151
- **Breast cancer:**
  - 1L TNBC: IMpassion130

VENCLEXTA venetoclax tablets

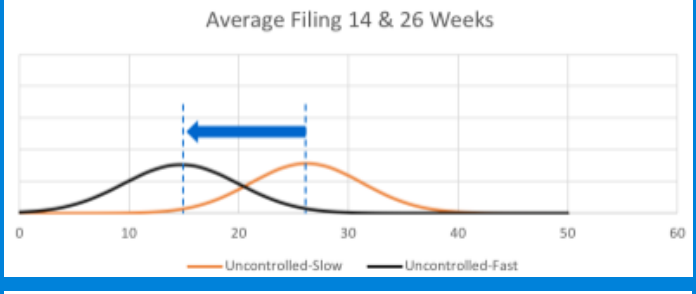
Transforming SoC in CLL/AML/MM
- FDA approval in R/R CLL (MURANO)
- Ph III data in 1L CLL expected in H2 18 (CLL14) and in R/R MM in H1 19 (BELLINI)
- Early filing in in 1L AML

NCCN=National Comprehensive Cancer Network; NSCLC=Non Small Cell Lung Cancer; ES SCLC=Extensive Stage Small Cell Lung Cancer; TNBC=Triple Negative Breast Cancer; RCC=Renal Cell Carcinoma; SoC=Standard of Care; R/R CLL=Relapsed Refractory Chronic Lymphocytic Leukemia; AML=Acute Myeloid Leukemia; MM=Multiple Myeloma; Venclexta in collaboration with AbbVie

Focus: Transforming our operating model

Building an effective organization for the future

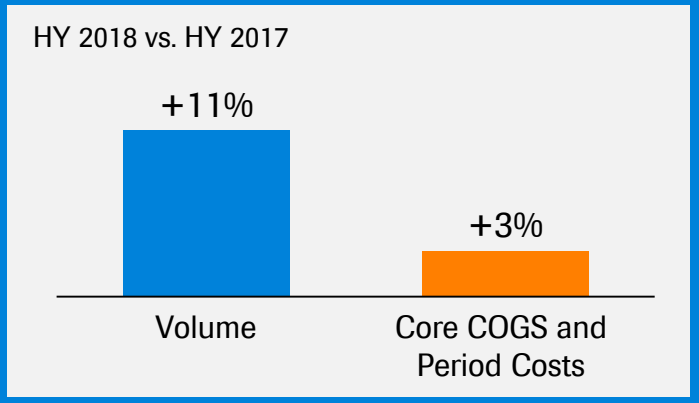
R&D



Example: Filing of IMpassion130 in 12 weeks (down from 26w)

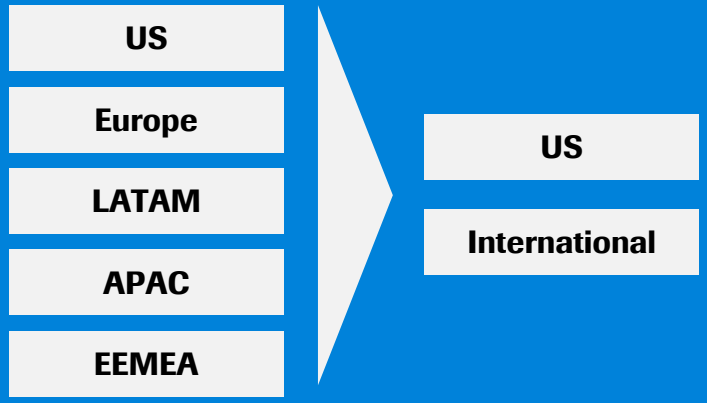
- ✓ **Fit-for-purpose** teams enabling fast, but rigorous **decision making**
- ✓ **Faster filing** initiatives (e.g. regulatory acceleration, dossier optimizing)
- ✓ **PHC and data** strategy driving **insights** and **R&D efficiencies**

Manufacturing



- ✓ **Lean** management production program
- ✓ Favorable **product mix**
- ✓ Management of **inventory**

Commercial



- ✓ Simplified **structures, processes & culture** to drive effectiveness
- ✓ **Productivity** initiatives
- ✓ **Resource shift** to support key launches

EM=Emerging Market; PHC=Personalized Healthcare; COGS=cost of goods sold

Differentiation and market opportunities

Oncology

Hematology/Hemophilia A

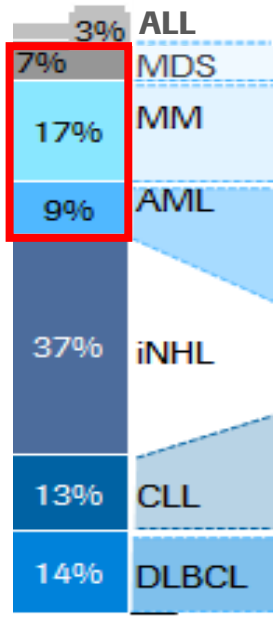
Ophthalmology & infectious diseases

Multiple sclerosis

Summary

Transforming standard of care in oncology

Hematology (33 USDbn)



VENCLEXTA venetoclax tablets

VENCLEXTA venetoclax tablets

VENCLEXTA venetoclax tablets

idasanutlin

Rituxan Rituximab

RituxanHYCELA rituximab/hyaluronidase human

GAZYVA obinutuzumab

VENCLEXTA venetoclax tablets

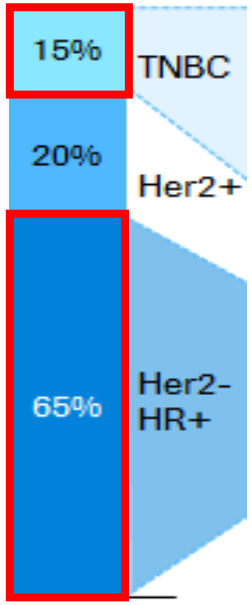
polatuzumab vedotin

mosunetuzumab

Incidence rates (330,000 pts)[1]

Extending market leadership

Breast (14 USDbn)



ipatasertib

TECENTRIQ atezoliz

Herceptin trastuzumab

PERJETA

Kadcyla trastuzumab emtansine

TECENTRIQ atezolizumab

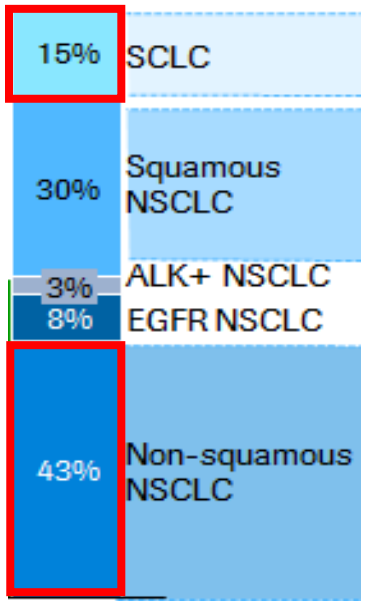
Herceptin SC trastuzumab subcutaneous

ipatasertib

Incidence rates (490,000 pts)[1]

Entering new markets

Lung (12 USDbn)



TECENTRIQ atezolizumab

TECENTRIQ atezolizumab

ALECENSA alectinib

Tarceva erlotinib

entrectinib

TECENTRIQ atezolizumab

AVASTIN bevacizumab

Incidence rates (560,000 pts)[1]

Play a key role in defined cancers

New market opportunities

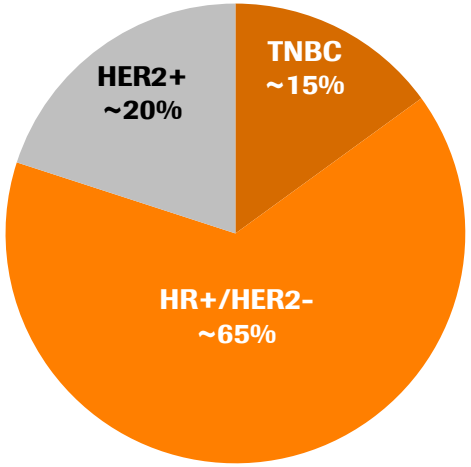
1. Datamonitor: incidence rates includes the 7 major markets (US, Japan, France, Germany, Italy, Spain, UK); CLL=Chronic lymphoid leukemia; DLBCL=Diffuse large B-cell lymphoma; iNHL=Indolent Non-Hodgkin's lymphoma; AML=Acute myeloid leukemia; MM=Multiple myeloma; MDS=Myelodysplastic syndrome; ALL=Acute lymphoblastic leukemia; TNBC=Triple Negative Breast Cancer; SCLC=Small Cell Lung Cancer; NSCLC=Non-Small Cell Lung Cancer

Example: TNBC and HR+/HER2- breast cancer

Expanding into areas with high unmet need

Breast cancer market

Incidence rates[1]



TNBC

- **Tecentriq**: First-in-class positive Ph III (IMpassion130): PFS endpoint met (ITT), positive OS trend in PD-L1+ TNBC (40% of pts)
- Further eBC opportunity: 4 Tecentriq Ph III trials in neoadjuvant/adjuvant
- **Ipatasertib**: Positive Ph II results (LOTUS): PFS endpoint met, OS trend
- Ph III for iptasertib initiated (IPATunity130) in Dx+ advanced TNBC (Pi3K pathway activated in 30% of pts)
- Combination potential for Tecentriq + ipatasertib

HR+/ HER2- mBC

- **Ipatasertib**: Ph III initiated (IPATunity130) in Dx+ advanced HR+/HER2- mBC (Pi3K pathway activated in 40% of HR+/HER2- patients)
- Combination potential for Tecentriq + ipatasertib

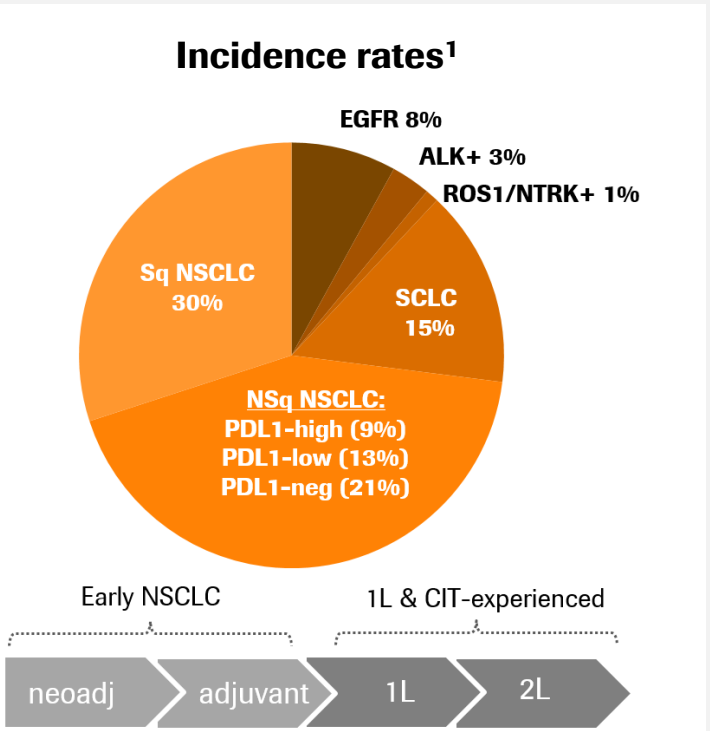
Breast cancer market growing from USD ~17bn in 2017 to ~33bn in 2024[2]

TNBC=Triple Negative Breast Cancer, HR+=hormone receptor positive; Source: 1 Datamonitor: incidence rates includes the 7 major markets (US, Japan, France, Germany, Italy, Spain, UK); 2 Evaluate Pharma

Example: Lung cancer

Broad coverage with differentiated growth opportunities

Lung cancer market



Driver mutations NSCLC EGFR, ALK, ROS1/NTRK	• Alecensa rapidly established as market leader in 1L ALK+ • Entrectinib setting a new SOC in ROS1+/NTRK+ • Tecentriq: Only CIT agent with positive data in 2L EGFR+/ALK+
SCLC	• Tecentriq to be first CIT in combination with chemo in 1L SCLC
1L NSq NSCLC	• Tecentriq: 3 positive Ph III trials, including multiple chemos • Uniquely differentiated with abraxane and Avastin combinations • Strong efficacy in patients with liver metastases (~20% pts)
Early NSCLC	• Pivotal studies in neoadjuvant and adjuvant started
Novel combinations, biomarkers	• 40% of NSCLC patients don't respond to 1L CIT + chemo and no SOC established for CIT experienced patients

Total lung cancer market growing from USD ~14bn in 2017 to ~33bn in 2024[2]

CIT=Cancer Immunotherapy; SCLC=small cell lung cancer; NSCLC=non-small cell lung cancer, Sq=squamous, NSq=non-squamous, SOC=standard of care; 1 Datamonitor: incidence rates includes the 7 major markets (US, Japan, France, Germany, Italy, Spain, UK); 2 Evaluate Pharma

Differentiation and market opportunities

Oncology

Hematology/Hemophilia A

Ophthalmology & infectious diseases

Multiple sclerosis

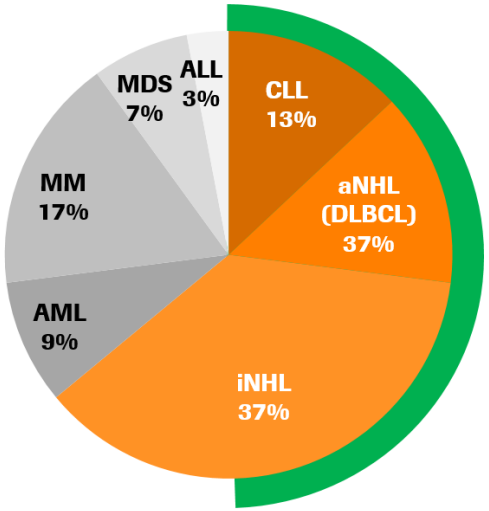
Summary

Hematology (CLL, DLBCL, iNHL)

Redefining the standard of care

Hematology Market

Incidence rates[1]



Rituxan Rituximab | RituxanHYCELA rituximab/hyaluronidase human subcutaneous injection

CLL

FDA BTD

Venclexta combinations induce deep responses, and long treatment-free remissions

SOC	R/R	1L
chemo	benda	clb
R+chemo	R+benda	R+clb
G+ chemo		G+clb
Future SOC	R+Venclexta	G+Venclexta

FDA approved June 18, NCCN cat 1 listing

CLL14 data exp. Q4 18

DLBCL

FDA BTD

Polatuzumab driving high CR rates with durable responses

R/R	1L
benda	CHOP
R+benda	R-CHOP
Pola+BR / mosunetuzumab	Pola+R-CHOP

Plan to file pola in 2018, BTD, PRIME

Ph III trial initiated (POLARIX)

iNHL

Gazyva established as SOC in 1L iNHL with estimated 3 yrs longer mPFS than Rituxan

R/R	1L
benda	chemo
R+benda	R+chemo
G+benda	G+chemo
mosunetuzumab	

mosunetuzumab data in NHL at ASH 2018

Gazyva listed on NCCN guidelines

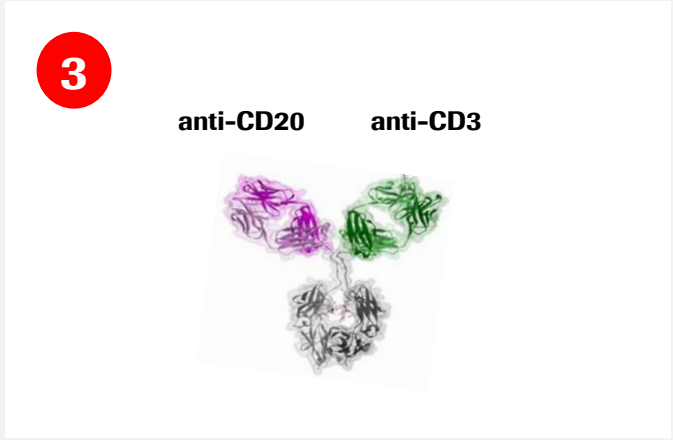
Total CLL, NHL (DLBCL/iNHL) market growing to 9bn & 15bn, respectively by 2024[2]

CLL=chronic lymphocytic leukemia; aNHL=agressive non-hodgkin's lymphoma; iNHL=indolent non-hodgkin's lymphoma; R/R=relapsed refractory; DLBCL=diffuse large B-cell lymphoma; R=Rituxan; G=Gazyva; clb=chlorambucil; benda=bendamustine; 1 Datamonitor: incidence rates includes the 7 major markets (US, Japan, France, Germany, Italy, Spain, UK); 2 Evaluate Pharma; Venclexta in collaboration with AbbVie

Mosunetuzumab in hematology (FL, DLBCL, MCL)

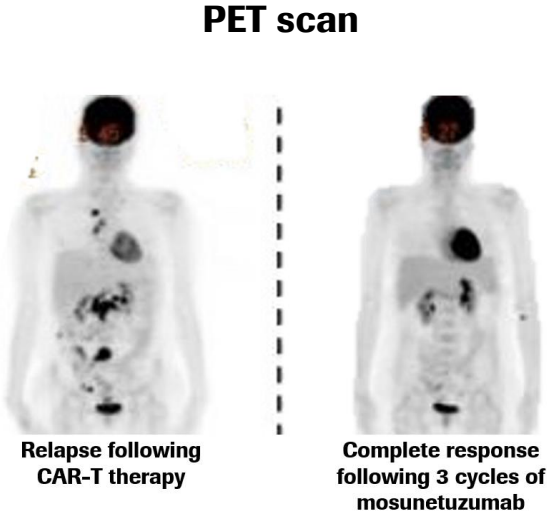
First clinical data to be presented at ASH

Anti-CD20/CD3 T cell bispecific



- Anti-CD20/CD3 bispecific antibody simultaneously binds T cells and B cells
- T cell receptor cross-linking activates the bound T cell and B cell killing is initiated
- Fast and economic off-the-shelf solution compared to CAR T cells

Complete response in R/R DLBCL patient relapsed on CAR T therapy



- 30 year old female with R/R DLBCL
- Prior treatment included R-CHOP, and R-ICE followed by autologous HSCT
- Relapsed 6 months after receiving CD19-directed CAR T cell therapy and subsequently enrolled on mosunetuzumab Ph I trial
- Complete response observed after 3 cycles of mosunetuzumab
- Patient proceeded to allogeneic transplant after achieving a complete response on mosunetuzumab therapy

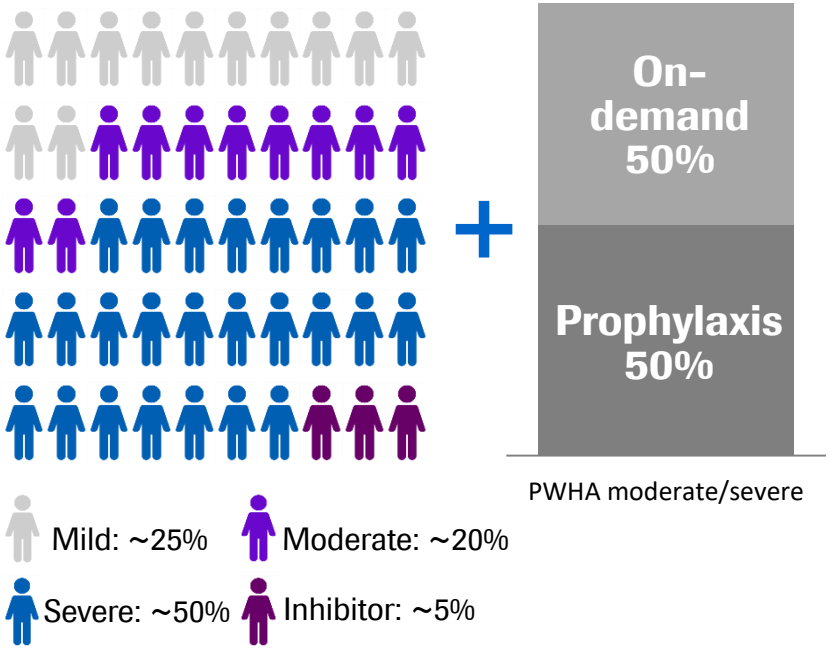
- Clinical activity observed across multiple histologies including: R/R FL, R/R DLBCL, R/R mantle cell lymphoma (MCL), transformed FL and Richter transformed CLL
- Durable complete responses observed in patients refractory to anti-CD20 antibodies and to chemotherapy
- Mosunetuzumab: Ph I monotherapy data in NHL to be presented at ASH 2018

CAR T cells=chimeric antigen receptor; R-CHOP=Rituxan, cyclophosphamide, doxorubicin, vincristine, prednisolone; R-ICE=Rituxan, ifosfamide, carboplatin, etoposide; HSCT=Hematopoietic stem cell transplantation

Hemophilia A

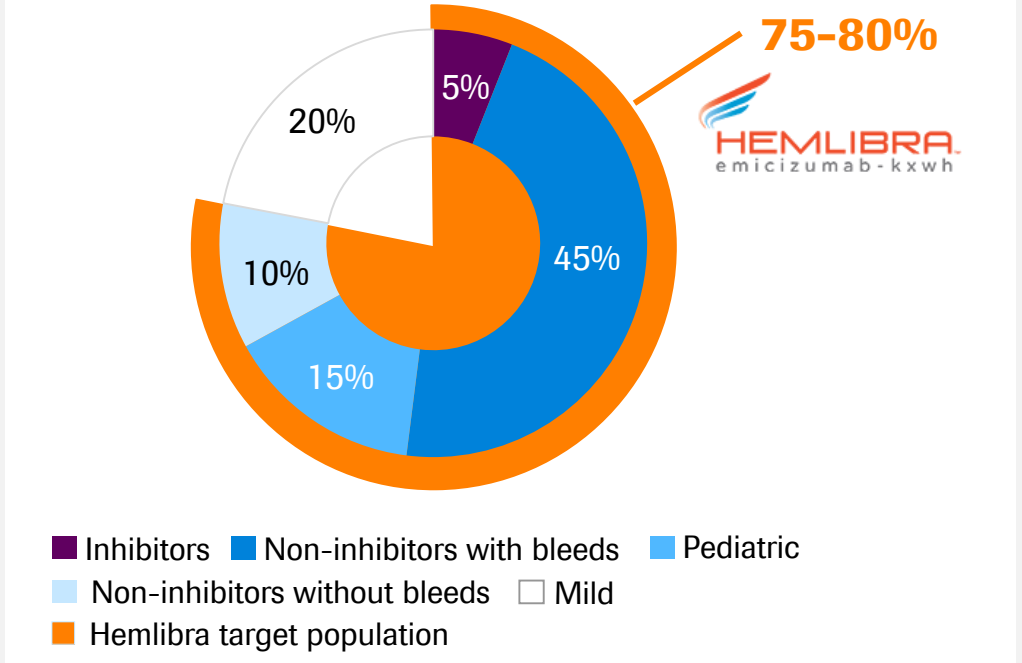
Hemlibra provides transformational advance for hemophilia market

Severity & treatment-based segmentation



Needs-based segmentation

FDA BTD



Total hemophila A market growing to USD 13bn by 2024[1]

PWHA=People with Hemophilia A; Source: Treated patients MORSE 2017 (prevalence), UKHCDO Annual Report 2016 and internal assumptions (treatment rate); 1 Source: Evaluate Pharma

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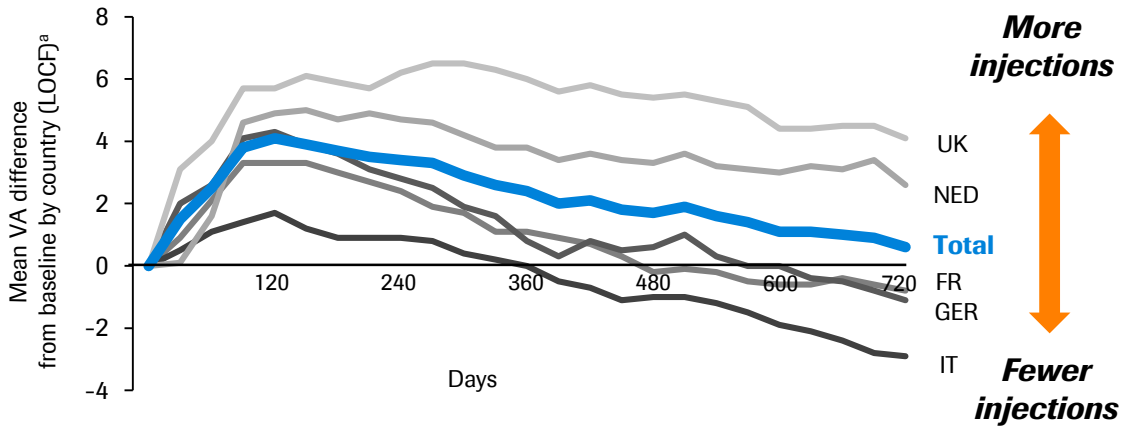
Multiple sclerosis

Summary

Ophthalmology

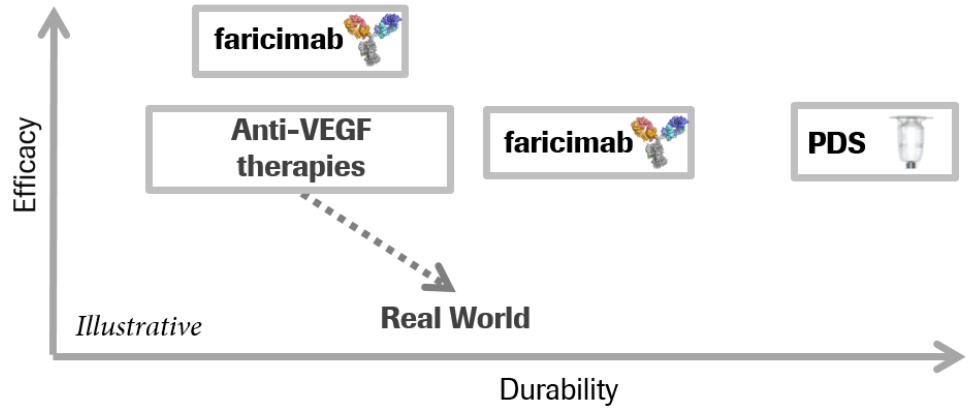
Innovating beyond Lucentis with novel MOAs and long acting delivery

High unmet medical need



- New MOAs needed to improve both efficacy and durability
- High treatment burden of anti-VEGF therapies in real world associated with suboptimal visual outcomes[1]
- Growing market driven by aging population and incidence of diabetes

Roche has the broadest Ph III pipeline in retina



- Faricimab: First bi-specific antibody in ophthalmology
- PDS with ranibizumab: Breakthrough LAD platform significantly reduces the treatment burden, potentially improving real world treatment outcomes
- Significant future development efforts: Novel MOAs, new LAD platforms, and personalized healthcare/digital approaches

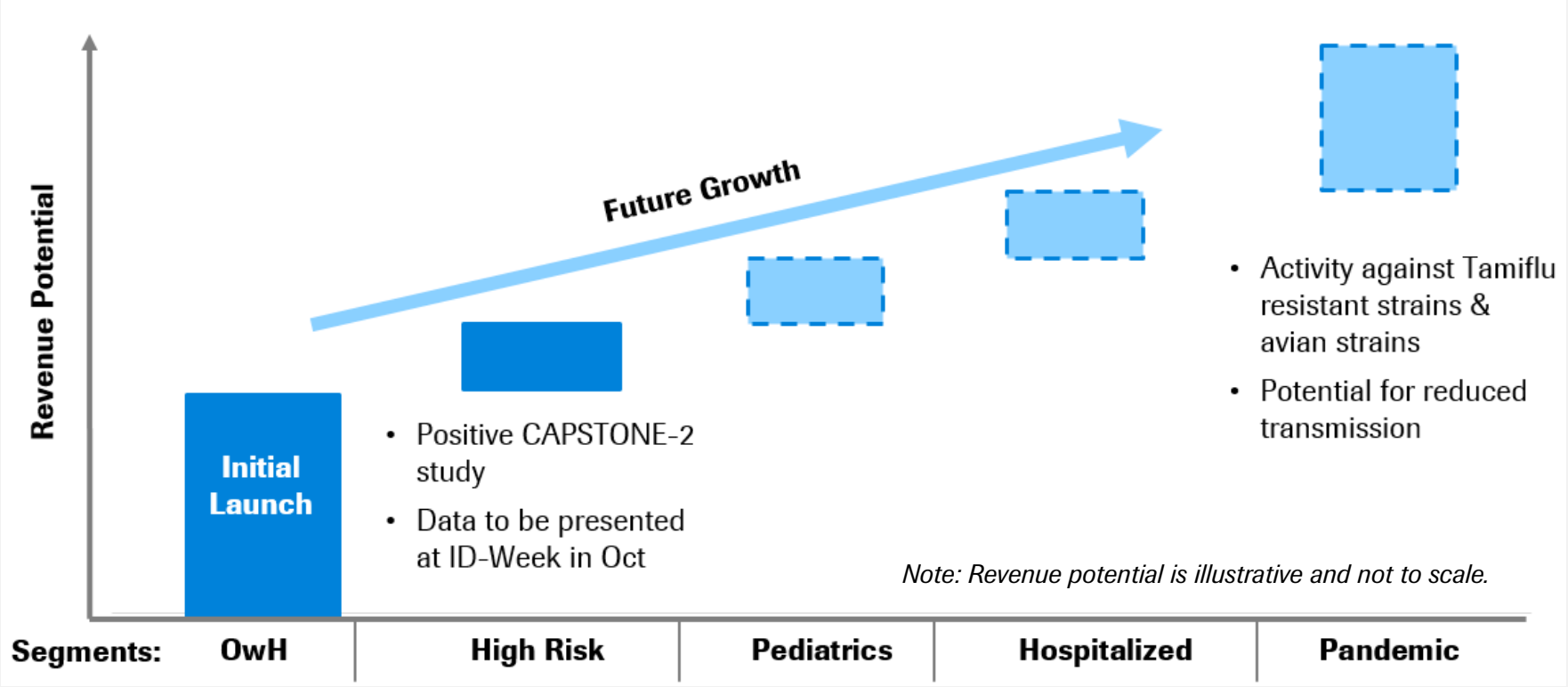
Total retina medical market USD ~10bn in 2017[2]

LAD=long-acting delivery; MOA=mode of action; 1 F.G. Holz et al., Br J Ophthalmol 2015; 2 Evaluate Pharma

Influenza A & B

Baloxavir marboxil with first new MOA in 20 years*

Potential to be first in disease in High Risk and Hospitalized Influenza Patients



Peak revenue opportunity > CHF 1bn

*Baloxavir marboxil was discovered by Shionogi & Co., Ltd. and is being developed globally by the Roche Group (which includes Genentech in the U.S.) and Shionogi & Co., Ltd. Under the terms of this agreement, Roche holds worldwide rights to baloxavir marboxil excluding Japan and Taiwan, which will be retained exclusively by Shionogi & Co., Ltd.

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Multiple sclerosis

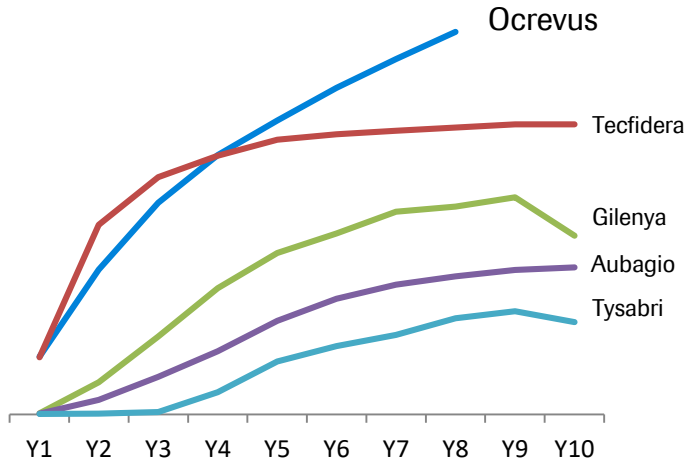
Goal to be market leader in MS

Ocrevus uniquely differentiated in RMS & PPMS

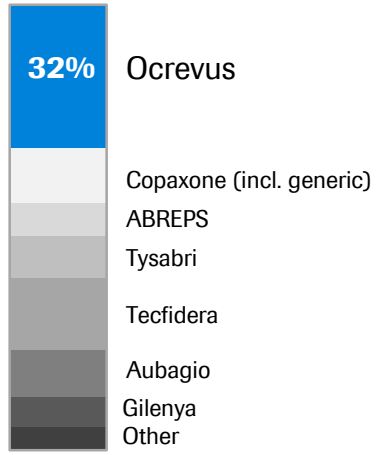
	RMS	PPMS
Efficacy	Superior to SOC DMT	First therapy to show efficacy in setting
Safety	50,000+ patients; 4-year safety data presented; no PML cases related to drug	
Convenience	IV – twice yearly	
Access	Priced below or similar to high efficacy therapies, broad payer coverage in US, reimbursement ongoing in EU	

Strong launch indicators and growth potential

MS projected revenue uptake curves[1]



US new/switch patient share[2]



10% — **US: Total Patient Market Share** — March 2018

#1 — **New MS prescription in US** — As of March 2018

70/30 — **Sales split: RMS/PPMS** — HY 2018

Total MS market USD ~23bn in 2017[1]

SOC=Standard of Care; RMS=Relapsing Multiple Sclerosis; PPMS=Primary Progressive Multiple Sclerosis; DMT=disease modifying therapy; 1 Source: Evaluate Pharma 2. US IMS and Symphony claims data Q1'18

Roche

Differentiation and market opportunities

Oncology

Hematology/Hemophilia A

Ophthalmology & infectious diseases

Multiple sclerosis

Summary

Near term pipeline carries significant revenue potential

Submission	Molecule	Indication	Market opportunity
2018	Hemlibra	Hemophilia A, non-inhibitors	●●●
	polatuzumab vedotin	R/R DLBCL	●●●
	Venclexta	1L AML	●◐○
	Tecentriq	1L NSq NSCLC	●●●
	Tecentriq	1L ES SCLC	●●●
	Tecentriq	1L TNBC	●◐○
	Tecentriq + Avastin	1L RCC	●◐○
2019	entrectinib	ROS1+, NTRK+ NSCLC	●◐○
	idasanutlin	AML	●◐○
	Tecentriq+Cotellic+/-Zelboraf	BRAFm Mel, BRAFwt Mel	●●●
	Tecentriq	neoadj TNBC	●◐○
	Venclexta + Gazyva	1L CLL	●●●
	Venclexta	R/R MM	●●●
	Tecentriq + Avastin	1L HCC	●●●
2020	ipatasertib	1L CRPC, 1L TNBC, HER2-/HR+ BC	●●●
	Tecentriq	1L mUC	●○○
	Tecentriq	CRPC	●◐○
	Tecentriq + Avastin	1L OC	●◐○
2021	polatuzumab vedotin	1L DLBCL	●●●

Submission	Molecule	Indication	Market opportunity
2018	baloxavir marboxil	Influenza A & B	●●●
2019	satralizumab	Neuromyelitis optica	●◐○
2020	risdiplam	SMA	●●●
	anti-myostatin	DMD	●◐○
2021	crenezumab	Alzheimer's disease	●●●
	HTT-ASO	Huntington's disease	●●●
	balovaptan	Autism	●●●
	PDS	wAMD	●●●
	faricimab	DME	●●●
	etrolizumab	UC/CD	●●●

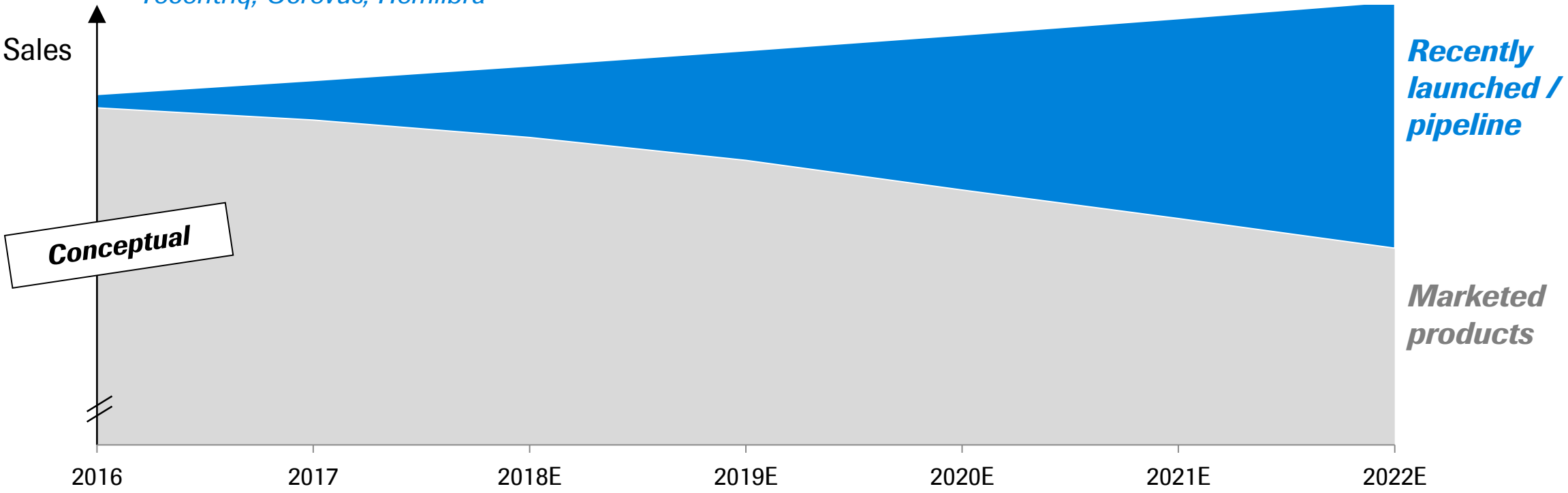
- Oncology / Hematology
- Ophthalmology
- Neuroscience
- Immunology
- Infectious disease

- ●○○ Small: up to CHF 0.5 bn
- ●◐○ medium= CHF 0.5 to CHF 1bn
- ●●● large > CHF1bn

2018 update: Positive outlook confirmed

NMEs launched
Perjeta, Kadcyla, Gazyva, Esbriet, Cotellic, Alecensa, Venclexta, Tecentriq, Ocrevus, Hemlibra

Upcoming NME launches
baloxavir marboxil, polatuzumab vedotin, entrectinib, idasanutlin, satralizumab, ipatasertib, H+P SC, mosunetuzumab, HTT-ASO, risdiplam, balovaptan, crenezumab, gantenerumab, faricimab, PDS, etrolizumab



Doing now what patients need next