Science, patient benefits and productivity

Daniel O’Day, CEO
Roche Pharmaceuticals

New York, December 2017
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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;
5. uncertainties in the discovery, development or marketing of new products or new uses of existing products, including without limitation negative results of clinical trials or research projects, unexpected side-effects of pipeline or marketed products;
6. increased government pricing pressures;
7. interruptions in production;
8. loss of or inability to obtain adequate protection for intellectual property rights;
9. litigation;
10. loss of key executives or other employees; and
11. adverse publicity and news coverage.

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Performance update

Healthcare environment

Portfolio rejuvenation

Productivity

Outlook
Q3 2017: Sales growth for the sixth consecutive year

All growth rates at Constant Exchange Rates (CER)
YTD Sep 2017: Successful launch activities
Differentiation driving growth

Additional sales of recent launches

- US: approved in 1L ALK+ NSCLC
- EU: CHMP positive opinion

- EU approval in bladder (1/2L) & lung (2L)

- Approved in RMS & PPMS: US, CH, Australia,
  EU CHMP positive opinion

Total: +900m

CHF

Alecensa

+122m

Tecentriq

+278m

Ocrevus

+500m

PPMS=primary progressive multiple sclerosis; RMS=relapsing forms of multiple sclerosis; NCCN=National Comprehensive Cancer Network; CHMP=Committee for Medicinal Products for Human Use
Breakthrough designation impacting cycle times

18 Breakthrough Therapy Designations

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>#</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Roche</td>
<td>18</td>
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<td>2</td>
<td>Novartis</td>
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<td>3</td>
<td>BMS</td>
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<td>4</td>
<td>Merck</td>
<td>9</td>
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<tr>
<td>4</td>
<td>Pfizer</td>
<td>9</td>
</tr>
</tbody>
</table>

Phase duration (years)

- No = 7.5
- Fast track = 5.8
- Accelerated review = 3.8
- Breakthrough therapy = 3.6

Source: [http://www.focr.org/breakthrough-therapies](http://www.focr.org/breakthrough-therapies) as of October 2017;
HY 2017: Strong Core operating profit

% of sales

39.2%  39.4%  38.5%

+3% at CER

CHFbn

9.2  9.9  10.1

HY 2015  HY 2016  HY 2017

CER=Constant Exchange Rates
Performance update

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Outlook
US continues to be a leading healthcare market

Strong focus on innovation

December 1, 2017

FDA, CMS Approve Foundation Medicine's Solid Tumor Test with Proposed Coverage

The head of the FDA defends the importance of drug effectiveness

By Laurie McGinley December 29, 2016

New FDA framework points to boost for cell and gene therapies

Dive Brief:
- The Food and Drug Administration has released a regenerative medicine policy framework designed to "spur innovation, efficient access to potentially transformative products, while ensuring safety & efficacy."

The FDA Can Declare War on Alzheimer’s
Flexible standards for drug approval would help patients.

By George Vradenburg and Howard Fillit
April 4, 2017 7:10 p.m. ET

FDA Aims to Expand Early-Approval Program for Promising Drugs

By Anna Edney
November 30, 2017, 4:28 PM GMT+1
Roche has strong commitment to innovation

Scientific leadership & innovative HC solutions

Differentiated medicines & diagnostics

Breakthrough Therapy Designations

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Advanced RWD analytics

Innovative, value-based pricing

By indication

By duration

Roche is aiming to be part of the solution and help shape our future HC environment
Performance update

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Productivity

Outlook
## YTD 2017: Sustainable Roche business case

### Important milestones achieved

<table>
<thead>
<tr>
<th>Replace and extend</th>
<th>New franchises and Therapeutic Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>HER2 franchise</td>
<td>Perjeta in adjuvant BC (APHINITY)</td>
</tr>
<tr>
<td>CD20/Hematology</td>
<td>Gazyva in 1L iNHL (GALLIUM)</td>
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<tr>
<td></td>
<td>Venclexta in R/R CLL (MURANO)</td>
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<tr>
<td></td>
<td>Polatuzumab in R/R DLBCL (Ph II)</td>
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<tr>
<td>Cancer Immunotherapy</td>
<td>Tecentriq</td>
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<tr>
<td>Lung cancer</td>
<td>Alecensa in 1L ALK+ NSCLC</td>
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<tr>
<td>Hemophilia A</td>
<td>Emicizumab in inhibitors (HAVEN 1 and 2)</td>
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<tr>
<td>Neuroscience</td>
<td>Ocrevus</td>
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<tr>
<td>Spinal Muscular Atrophy</td>
<td>SMN2 splicer (SUNFISH)</td>
</tr>
</tbody>
</table>

* WMS=World Muscle Society, October 2017; BTD=breakthrough therapy designation
Development activities across the portfolio

*Growth through innovation & strategic LCM*

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**Growing the existing business by improving Standard of Care**

- ✓ HER2: Sub-cut, Perjeta in eBC (APHINITY) and mBC; Kadcyla
- ✓ CD20: Sub-cut, Gazyva, Venclexta, polatuzumab vedotin, T-cell bispecific
- • Avastin: Tecentriq combo

**Expanding the business through differentiated medicines**

- ✓ Ocrevus: RMS, PPMS
- ✓ Alecensa: Alk+ lung cancer
- ✓ Emicizumab: adult & pediatric inhibitor and non-inhibitor patients
- • Tecentriq: Lung, Triple Negative BC, Renal
- • Other commitments

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**LCM**=life cycle management; **RMS**=relapsing forms of multiple sclerosis; **PPMS**=primary progressive multiple sclerosis
APHINITY: Perjeta+Herceptin in HER2+ eBC
Priority review by the FDA

- Risk of recurrence or death reduced by 19% in all patients, 23% in node+ and 24% in HR- patients

von Minckwitz et al, ASCO 2017; eBC=early breast cancer (adjuvant setting); HR=hormone receptor; * Target population for Herceptin in adjuvant breast cancer (US & EUS); current Herceptin penetration ~95%; Source: Datamonitor and internal estimates
Late-stage hematology: Improving the standard of care and extending into new indications

Incidence rates (330,000 pts¹)

¹ Datamonitor; incidence rates includes the 7 major markets (US, Japan, France, Germany, Italy, Spain, UK); CLL=chronic lymphoid leukemia; DLBCL (aNHL)=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; Venclexta in collaboration with AbbVie; Gazyva in collaboration with Biogen; Polatuzumab vedotin in collaboration with Seattle Genetics
**Polatuzumab and Venclexta**

*Also entering into new therapeutic areas*

- Break through designation (BTD)
- Potential foundational component in all regimes treating B-cell
- Phase 2 data at ASH 2017

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**Polatuzumab vedotin MOA**

1. ADC in circulation
2. ADC binds to receptor
3. ADC-receptor complex is internalized
4. Cytotoxic agent is released in lysosomes
5. Microtubule disruption
6. Apoptosis (cell death)

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**Venclexta: BCL-2 inhibitor MOA** - restoring apoptosis

- Break through designation (BTD)
- Programs in CLL, AML, NHL, MM
- Positive pivotal in R/R CLL (MURANO)
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Growth through innovation & strategic LCM

Growing the existing business by improving Standard of Care

- HER2: Sub-cut, Perjeta in eBC (APHINITY) and mBC; Kadcyla
- CD20: Sub-cut, Gazyva, Venclexta, Polatuzumab vedotin, T-cell bispecific
- Avastin: Tecentriq combo

Expanding the business through differentiated medicines

- Ocrevus: RMS, PPMS
- Alecensa: Alk+ lung cancer
- Hemlibra: adult & pediatric inhibitor and non-inhibitor patients
  - Tecentriq: Lung, Triple Negative BC, Renal
  - Other commitments

LCM=life cycle management; RMS=relapsing forms of multiple sclerosis; PPMS=primary progressive multiple sclerosis
Ocrevus with excellent launch in all treatment lines in RMS and PPMS, positive CHMP opinion

- Continued strong uptake in RMS and PPMS (60/40)
- Some bolus in PPMS
- Broad base of prescribers and high level of US insurance coverage

RMS=relapsing forms of multiple sclerosis; PPMS=primary progressive multiple sclerosis
ALEX: Alecensa in 1L ALK+ NSCLC
Recommended as 1L choice in NCCN guidelines

- Compared to crizotinib, Alecensa significantly prolonged PFS, delayed time to CNS progression, improved intracranial ORR and DOR and had a more favorable safety profile
- NCCN guidelines recommend 1L use (as category 1 preferred option)
- 1L filing completed in the EU and approved in US

Shaw A. et al, ASCO 2017; *Investigator assessment; Alecensa (alectinib) in collaboration with Chugai; ITT=intent to treat; CNS=central nervous system; HR=hazard ratio; PFS=progression free survival; ORR=overall response rate; DOR=duration of response; NCCN=National Comprehensive Cancer Network; BTD=breakthrough therapy designation
Emicizumab’s clinical development plan

**Positive HAVEN 3 results in Q4**

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
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<tbody>
<tr>
<td>2015</td>
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<td>2017</td>
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<td>2018</td>
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</table>

**Non-interventional**

- **HAVEN1**: 113 patients
  - inhibitor adults/adolescents (≥12 years old), qw
  - Inhibitor indication approved in US on Nov 16th

- **HAVEN2**: 62 patients
  - inhibitor children (0–11 years old), qw

- **HAVEN3**: 152 patients
  - non-inhibitor adults/adolescents (≥12 years old), qw and q2w

- **HAVEN4**: 48 patients
  - non-inhibitor/inhibitor adults/adolescents, q4w

H1 2018
Tecentriq / cancer immunotherapy (CIT)

Catching up and taking the lead

Wave 1: Rapid launch
Fast-to-Market strategy in lung and bladder monotherapy

Wave 2: Lead in key indications
Expand benefitting populations by combining with currently available therapies

Wave 3: Transformative Leadership
Differentiate CIT portfolio through Tecentriq + NME-based combos

2016-2017

2018-2019

2020+
Tecentriq Wave 1: Fast to market with broad label

Lung Cancer survival benefit in:
- Low and high PD-L1 expression
- Squamous and non-squamous
- Approval granted in US and EU

Bladder Cancer:
- 1L and 2L indication confirmed in US and approved in EU

Current revenue split:
- 65/35 (Bladder / lung)

CER=Constant Exchange Rates
Tecentriq Wave2: Aiming to set new standards of care

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Description</th>
<th>Readouts: (Q4 17 to Q2 18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>Most comprehensive lung cancer program addressing all common backbones</td>
<td>5 trials in non-squamous, squamous &amp; small cell lung cancer</td>
</tr>
<tr>
<td>GU</td>
<td>Among the leaders in renal cancer</td>
<td>1L RCC</td>
</tr>
<tr>
<td>Breast</td>
<td>First-in-class in triple negative breast cancer</td>
<td>1L TNBC</td>
</tr>
<tr>
<td>CRC</td>
<td>First-in-class in colorectal cancer</td>
<td>2/3L CRC</td>
</tr>
</tbody>
</table>
Tecentriq Ph3 program in 1L & early lung cancer
IMpower150 first read out of the Wave 2 combo studies
Wave 3: Transformative market leadership
CEA-TCB+Tecentriq in mCRC

- Encouraging anti-tumor activity and manageable safety in heavily pretreated patients with MSS mCRC
- CEA-TCB is the first T-cell engaging therapy to show activity in solid tumors
- Pivotal development program to be initiated

Tabernero J, et al. ASCO 2017, abstract #3002; * Source: Datamonitor and internal estimates, US & EU5, equals target population; TCB=T cell bispecific; CRC=colorectal cancer; CIT=cancer immuno therapy
Performance update

Healthcare environment

Portfolio rejuvenation

Productivity

Outlook
Restructuring costs 2009 – 2016

- 2009: Genentech integration
- 2010: Operational Excellence
- 2012: Closure of Nutley
- 2012/16: Prioritisation and simplification
- 2015/16: Pharma manufacturing network
Performance update

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Outlook
Launch of new medicines at a record high

Roche


Zelboraf vemurafenib
PERJETA pertuzumab
Kadcyla trastuzumab emtansine
VENCLEXTA venetoclax
ALECENSA alectinib
TECENTRIQ atezolozumab
OCREVUS ocrelizumab
Hemlibra emicizumab-kwx
<table>
<thead>
<tr>
<th><strong>2017 outlook raised at HY</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group sales growth</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Mid-single digit</td>
</tr>
<tr>
<td><strong>Core EPS growth</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Broadly in line with sales growth</td>
</tr>
<tr>
<td><strong>Dividend outlook</strong></td>
<td>Further increase dividend in Swiss francs</td>
</tr>
</tbody>
</table>

<sup>1</sup> At Constant Exchange Rates (CER)
Doing now what patients need next