Meet Novartis Management
Sandoz Division
May 31, 2017
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In particular, management’s expectations could be affected by, among other things: regulatory actions or delays or government regulation generally; the potential that the strategic benefits, synergies or opportunities expected from the significant reorganizations of recent years, including the creation of the Pharmaceuticals and Oncology business units to form the Innovative Medicines Division, the creation of the Global Drug Development organization and Novartis Operations (including Novartis Technical Operations and Novartis Business Services), the transfer of the Ophthalmic Pharmaceuticals products of our Alcon Division to the Innovative Medicines Division, the transfer of selected mature, non-promoted pharmaceutical products from the Innovative Medicines Division to the Sandoz Division, and the transactions with GSK, Lilly and CSL may not be realized or may take longer to realize than expected; the inherent uncertainties involved in predicting shareholder returns or credit ratings; the uncertainties inherent in the research and development of new healthcare products, including clinical trial results and additional analysis of existing clinical data; our ability to obtain or maintain proprietary intellectual property protection, including the ultimate extent of the impact on Novartis of the loss of patent protection and exclusivity on key products which commenced in prior years and will continue this year; safety, quality or manufacturing issues; global trends toward health care cost containment, including ongoing pricing and reimbursement pressures, such as from increased publicity on pharmaceuticals pricing, including in certain large markets; uncertainties regarding actual or potential legal proceedings, including, among others, actual or potential product liability litigation, litigation and investigations regarding sales and marketing practices, intellectual property disputes and government investigations generally; general economic and industry conditions, including uncertainties regarding the effects of the persistently weak economic and financial environment in many countries; uncertainties regarding future global exchange rates; uncertainties regarding future demand for our products; and uncertainties regarding potential significant breaches of data security or data privacy, or disruptions of our information technology systems; and other risks and factors referred to in Novartis AG’s current Form 20-F on file with the US Securities and Exchange Commission. 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Key messages

1. Sandoz is a global leader in generic and biosimilar medicines

2. Our long-term growth is planned to come by building out from our current base, into areas including complex generics, 505(b)(2)s, VAMs¹, branded generics and OTC

3. Biosimilars are expected to be our largest single growth driver and our goal is to continue to drive sustainable market leadership

¹. VAMs: Value Added Medicines. Products that offer differentiation over existing in-market generics by providing additional benefit to the patient and/or physician
Agenda

Sandoz today

Sandoz tomorrow: Generics and beyond

Sandoz tomorrow: Biosimilars and Glatopa

Summary
Sandoz is a global leader in generic and biosimilar medicines

~1,000 Molecules

>800 Projects in development

Therapeutic areas
• #1 in biosimilars¹
• #1 in Gx antibiotics²
• #1 in Gx dermatology
• #1 in Gx transplants/immunosuppressants

Geographies
• #1 in Western Europe (incl. Germany)
• #1 in CEE³
• #3 in US

¹. In the combined regions of North America, Europe, Japan and Australia  ². #1 in Gx market by volume  ³. Central Eastern Europe
Our long-term strategy is unchanged, and remains on track

Sandoz Strategy: Increase global patient reach by driving sustainable, profitable growth

<table>
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<tr>
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1. Therapeutical Area
By delivering on Sandoz priorities, we help Novartis succeed

Drive access
Broad portfolio and reach strengthen brand and reputation

Cross-divisional synergies
Collaborate with NTO¹ to deliver substantial savings

Business model helps lower risk
Core business complemented by high-margin biopharmaceuticals, plus mature brands and AGx

Deepen and enrich Group talent pipeline

¹. Novartis Technical Operations
We grew steadily and profitably in recent years, with solid 2016 performance

Sandoz sales and Core ROS evolution
Bar chart show sales in USD m with growth in cc, bubbles show Core ROS in cc², ³

1 2015 sales subsequently restated to USD 10.070 bn, following transfer of 19 Mature Brands from Novartis Innovative Pharmaceuticals. Sandoz is working to slow the historic sales decline of these brands but total annual sales growth rates from 2015 are negatively impacted by the transfer. 2. The 2016 Core ROS (and margin) also reflects the mature brands transfer (sales declined but positive impact on profit) 3. Y axis is representative only (of annual sales growth as percentage, in cc), not to scale.
That growth is reflected in our strong position across key markets

- We plan to **continue outgrowing** the market across key countries and regions over the next five years

- **Retail Gx growth** expected to provide at least as much as biosimilars in absolute dollar terms

- Gx companies in US face high volatility (portfolio-driven) – we are set up to manage this

<table>
<thead>
<tr>
<th>Region / market</th>
<th>Sales CAGR, 2012-2016</th>
<th>Market ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Europe</td>
<td>4.2%</td>
<td>#1 (incl. Germany)</td>
</tr>
<tr>
<td>CEEMEA</td>
<td>7.2%</td>
<td>#1 (#3 in Russia)</td>
</tr>
<tr>
<td>US</td>
<td>6.8%</td>
<td>#3 (also #3 in Canada)</td>
</tr>
<tr>
<td>APAC</td>
<td>8.6%</td>
<td>#10</td>
</tr>
<tr>
<td>LatAm</td>
<td>15.1%</td>
<td>#12</td>
</tr>
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</table>
Despite some headwinds in 2017, we are managing for the long term

• We have delivered sales and margin growth in recent years
• In 2017 the US faces increasing pricing pressure and the Warning Letter to our third party CMO has delayed our Glatopa® 40mg US launch plans
• We are managing for the long-term by
  – Investing with sharp geographic focus
  – Growing branded Gx aggressively
  – Continued investment into biosimilars
  – Driving 505(b)(2)s, VAMs and complex generics
We are delivering on our biosimilars pipeline

• April 2017 Sandoz received positive CHMP opinions for biosimilar rituximab and etanercept to treat immunological diseases

• Biosimilar rituximab also recommended to treat blood cancers

• May 2017 EMA regulatory review acceptance for biosimilar adalimumab and infliximab

• Significant step to improving patient access for these key biologic medicines

• Further strengthens broader Novartis immunology pipeline
We face strong pressures in the US, our largest market

- New entries in some historically attractive segments, e.g. dermatology
- Launches drive growth – timing uncertainties for biosimilars and highly differentiated products
- Growing competition, on top of recent market consolidation (and accelerated FDA approvals), forces prices steadily down
## Tough start for Gx industry in 2017

<table>
<thead>
<tr>
<th>Gx manufacturer</th>
<th>Mar 2017 YTD Sales USDm</th>
<th>vs PY</th>
<th>Mar 2017 YTD Growth Drivers %</th>
<th>MS%</th>
<th>Δ MS%</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEVA</td>
<td>2,124</td>
<td>-27.5%</td>
<td>Price: -24, Volume: -10, Launch: 6</td>
<td>13.4%</td>
<td>-3.7%</td>
</tr>
<tr>
<td>Mylan</td>
<td>1,639</td>
<td>-0.4%</td>
<td>Price: -6, Volume: -9, Launch: 15</td>
<td>10.4%</td>
<td>0.8%</td>
</tr>
<tr>
<td>SANDOZ</td>
<td>1,196</td>
<td>-5.6%</td>
<td>Price: -10, Volume: -4, Launch: 9</td>
<td>7.6%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Endo</td>
<td>1,109</td>
<td>11.1%</td>
<td>Price: -6, Volume: -25, Launch: 43</td>
<td>7.0%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Pfizer</td>
<td>702</td>
<td>-3.8%</td>
<td>Price: -7, Volume: -3, Launch: 6</td>
<td>4.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Lupin</td>
<td>499</td>
<td>-21.3%</td>
<td>Price: -21, Volume: -2, Launch: 1</td>
<td>3.2%</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Alvogen</td>
<td>428</td>
<td>225.3%</td>
<td>Price: -14, Volume: -3, Launch: 242</td>
<td>2.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Impax</td>
<td>413</td>
<td>-7.3%</td>
<td>Price: -10, Volume: -2, Launch: 1</td>
<td>2.6%</td>
<td>0.0%</td>
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<tr>
<td>Dr. Reddy’s</td>
<td>404</td>
<td>-0.3%</td>
<td>Price: -13, Volume: -3, Launch: 9</td>
<td>2.6%</td>
<td>0.2%</td>
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<tr>
<td>West-Ward</td>
<td>394</td>
<td>-8.5%</td>
<td>Price: -12, Volume: -1, Launch: 4</td>
<td>2.5%</td>
<td>0.0%</td>
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<tr>
<td><strong>Total Gx market</strong></td>
<td><strong>15,804</strong></td>
<td>-7.8%</td>
<td>Price: -15, Volume: -5, Launch: 12</td>
<td></td>
<td></td>
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* Note: This information is an estimate derived from the use of information under the following license from IMS Health information service: NSP for the period ending March 2017. IMS expressly reserves all rights, including rights of copying, distribution and republication.  
* Limited to Generics; OTC excluded; adjusted for M&A consolidation.
## Agenda

| Meet Novartis Management | May 31, 2017 | Investor Presentation |

### Sandoz today

### Sandoz tomorrow: Generics and beyond

### Sandoz tomorrow: Biosimilars and Glatopa

### Summary
We plan continued delivery on all three strategic fronts

**Sandoz Strategy:** Increase global patient reach by driving sustainable, profitable growth

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1. Therapeutical Area
In the US, we focus on future launches in areas that can drive lasting value

• We plan to drive growth through a strong launch plan, with accelerated BD activity

• We focus on high-value areas, e.g. biosimilars, 505(b)(2)s, complex molecules

• For instance, we have agreed with Durect to develop and market investigational non-opioid analgesic Posimir® in the US

• We continue to offer a broad, cost-competitive portfolio for all customer needs
We aim to grow rapidly in China, set to become the largest generic market

- In China, annual sales growth in USD is equivalent in size to total annual net Gx sales in an EU5\(^1\) market

- Market access challenging, but healthcare reforms create a window of opportunity

- **Large unmet need** for key chronic diseases, changing market dynamics\(^2\)

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1. EU5 countries are: Germany, France, UK, Italy, Spain
2. For instance, shift of patients to CHCs, growing retail channel

China net Gx market forecast in USD bn (based on IMS hospital market, excl. OTC, Bio) Source: Internal, based on IMS prognosis, BMI prognosis
Generics expected to drive core growth, biosimilars should accelerate rapidly

Net generic market forecast¹
USD bn, growth CAGR in cc, excl. Bio & OTC

Biosimilars net market forecast¹
USD bn, growth CAGR in cc

1. Internal analysis, based on IMS, BMI.
We plan to grow our antibiotics business – our largest global franchise

90 million patients

In 130 countries around the world

are treated with Sandoz antibiotics

1. 2015 data
We are also driving growth with OTC, building on our solid core business

• Global market comparable in size to Gx segment offers attractive opportunities, with growing government support for patient self-care

• Strong base in markets such as Russia, Germany and CEE countries, based on core brands including ACC®, Linex®, Exoderil® and Gingium®

• Potential to build out from key brands into new markets across Western Europe, Middle East and Africa as well as Canada

• Strong potential for Rx-OTC switches, such as recent OTC introduction of Mometasone Furoate as MometaHexal® in Germany
Agenda

Sandoz today

Sandoz tomorrow: Generics and beyond

Sandoz tomorrow: Biosimilars and Glatopa

Summary
We are the global biosimilar leader and well placed to retain our leadership

Pioneer and global leader
with 20+ years development experience and 10+ years commercial experience

#1 biosimilar company
with USD 1 bn Biopharmaceuticals\(^1\) sales in 2016 (#1 position is in biosimilars, excluding Glatopa\(^2\) 20mg)

Leading the way
in driving worldwide recognition of biosimilars as safe and effective medicines

Strong launch pipeline
with five major oncology and immunology biosimilar launches between now and 2020

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1. Biopharma includes biosimilars, Glatopa\(^2\) and contract manufacturing
2. Glatopa\(^2\) 20mg is approved in the US as a fully substitutable generic medicine
3. Major five launches only, not including epo alfa US
4. All trademarks are the property of their respective owners
We are committed to launching Glatopa® 40mg in the US

Warning letter delayed launch
FDA WL issued to our third party CMO, Pfizer, mid February
20mg not impacted

Timing / next steps
Working with Pfizer and FDA to clarify implications
2017 launch still possible, but unlikely

Litigation / launch readiness
Challenges to key patents successful at US Patent Office and District Court; both decisions appealed by Teva
We are on track to launch five major\(^1\) biosimilars between now and 2020

<table>
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<tr>
<th>Brand(^2)</th>
<th>AbbVie</th>
<th>Amgen/Pfizer</th>
<th>J&amp;J/Merck</th>
<th>Roche</th>
<th>Amgen</th>
</tr>
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<tr>
<td>Originator</td>
<td>RA, PSO, AS/PsA, Crohn’s</td>
<td>RA, PSO, AS/PsA</td>
<td>RA, PSO, AS/PsA</td>
<td>NHL, CLL, RA</td>
<td>Neutropenia, Acute Radiation</td>
</tr>
<tr>
<td>Key indication(^3)</td>
<td>RA, PSO, AS/PsA, Crohn’s</td>
<td>RA, PSO, AS/PsA</td>
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<tr>
<td>2016 USD sales</td>
<td>16bn</td>
<td>9bn</td>
<td>7bn</td>
<td>7bn</td>
<td>5bn</td>
</tr>
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1. Major five launches only, not including epo alfa US
2. All trademarks are the property of the respective originator companies
3. Originator indications, some may still be subject to patent protection at launch
We are acting now to drive sustained leadership in biosimilars

**Short term**
- Leverage decade of experience
- 5 high-value launches planned by 2020
- Brand-like commercial approach, shaping stakeholder environment

**Mid-to-long term**
- Drive preference in an increasingly competitive market
- Leverage inherent brand and generic skillsets for sustained commercial leadership

**Commercial & launch excellence**
- Continued growth of in line business
- Leadership comes with responsibility to educate key stakeholders about biosimilar concept

**Sustainable base business**
- In-house development focus
- Opportunistic partnerships

**Balanced pipeline strategy**
- Evolve commercial synergies with core business
- Lead industry towards a sustainable market (ie, pricing, quality)

- Bring portfolio and geographic breadth through strategic partnerships

Patient needs will evolve as access increases and the market develops
Agenda

Sandoz today

Sandoz tomorrow: Generics and beyond

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Summary
Summary

• Sandoz is a global leader in generic and biosimilar medicines, with a long-term strategy to deliver sustainable growth

• Our future growth is planned to come from building out into areas including complex Gx, 505(b)(2)s, VAMs, branded generics and OTC

• Biosimilars are expected to be our largest growth driver and we are committed to sustainable market leadership