

TRD/CPP & NDT



# ***Novartis Global Healthcare***

## **Meeting Patient Needs**

**Manuel Sanchez-Felix**

**CRS Annual Meeting: Montreal, Canada**  
**14<sup>th</sup> July 2022**



# Content



Introduction



Access to Medicines



Pharma Industry Global Health Challenges



Publication



Summary

# Introduction

- Novartis: Novel Drug Delivery Group
- Objectives:
  - Achieve a common understanding on “Global Health”
  - Provide an overview of Novartis Global Health Initiatives
  - Explain transition from “can we make it” to “does the patient want it and how can we supply the product to all”
  - Encourage you to think how you can help?



# Access to medicine is where we believe we can have the greatest impact

## 2 billion

### Patients do not get medicines they need<sup>1</sup>

#### High-income countries



#### Non-communicable disease (NCD)

Health inequity leads to **varying quality of care** based on ethnicity, socio-economic factors

CVD is the leading cause of death in US, **highest risk** among non-Hispanic Black populations and in areas with highest rates of poverty<sup>2</sup>

#### Communicable disease (CD)

In US, **40%** more black people have died from **COVID-19** vs. white people<sup>3</sup>

#### LMICs

**Dual burden** of Non-NCDs (on the rise), CDs (unfinished agenda)



**~300k** infants are born annually with SCD, out of 10 are born in sub-Saharan Africa<sup>4</sup>

**>3/4** of CVD deaths take place in LMICs<sup>5</sup>

8 LMICs disproportionately affected by **COVID-19**

**274k** children die annually of malaria<sup>6</sup>

**390m** dengue virus infections / year<sup>7</sup>

CVD – Cardiovascular disease LMICs – Low/middle-income countries SCD = Sickle cell disease

<sup>1</sup> Access to Medicine Foundation; <sup>2</sup> <https://www.cdc.gov/healthequity/lcod/men/2017/nonhispanic-black/index.htm>; <sup>3</sup> COVID Tracking Project and the Boston University Center for Antiracist Research. <https://covidtracking.com/race>; <sup>4</sup> Global epidemiology of sickle haemoglobin in neonates: a contemporary geostatistical model-based map and population estimates. Piel FB, Patil AP, Howes RE, Nyangiri OA, Gething PW, Dewi M, Temperley WH, Williams TN, Weatherall DJ, Hay SI. Lancet. 2013 Jan 12; 381(9861):142-51.5; <sup>5</sup> [https://www.who.int/en/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/en/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)); <sup>6</sup> <https://www.who.int/news-room/fact-sheets/detail/malaria>; <sup>7</sup> <https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>

# Novartis Access Principles in practice to address unresolved global health challenges



## **Malaria** | 229m cases across 87 countries<sup>1</sup>

Reached 1bn treatment courses of Coartem®

**Ganaplacide / lumefantrine SDF met Ph2b** primary study objective

Committed \$100m in R&D until 2023 in novel anti-malarials



## **Sickle Cell Disease** | 250m carry the gene<sup>2</sup>

~10k patients being treated with hydroxyurea in Ghana & East Africa

Launched gene therapy R&D collaboration with BMGF



## **Chagas** | Affects ~6m people worldwide<sup>3</sup>

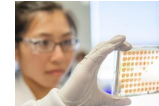
1<sup>st</sup> of its kind clinical study in Latin America



## **Leprosy** | 200k new cases annually<sup>4</sup>

Reached >7m patients

Renewed commitment with WHO: Extend Multi Drug therapy donation through end 2025



## **Antimicrobial Resistance**

Balanced, cross-sectorial approach



## **Avoidable Blindness**

Strengthen and elevate eye health



## **COVID-19**

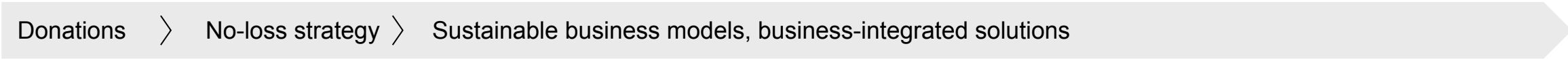
Manufacturing agreements, investigating the DARPin platform



HP Enterprise collaboration to **accelerate the use of digital technologies in Global Health**

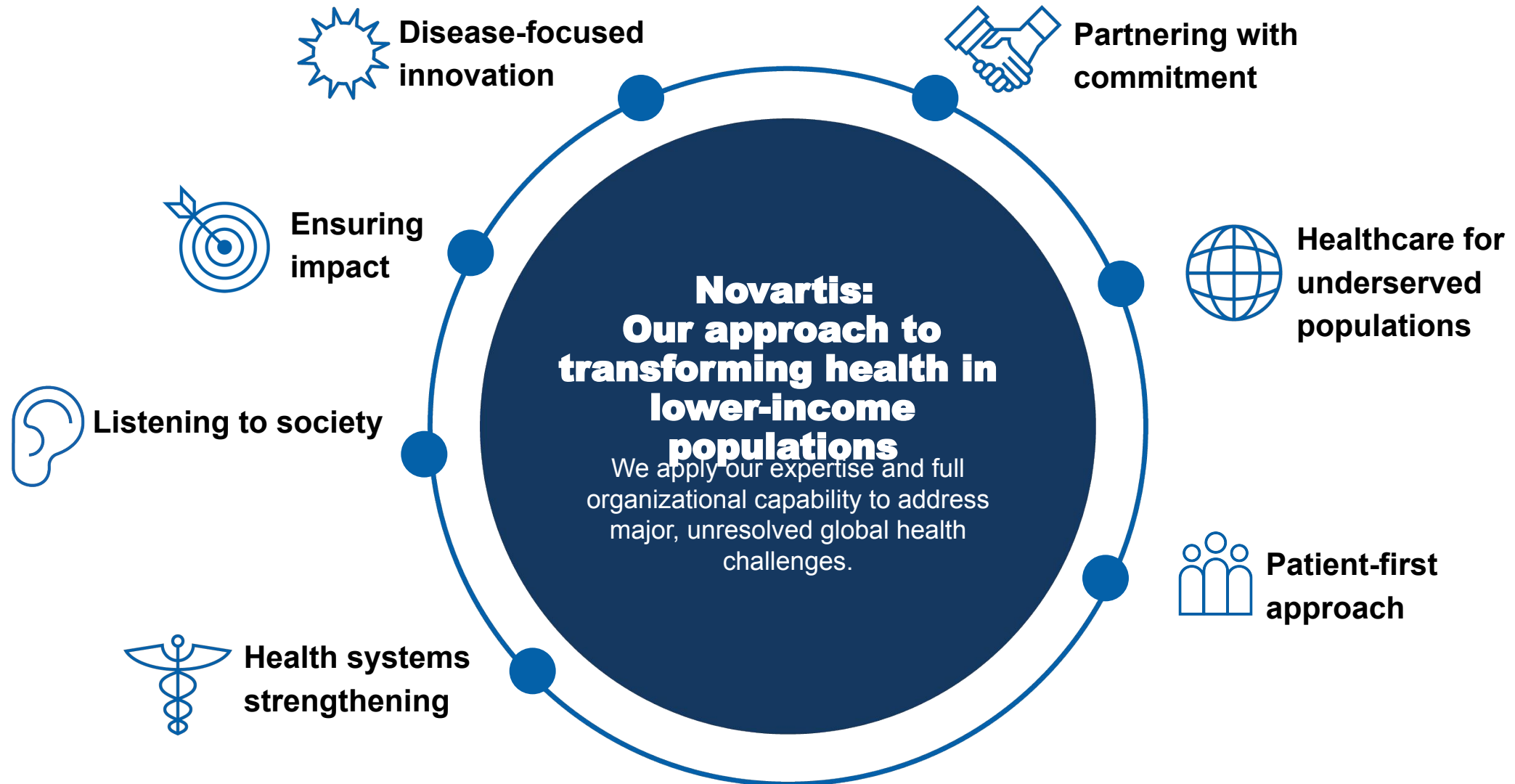
SDF – Solid dispersion formulation   AMR - Antimicrobial Resistance   See appendix for references

# Our approach to access has evolved over two decades



1. Education / medicines to patients at the bottom of the income pyramid. 2. 15 on-off patent medicines for NCDs.

# Transforming health in lower-income populations



# Access to Medicines: Recent News

## Novartis renews commitment to neglected tropical disease and malaria elimination, investing USD 250 million over five years to research and develop new treatments

Jun 23, 2022

- *Novartis endorses the Kigali Declaration on neglected tropical diseases, pledging USD 250 million to advance R&D of new treatments against NTDs and malaria over five years*
- *Commitment includes USD 100 million to advance R&D for Chagas disease, leishmaniasis, dengue and cryptosporidiosis, and USD 150 million for next-generation antimalarials and a new formulation for babies under 5kg with malaria*
- *Around the world, 1.7 billion people suffer from NTDs<sup>1</sup>, and there are 241 million cases of malaria<sup>2</sup>*

## Sandoz announces new global 'Act4Biosimilars' initiative, to improve patient access and increase adoption by at least 30% in 30+ countries by 2030

[Back to News Archive](#)

May 31, 2022

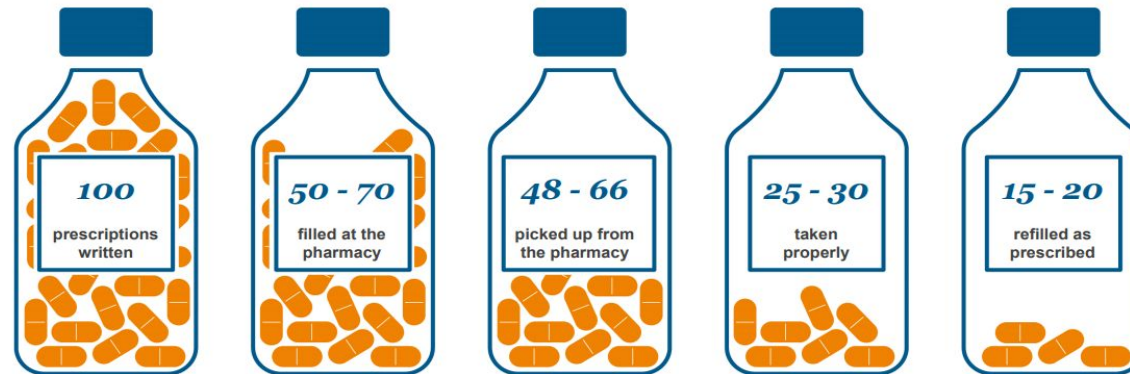
- *Multidisciplinary Steering Committee established to drive action includes patient advocacy leaders, healthcare professionals, biosimilar experts and industry leaders*
- *Action Plan will provide roadmap and tools to improve approvability, accessibility, acceptability and affordability (4As) of biosimilars*
- *Sandoz launched initiative to support improved healthcare access, equity and sustainability*

# Pharma Industry Global Health Challenges

*“Drugs don't work in patients who don't take them”* former US Surgeon General, C. Everett Koop  
How can we make Medicines that work for Patients by reducing burden?

## Medication Adherence Represents A Significant Barrier To Healthcare

For Every 100 Prescriptions Written...



National Association of Chain Drug Stores, Pharmacies: Improving Health, Reducing Costs (March 2011)

8

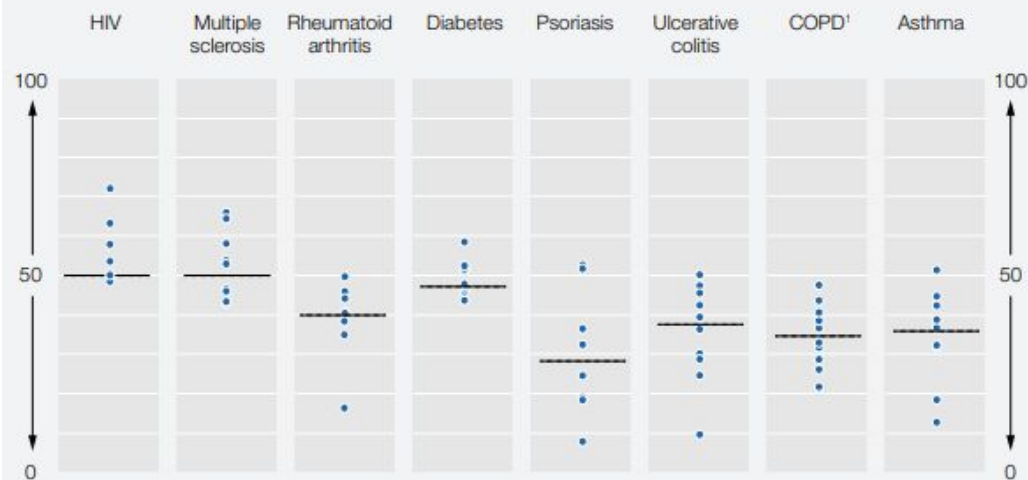
**MCKESSON**

- We have a problem in high income countries with people taking their medicines
- The issue is greater in low & medium-income countries

# Pharma Industry Global Health Challenges

Low persistence rates were found across disease categories, with significant variation by medication within each category.

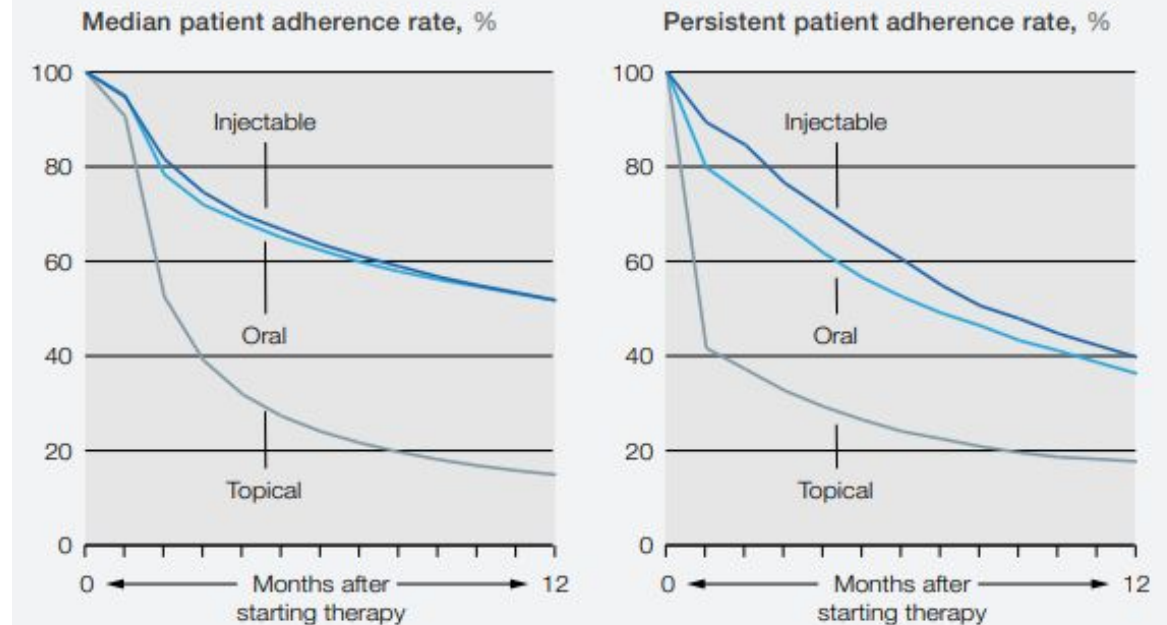
Persistence across all products, by disease,  
% of patients continuing therapy after 12 months



<sup>1</sup>Chronic obstructive pulmonary disease.

McKinsey&Company

Delivery methods show wide variations in psoriasis-treatment adherence.



McKinsey&Company

- HIV has some of the highest persistence rates because the patients, healthcare systems and pharma industry recognize the issue and work together
- Still opportunities to improve

*Improving patient adherence through data-driven insights.* McKinsey & Company, 2018.

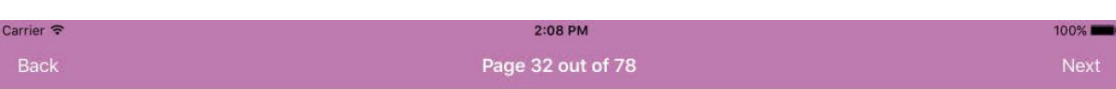
# Pharma Industry Global Health Challenges

1. Dropout rates and poor adherence are different but linked to patient burden
2. Chronic diseases and poor adherence are linked
3. **Low & middle-income countries need medication for all diseases**

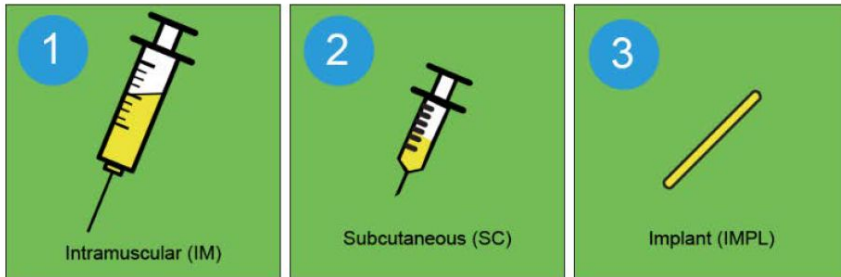
Medication Adherence in Common Chronic Diseases*	
Disease State	Mean (Range [%]) Medication Adherence Rate
Cancer	80 (35-97)
Cardiovascular diseases (all)	71 (39-93)
Hypertension	73 (39-93)
Psychiatric illnesses	78 (75-83)
Epilepsy	70 (46-88)
Glaucoma	78 (76-80)
Diabetes mellitus	73 (66-85)
Asthma	55 (37-92)
Chronic obstructive pulmonary disease	51 (50-52)

J Manag Care Pharm. 2006; 12(6).  
Clin. Ther. 2001 Aug; 23(8):1296-310.

# Establishing Patient Needs?

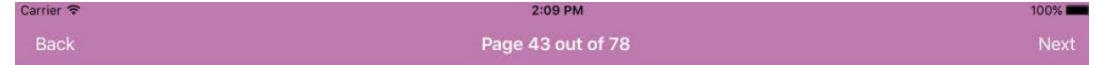


Can you spot the differences in pictures 1, 2 and 3?



Comment here

Record



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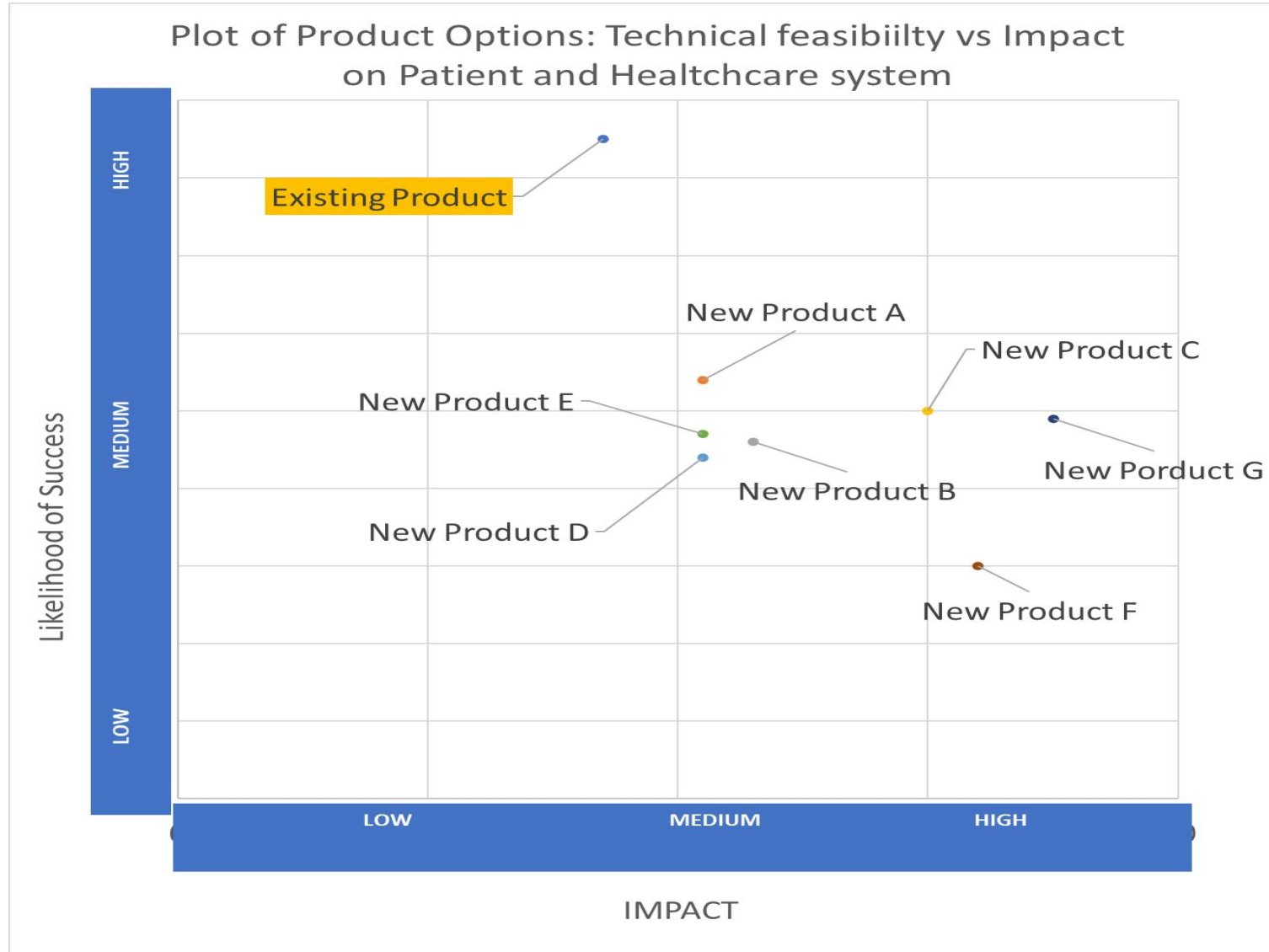


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# Evaluating Product Ideas



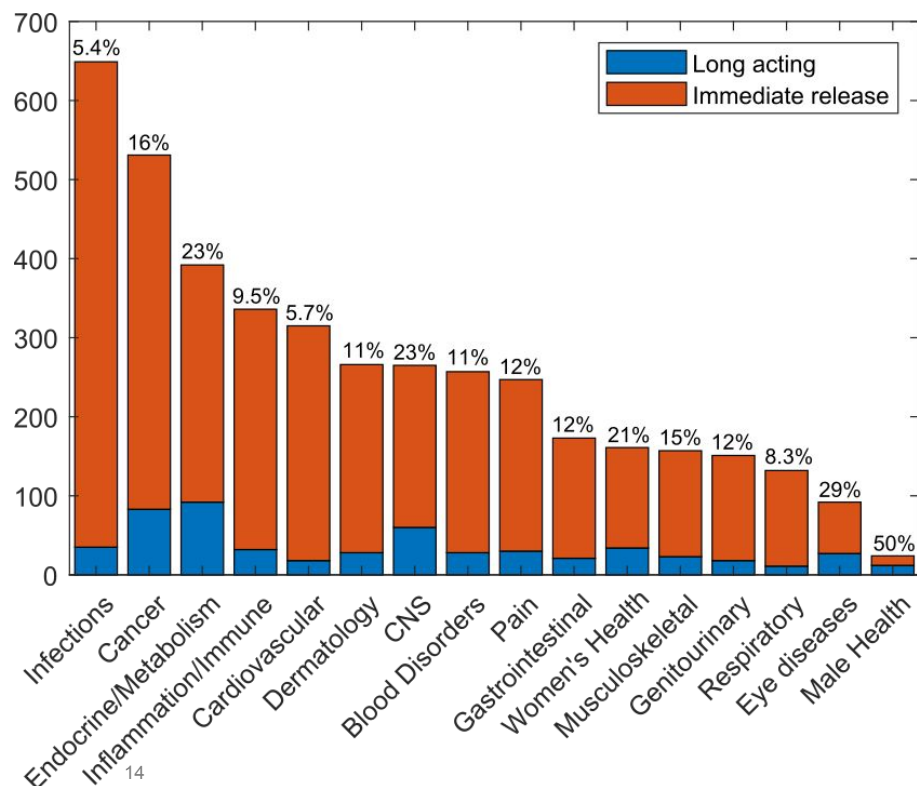


## Smart design of patient centric long-acting products: from preclinical to marketed pipeline trends and opportunities

Celine Bassand\*, Alessia Villois\*, Lucas Gianola, Grit Laue, Farshad Ramazani, Bernd Riebesehl, Manuel Sanchez-Felix, Kurt Sedo, Thomas Ullrich, Marieta Duvnjak Romic

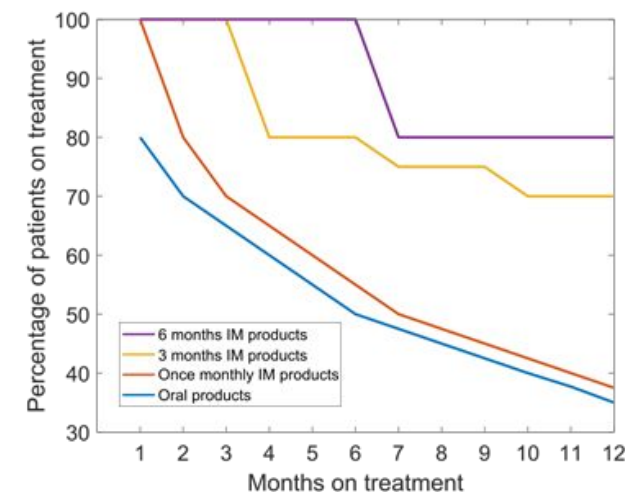
*\*These authors contributed equally to this work, co-first authorship*

**Submitted: Includes parenteral and oral LAI**



Depending on the disease area, long-acting injectables account for 5%-50% of all approved products

- Data from PharmaCircle
- No distinction of DS type
- US, EU and Japan markets
- Duplicates not removed
- Orals not included



*Hypothetical scenario, assuming that:*

- In 1<sup>st</sup> dosing, 20% dropping
- In 2<sup>nd</sup> dosing, 10% dropping
- In following dosing, 2.5% dropping

# Summary

- Global Health aim is to provide access to treatments for all patients across the world
- Patient focused product design is essential to provide access to the right treatment to patients, irrespective of geography or income
- Pharma companies have different disease focus areas and strategies for Global Health
- Highly collaborative environment and partners are required: Gates foundation, WHO, Wellcome Trust, pharma, etc.
- Extended release can reduce the burden for patients and healthcare systems
- Oral LAI technologies are being developed
- **Question: How can you help us meet Global Health needs?**

# Acknowledgements

- Colleagues at Novartis
  - Margaret Maloney, Jonathan Spector, Sonita Chada-Grathwol
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- Dr Jonathan Carapetis & Laurens Manning



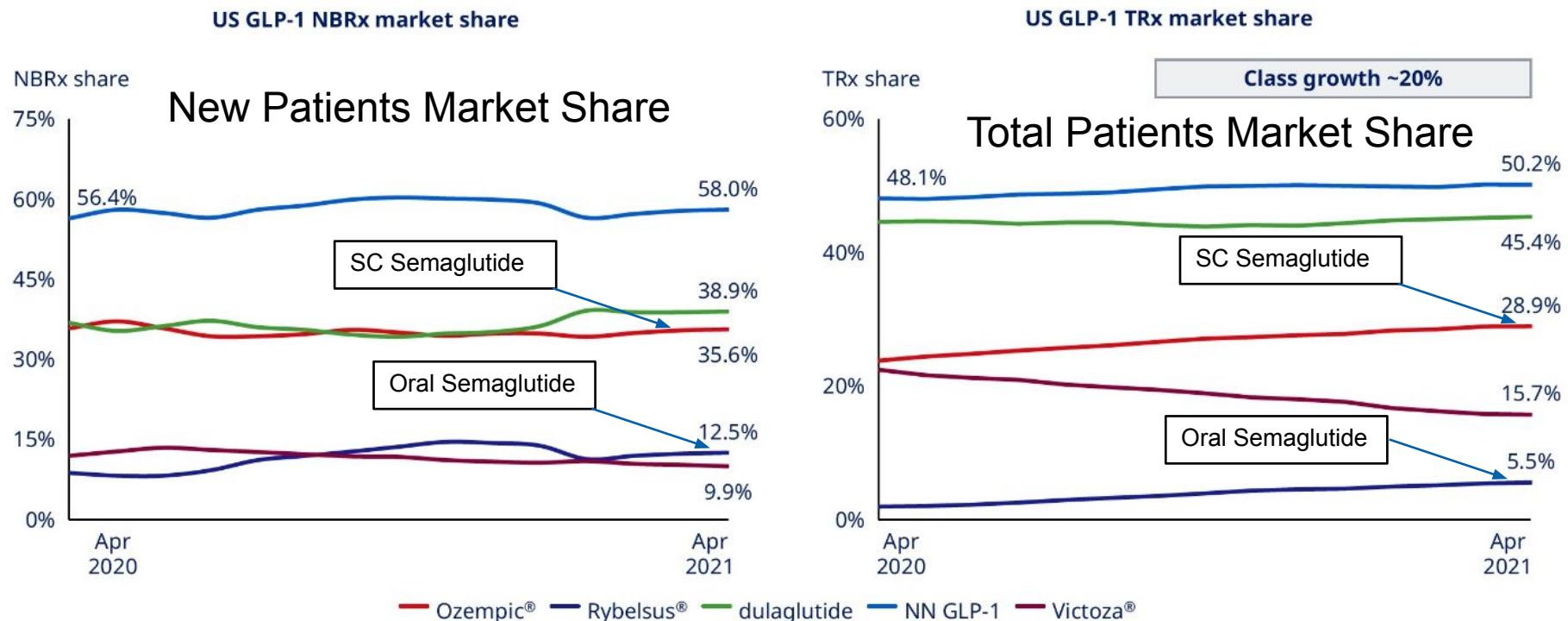
**Thank you**

# Trends in Route of Administration Drug Delivery

7 Investor presentation First three months of 2021

Novo Nordisk®

In the last 12 months, Novo Nordisk increased market share in the fast-growing US GLP-1 segment



Source: NBRx-IQVIA National LRx Monthly, (ending 16 Apr 2021). Each data points represents a rolling four-week average  
 NBRx: New-to-brand prescriptions; TRx: Total prescriptions; NN: Novo Nordisk  
 Note: GLP-1 volume data is monthly volumes; data only available through Mar 2021. Class growth calculated as Q1 2020 vs Q1 2021

- Subcutaneous once weekly GLP1 are ~88% of the market
- Oral meets ~12% of population who have needle phobia