

# Never Mind the Gap.

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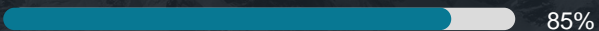


# Never Mind the Gap

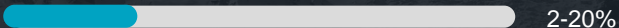
85% of global healthcare is spent  
by <15% of global population

## 85/15

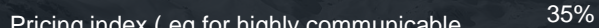
Share of Worldwide Population



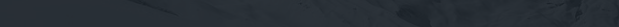
Healthcare expenses per capita



Tx and Dx availability (eg for highly communicable  
disease)



Pricing index ( eg for highly communicable  
diseases)



# “East is East, and West is West, and never the twain shall meet..”

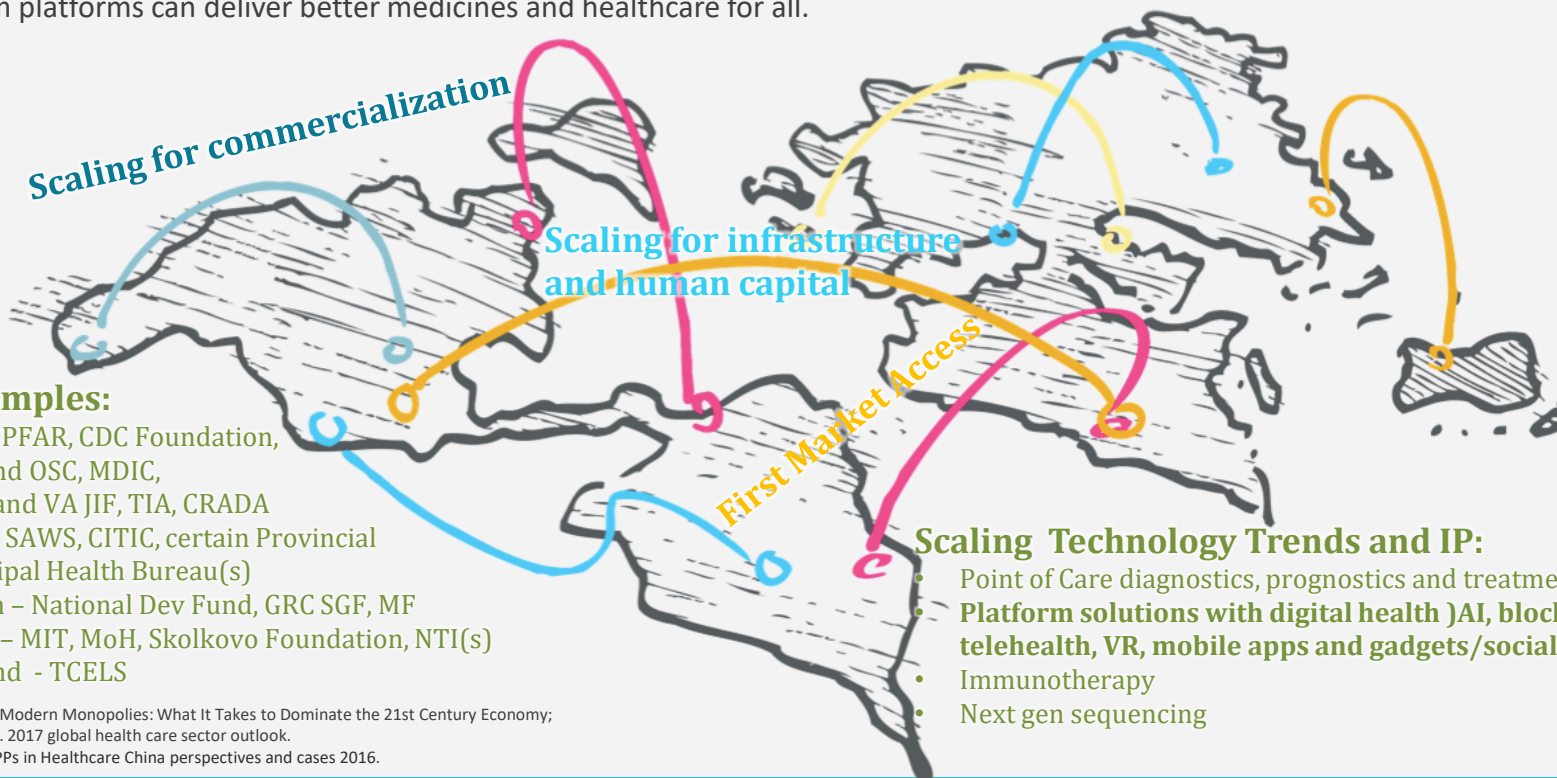
Rudyard Kipling



# Bridging the Gap. Networking Platform Businesses will deliver in XXI<sup>th</sup> Century. Reverse. Open and Disruptive.. Innovation.

They claim platforms can “deliver faster growth, better return on capital, and larger profit margins...”

We claim platforms can deliver better medicines and healthcare for all.



## PPP examples:

- US - PEPFAR, CDC Foundation, NIH PPP and OSC, MDIC, DOD DHP and VA JIF, TIA, CRADA
- China - SAWS, CITIC, certain Provincial and Municipal Health Bureau(s)
- Taiwan – National Dev Fund, GRC SGF, MF
- Russia – MIT, MoH, Skolkovo Foundation, NTI(s)
- Thailand - TCELS

## Scaling Technology Trends and IP:

- Point of Care diagnostics, prognostics and treatment
- Platform solutions with digital health (AI, blockchain, telehealth, VR, mobile apps and gadgets/social media)
- Immunotherapy
- Next gen sequencing

Source: Modern Monopolies: What It Takes to Dominate the 21st Century Economy; Deloitte. 2017 global health care sector outlook. PWC. PPPs in Healthcare China perspectives and cases 2016.

# Bridging the Gap.

## Reverse and Disruptive Innovation.

### Elpida® (elsulfavirine) – Tx and PrEP HIV-1

#### 1 Viriom, Hoffmann-La Roche

2009-2014 Licensed at pre-IND to Viriom and developed potential best in class HIV therapy and prophylaxis; qd and qw oral and LAI formulations in Eastern Europe and South East Asia

Supported with >15M from PPP

2014-2018 Obtained accelerated first market registration, treated over 25,000 patient through joint venture for market access; continued registration in East and South East Asia; submitted in US, prepared EU submission and WHO pre-qualification

### Trogarzo® (ibalizumab) –Tx for MDR HIV patients

#### 2 TaiMed, Genentech

2007-2017 Licensed P2 mAb candidate and developed iv, im, sq injectable formulations and ADC for treating HIV-1

Supported with >20M from PPP

2017-2018 Obtained marketing approval for Trogarzo® (ibalimzumab) in US for patients with limited treatment options; seeking marketing approval in EU

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- ✓ Global Development - Access to Patients in high prevalence countries
  - ✓ Accelerated Approval
  - ✓ Early Support with Private Public Partnering Funding
  - ✓ Market Access through JV and Regional Partnering
  - ✓ Pricing \$1500-3500 (<sup>1</sup> long term contracts) or \$118,000 (<sup>2</sup> orphan) per patient/year?

# Bridging the Gap.

## Open and Disruptive Innovation.

### Sirturo® (bedaquiline) - cure MDR-TB

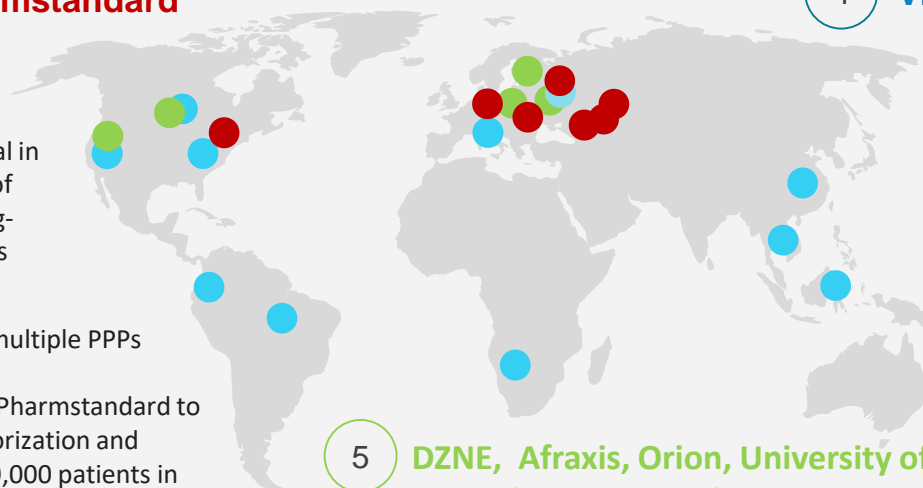
#### 3 JnJ, Pharmstandard

Accelerated approval in 2012 for treatment of pulmonary multidrug-resistant tuberculosis (MDR-TB) in adults.

Supported from by multiple PPPs

2012-2019 licensed Pharmstandard to obtain Market Authorization and provide Sirturo to 10,000 patients in CIS

transferred technology and know how



### VM1500A Long Acting Injectable - cure HIV network

#### 4 Viriom, Hoffmann-La Roche - cure HIV

Viriom manufactures VM1500A and supports pre-clinical models for partners with matching LAI or "hit and shock" approaches with curative potential : small molecule, mAb, gene and cell therapies

2017 and ongoing. NICHHD, UWH, UMD/AGT, IoSPC and other new partners are responsible for supporting their studies costs

Support is sought from PPP sources  
Support from Blockchain Partnership

#### 5 DZNE, Afraxis, Orion, University of Wisconsin – novel Dx/Px and Tx of neurodegenerative diseases

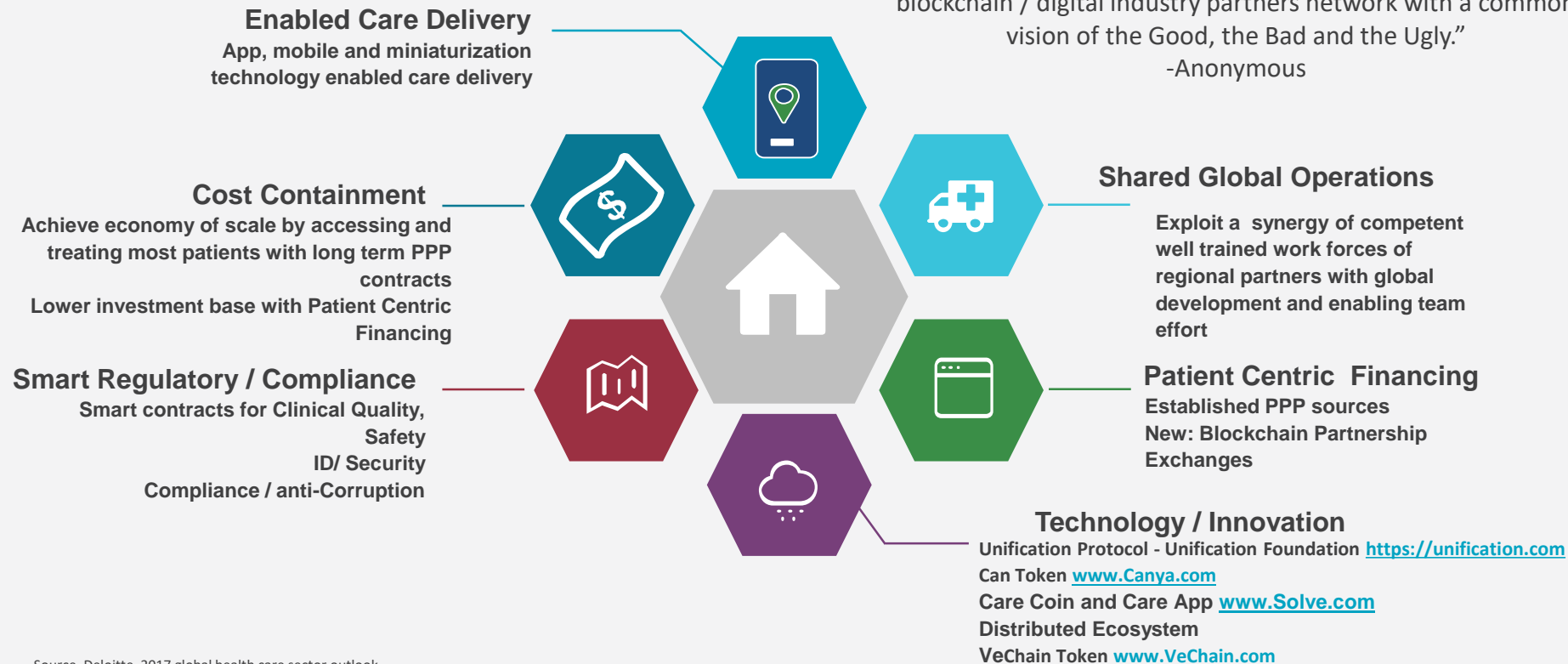
Supported with PPP of DZNE (German Center for Neurodegenerative Diseases), Orion Pharma, University of Wisconsin, Torrey Pines Investment, Afraxis with intramural funding from "NeuroNet" National Technology Initiative and Teal Tech Capital MMO.

Identify novel drug targets and develop treatments for neurodegenerative disorders (eg for immuno and inflammation MoA); AI in neuro imaging and SOP automation for care providers

# Bridging the Gap.

## More Than Open and Too Disruptive Innovation.

"We engage in an open innovation partnership with blockchain / digital industry partners network with a common vision of the Good, the Bad and the Ugly."  
-Anonymous



Source. Deloitte. 2017 global health care sector outlook.



**Thank you**

谢谢

Danke

Kiitos

ขอขอบคุณ

Merci

Спасибо

متشكرم

תודה

[www.viriom.com](http://www.viriom.com)



# Thank you

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