

Immunotherapy of Tuberculosis

Presentation of Dr. Butov at SU Global Impact contest, Budapest, Hungary



Why SU?

- The same ultimate mission: to help **1 Bln+** people
- SU is the best reach-out channel for global audience



My story

When I was 12-year-old boy, my dog died of TB...



Today, I am a doctor and my specialty is TB



About me

Dr. Dmytro Butov

What I do:

- Research work
- Treat TB patients
- Teach students at University

Professional appointment:

2009-2015	Assistant Professor, Department of Phtysiatry and Pulmonology, National Medical University, Kharkiv
2015-present	Associate Professor, Department of Phtysiatry and Pulmonology, National Medical University, Kharkiv



About me

Awards

Two national

Seven international

Ukraine



Project funded by:

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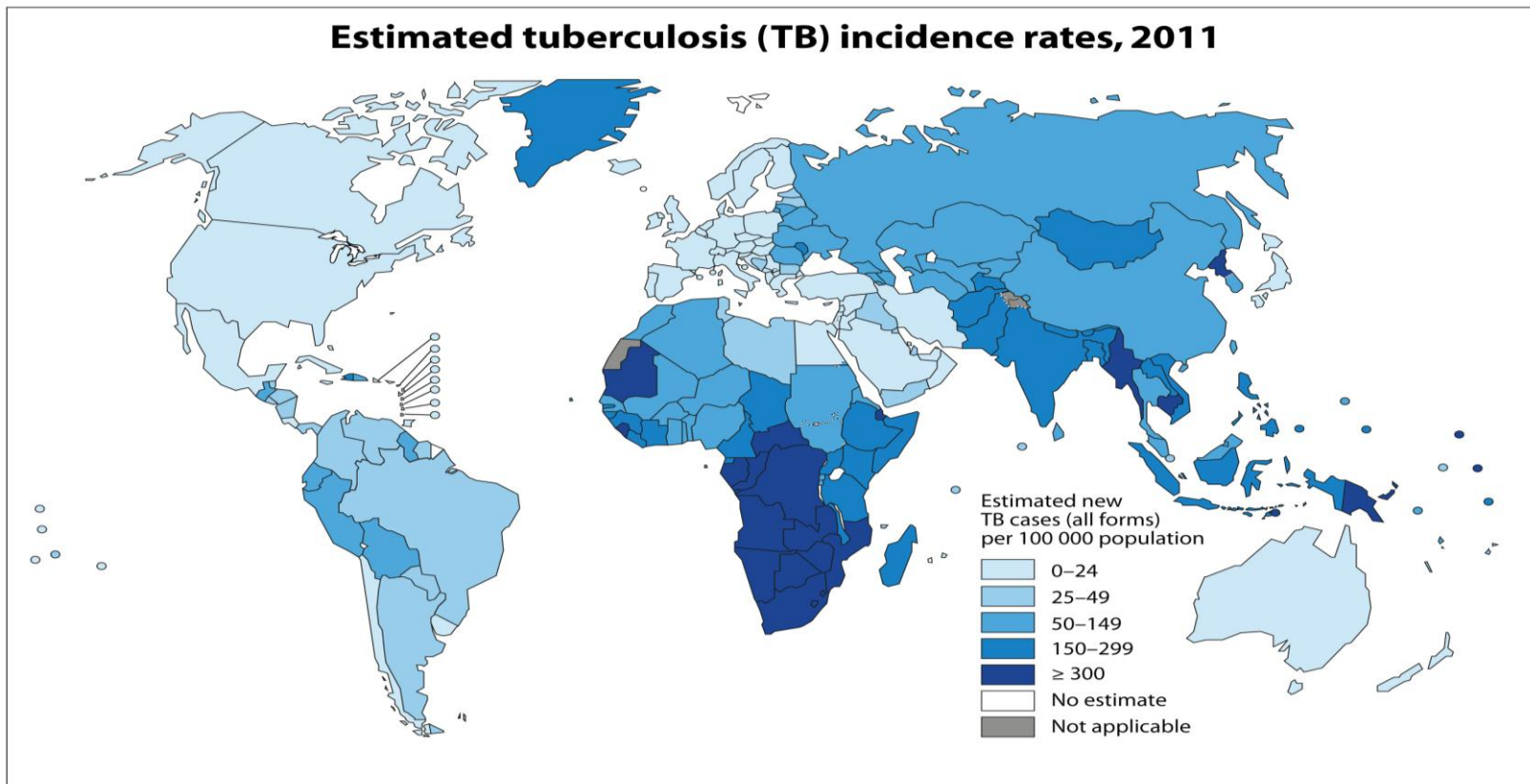
China



The project is presented to Singularity University Regional Contest, April 12, 2013

Global Problem: Tuberculosis

- **33%** of world population carry TB bacteria = **2.2 billion**
- Every **1** second, a person is infected with TB
- Every year **9 mln** people develop TB and **2 mln** die



Emerging Problem: MDR-TB, XDR-TB and TB with HIV+

- Multidrug-resistant TB is increasing = **0.65 mln**
- TB is a leading cause of death in HIV+ people = **0.5 mln**
- Only **2** new MDR-TB drugs approved in the last **50 years**
- Takes **2-3 years** and **100x** more expensive to treat MDR-TB
- Even then the success rate is **50%**



Solution: IMMUNOXEL honey lozenges

R_x : take once-per-day together with TB drugs (Immunotherapy 2012:4;272-283)

Phytoconcentrate
made by Ekomed

Formulated with
honey

Honey lozenges
made by Honibe



FASTER

CHEAPER

BETTER

- Can clear TB in 1 month in >65% cases
- Inexpensive: \$50 vs \$5,000
- Effective against MDR-TB, XDR-TB and TB/HIV



Commercialization Strategy for Immunoxel

Start

- Immunoxel patented in USA in 2011
- Proprietary honey lozenge technology in Canada (patent pending)
- First clinical trial of Immunoxel lozenges published in 2012

Phase I

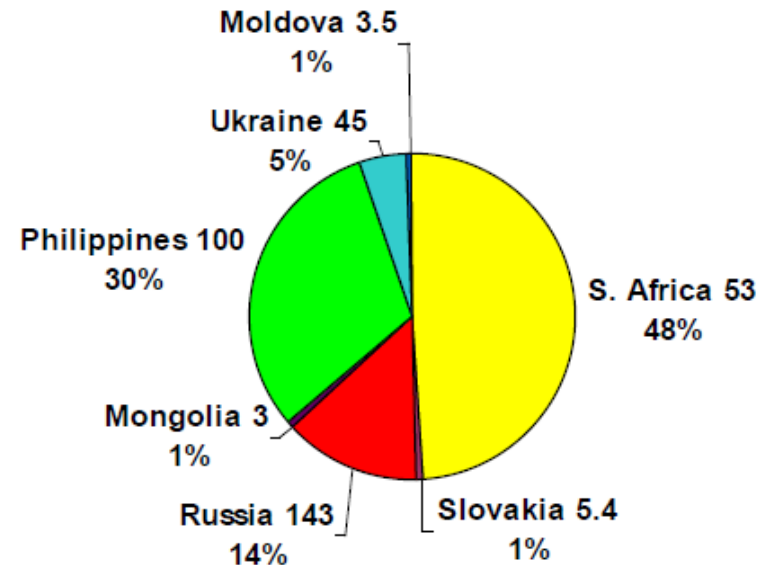
2013-2015

Confirmatory clinical trials in Mongolia, Ukraine, and soon in South Africa

Phase II

2015+

In 3 years we can deliver to 1.1 mln TB patients in 7 countries (pop. 350 mln), where liquid version of IMMUNOXEL is approved



Immunotherapy of Tuberculosis

With partners in Ukraine, Mongolia, South Africa and Canada

Principal Investigator

Dr. Dmytro Butov

Clinical team: Ukraine, Mongolia and South Africa

Corporate team:

Ekomed LLC, Ukraine

Ekomed XXK, Mongolia

Monos Pharma, Mongolia

Aspen Pharma, South Africa

Immunitor Inc, Canada

Honibe Ltd, Canada



Imagine

- We can cure most TB in **1 month**
- We can cut mortality **2-fold**
- We can cut cost **100-fold**
- A world with **zero** TB

