

# BIO-INNOVATION



science  
& technology

Department:  
Science and Technology  
REPUBLIC OF SOUTH AFRICA

# Health Innovation



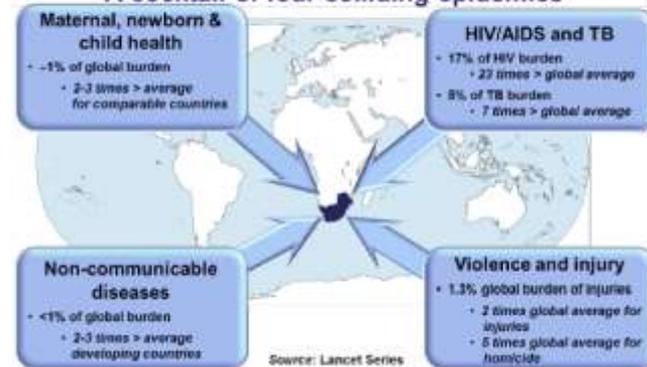
Innovation for health includes the development of new drugs, vaccines, diagnostics and medical devices, as well as new techniques in process engineering and manufacturing, (and new approaches and policies in health systems and services, including a better understanding of human health behaviour)

# SA's Burden of Disease – MRC guide

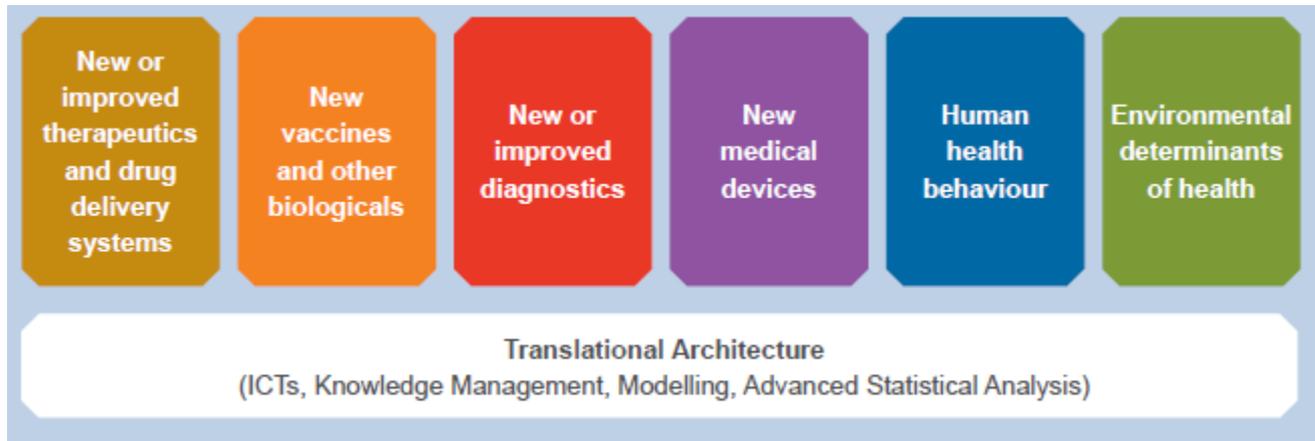
SA MRC is committed to addressing the burden of disease that impacts health

Cause of death	Deaths	%
HIV/AIDS	180,870	29.4
Hypertensive heart disease	39,272	6.4
Lower respiratory infections	38,576	6.3
Cerebrovascular disease	37,913	6.2
Tuberculosis	37,519	6.1
Diarrhoeal diseases	26,564	4.3
Ischaemic heart disease	24,510	4.0
Interpersonal violence	20,155	3.3
Road injuries	18,166	3.0
Diabetes mellitus	13,667	2.2
COPD	11,458	1.9
Nephritis/nephrosis	9,130	1.5
Top 12 causes	457,800	74.3
Total	615,788	100.0

The quadruple burden of disease in South Africa:  
A cocktail of four colliding epidemics

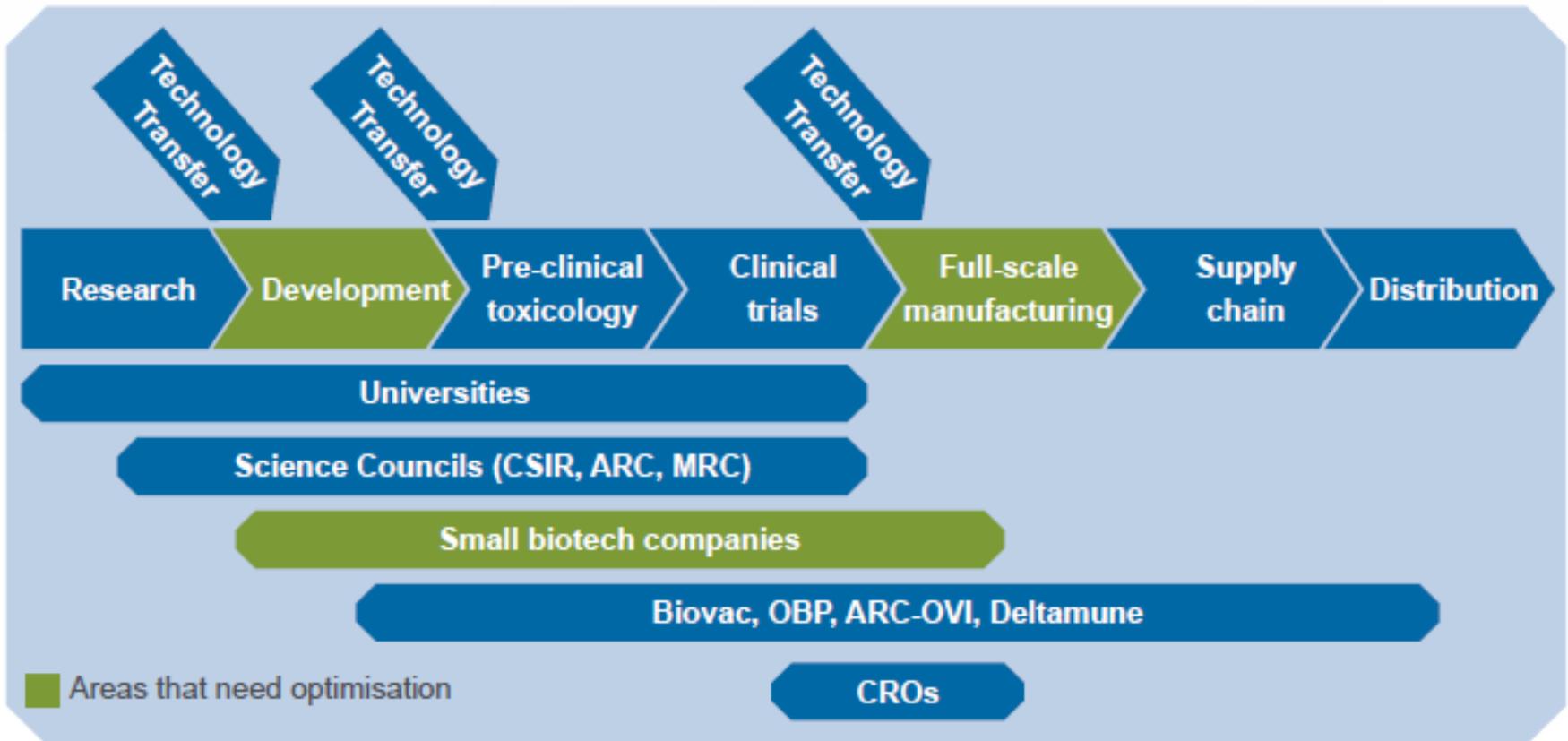


# Health



- Develop improved drugs to address priority diseases (incl. African Traditional Medicine);
- Develop new and improved vaccines and biologicals;
- Develop improved diagnostics;
- Develop improved medical devices;
- Strengthen clinical research and development capabilities;
- Establish pharmaceutical manufacturing.

# Health



- Building the Health Innovation System
- Develop and support the translational architecture
- Support strategic priorities



# Implementation Priorities

- **New or improved drugs, therapeutics and drug delivery systems;**
- **New vaccines or other biologicals**
- **New or improved diagnostics**
- **New medical devices;**



# Implementation Priorities Targets

## **New or improved drugs, therapeutics and drug delivery systems**

- Malaria drug in Phase III
- Establish a Precision medicine platform, and initiate the development of targeted therapies for cancers and auto-immune diseases
- New and simplified dosing regimes for HIV and TB in clinical trials
- Reverse engineering of high priority drugs to stimulate local manufacturing of APIs through Ketlaphela



# VACCINE AND BIOLOGICALS

- Locally manufacture clinical trial batches for HIV and TB vaccines
- Adjuvant manufacturing ability established;
- BNAPs for HIV in Clinical trials (CAP256)
- HIV and TB vaccines in Phase III clinical trials



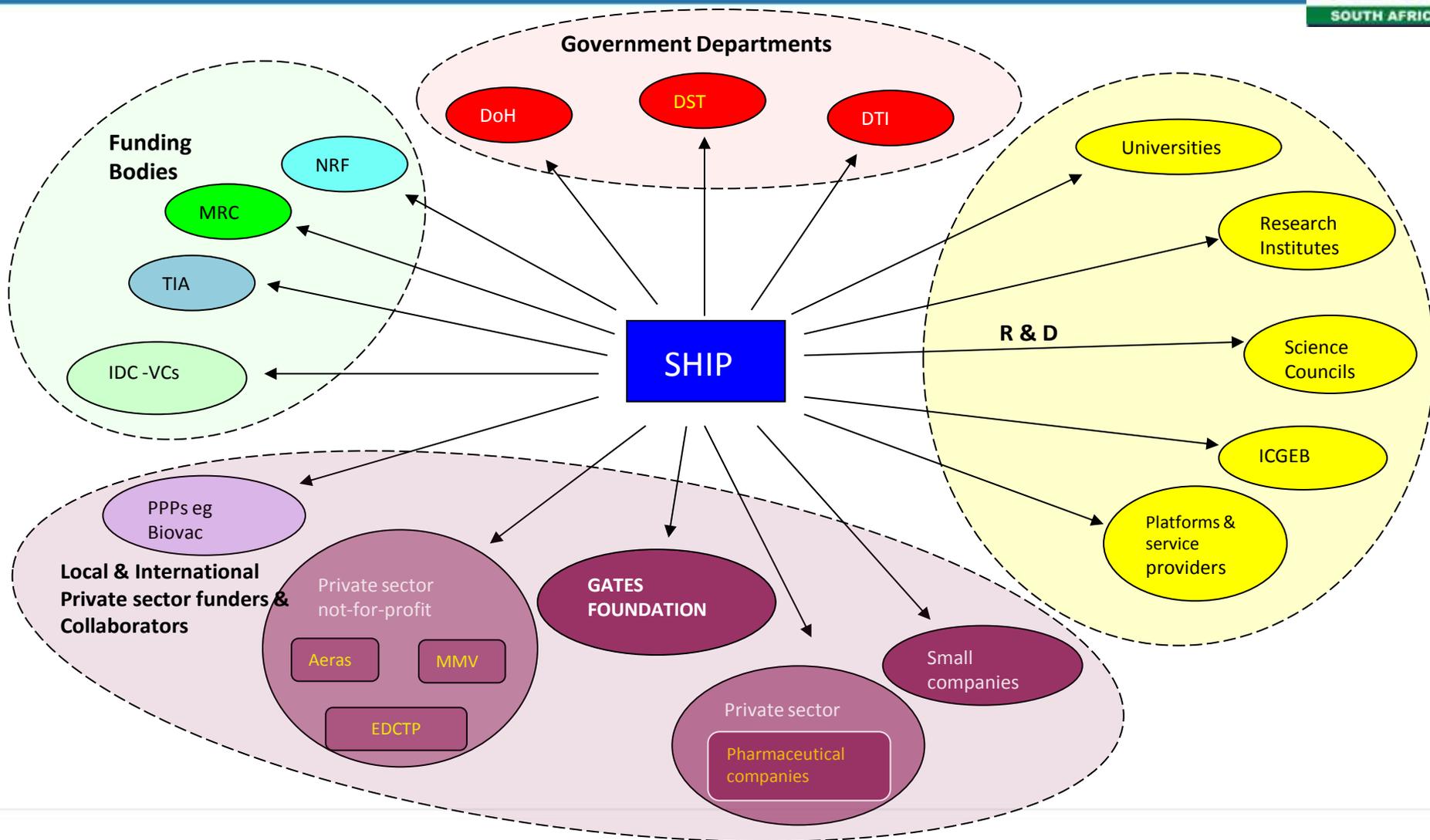


# New or improved diagnostics

- **Point of care diagnostics**, which need to be:
  - TB diagnostic rolled-out
- **Personalised diagnostics:**
  - Gknowix technology validated
  - Nuclear imaging technology rolled out in public hospitals using newly developed technologies
- **Rapid response capabilities:**
  - Drug resistance test rolled out



# Enable partnerships



# Funding Partners



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health

Department:  
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BILL & MELINDA  
GATES foundation



Medicines for Malaria Venture



wellcome trust



