Technology Transfer for Local Production

Emily Kaine, M.D.
SVP – Global Public Health
The United States Pharmacopeia
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Outline

- Brief thoughts on “definition” of technology transfer
- Some potential benefits and drivers of technology transfer
- A few points on current state and possible change drivers
- Some thoughts on potential accelerants
There is no globally accepted definition of “tech transfer” – but typically defined by transfer of capabilities from one party to another.

"Transfer of technical information, tacit know-how and performance skills, technical materials or equipment, jointly or as individual elements, with the intent of enabling the technological or manufacturing capacity of the recipients."
The aim of “tech transfer” can/should be more expansive, going beyond a sender/receiver transaction, resulting in diffusion of capabilities.
Why technology transfer?

- **Accelerate development of Africa’s pharmaceutical production base** The African continent imports up to 90% of medicines, compared to China and India, which import only 5 and 20%, respectively.

- **Leverage Africa’s substantial potential** – both as a producer and consumer, to drive socio-economic development and growth. *On the Wings of Innovation, the AU Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024) places science, technology and innovation at the epicentre of Africa’s socio-economic development and growth.*
Factors related to innovative and absorptive capacity frame likelihood of successful technology diffusion

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<th>Innovative capability</th>
<th>Absorptive capacity</th>
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<td>Social cohesion and economic inequality</td>
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1. UNCTAD, Castellacci and Natera (2013).
Across drivers of “competitiveness” African markets are still relatively disadvantaged.
FDI remains in Africa relatively flat, with pharma tech transfer still extremely limited

- Despite greater historic returns on FDI in Africa relative to “developed” and LAC economies, investment has remained relatively flat\(^1\)

- Overall, life sciences continues to account for the smallest number of FDI projects\(^2\)

- Pharmaceutical technology transfer remains extremely limited, outside of S. Africa and select N. African countries

- Though AfCFTA could attract greater investment, global recession may produce countervailing headwind

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1. Overseas Development Institute, January 2020  
2. EY Africa Attractiveness Report 2019
However, the case for local manufacturing, which can be spurred by technology transfer is strong. The urgency of the imperative is high as the COVID crisis reveals fundamental global supply chain vulnerabilities.

- **Affordability:**
  - At scale FPP manufacture in Africa, even accounting for raw material/API import, could result in a 12% or more reduction in landed price to distributor versus FPP import.
  - Further upside from opportunity to “leapfrog” through adoption of advanced manufacturing technologies: Using Ethiopia as an example, McKinsey and company analysis revealed that improved chemical-synthesis processes could reduce costs by approximately 5 to 35 percent, and continuous production could cut costs by another 10 to 25 percent.

- **Market responsiveness and security:**
  - Local pharmacos. are more incentivized to bring newer/more innovative generics to their markets, compared with global players who may lack incentives to navigate local regulatory requirements.
  - Greater health security (as evidenced by COVID crisis): Access to locally-produced medicines ameliorates need to compete with more powerful/wealthy markets for finite global essential medical commodity resource pool.

- **Reduction in trade imbalance:** If Ethiopia and Nigeria were to increase their local share of production from roughly 15 to 20 percent to around 40 to 45 percent, both countries could expect to see their trade balances improve by $150 million to $200 million annually.

1. McKinsey and Company Analysis, January 2019
Will COVID create a fundamental shift?

Will global imperative to access treatments drive more licensing and technology transfer?

Gilead agrees 127-country remdesivir licence with makers

14-05-2020  Rory O’Noll

Will exacerbation of inequalities in health commodity access spur leaders and policy makers to action?

Yet even where there is enough money, many African health authorities are unable to obtain the supplies needed as geopolitically powerful countries mobilise economic, political, and strategic power to procure stocks for their populations.1,2
What can be done now (and quickly) to accelerate technology transfer/diffusion and local manufacturing?

A few thoughts...

- **Facilitate economic & technical planning**
  - Conduct a rapid mapping (building on many pre-existing efforts) of existing manufacturing capacity and capabilities across continent or in select markets *What is “untapped” and where does absorptive capacity exist? Where is the market potential?*
  - Based on mapping, develop targeted plan for technology transfer, investment and more broadly stimulation of LPP which leverages favorable government investment and industrial policies to de-risk process

- **Create connectors**
  - Leverage technical and business knowledge created by mapping exercise to drive facilitated “connection” process, where a trusted broker connects investors, technology holders and potential recipients
  - Identify and support additional “connectors” to facilitate objective assessments on tech “transfer readiness”

- **Remove barriers**
  - Accelerate regulatory reliance and mutual recognition to create larger potential markets and remove hurdles to market access, building on existing economic cooperation efforts
  - Create common database of API and raw material sources accessible to African manufacturers

- **Promote diffusion**
  - Designate funded centers of excellence to house and amplify technical knowledge
Thank You

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