A view on Medical Devices industry in Africa

case study East Africa

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Medical Devices Industry

- Covers a wide spectrum of products used in the treatment of patients, including cardiovascular devices, dental equipment, diagnostic devices, medical equipment and supplies, ophthalmic devices, orthopedic devices, respiratory devices and surgical equipment.

- The medical device sector was not untouched by the economic crisis.

- Technological advancement plays an important role.

- Challenges: include taxes on products in overseas markets as well as incongruous foreign regulatory controls and varying implementation of standards.
OBJECTIVES FOR THIS SESSION

- Medical products in Africa
- Present a perspective on the opportunities in the Continent and the implications for local/global players
- Innovation and tech transfer
- Discuss what is needed in terms of innovation and the positioning of local players
- Open questions

Openly discuss how access and innovation can be enhanced
INDIA – FACTS AND FIGURES REGARDING THE MEDICAL DEVICE MARKET

- The fastest growing Medical Devices market - **Rs. 12,000 cr.**
- **Growth Rate** - **15% annually for next 5-6 years**
- **Equipment:** **50-55%**
  [ophthalmic, dental, imaging and other medical equipment]
- **Medical disposables:** **25-30%**
- **Implants:** **20-25%**
SWOT ANALYSIS

**Strengths**
- Potentially Huge market with growing urban middle class population
- Growing private hospital sector aiming to attract health tourists
- Success in Pharma and other paramedical areas

**Weaknesses**
- Low per capita expenditure
- Developing government policies and infrastructure
- Untapped rural markets
- Excessive dependency on imports
- Academic knowhow is not well developed in this sector
- Support system from R & D not available
Africa medical product market forecast
USD billions

Overall pharma market to reach about USD 54-62bn (roughly 35% Gx)

- Increasing expenditure
- Expanded provision
- Maturing business environment

<table>
<thead>
<tr>
<th>Year</th>
<th>Others</th>
<th>Top 15(^1)</th>
<th>2020 Base</th>
<th>2020 Realistic</th>
<th>2020 Optimistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>0.6</td>
<td>3.3</td>
<td>1.3</td>
<td>10.4</td>
<td>13.5</td>
</tr>
<tr>
<td>2020 Base</td>
<td></td>
<td></td>
<td>10.0</td>
<td>11.8</td>
<td>15.1</td>
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<tr>
<td>2020 Realistic</td>
<td></td>
<td></td>
<td>1.4</td>
<td></td>
<td></td>
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<tr>
<td>2020 Optimistic</td>
<td></td>
<td></td>
<td>1.6</td>
<td></td>
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</table>

Sales per capita USD
- Africa: 4.0 USD
- Top 15: 5.0 USD

\(^1\) Top 15 includes local and globally recognized companies
EXAMPLE – SOUTH AFRICA’S MEDICAL PRODUCT MARKET GROWTH EXPECTED TO ACCELERATE TO 11% P.A.

- Upgrade of hospitals nationally ($2-3bn over 3 years)
- Phased introduction of national health insurance (additional $20-30bn into the system over next 15 yrs)
- Rapidly growing middle income segment / consuming class (15-20% growth of middle income groups by some estimates)
WHERE TO FOCUS - SELECTED AFRICAN COUNTRIES ARE EMERGING AND WILL BE WORTH $1.8BN IN 2016

- The selected markets have 20 – 23% share of Africa’s medical device market
- South Africa and Egypt possess 39 – 41% share of Africa’s medical device market
THERE ARE IMPORTANT ACCESS BARRIERS

<table>
<thead>
<tr>
<th>Limited infrastructure/capacity</th>
<th>Poor quality</th>
<th>Restricted funding and reimbursement</th>
<th>Broad access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countries with poor health-care infrastructure (e.g., number of physicians and hospital beds)</td>
<td>Markets with physicians lacking awareness or skills (e.g., to perform advanced procedures)</td>
<td>Markets with infrastructure and quality, but restrictions on funding or pricing (e.g., medical device spending/health-care spending)</td>
<td>Markets with good infrastructure, capacity/quality, and favorable funding or pricing situation</td>
</tr>
</tbody>
</table>

Most Africa today

CEE today

Short-term

Rest of Europe today

Long-term
## COLLABORATION FOR KNOWLEDGE AND TECHNICAL TRANSFER FROM LARGE GLOBAL PLAYERS IS KEY – CHINA EXAMPLE

<table>
<thead>
<tr>
<th>Partnership examples</th>
<th>Deal structure</th>
<th>Deal rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE &amp; Shinva</td>
<td>Established joint venture (GE 49% stake)</td>
<td>GE: Leverage Shinva's product portfolio and strengths in local manufacturing and procurement to develop and promote mid-/low-end X-ray systems for the lower-end healthcare market, which is a focus of the healthcare reform. Shinva: Obtain technology and quality support from GE, and improve its brand image.</td>
</tr>
<tr>
<td>Philips &amp; Goldway</td>
<td>Philips acquired Goldway in a deal worth $46mn</td>
<td>Philips: Leverage Goldway’s complementary patient monitor portfolio, not only for the Chinese market, but for export to other value-conscious, high-growth markets. Goldway: Take both brand and technology advantages of Philips to improve marketing competitiveness and provide more reliable and affordable products.</td>
</tr>
<tr>
<td>Medtronic &amp; Weigao</td>
<td>Medtronic acquired 15% stake of Weigao with $221mn</td>
<td>Medtronic: Expand beyond the high-end ortho market by leveraging Weigao’s mid- to low-end product portfolio and sales network. Weigao: Broaden business and improve R&amp;D capability to become a leading medical device company in Asia.</td>
</tr>
</tbody>
</table>
WE SEE BROADER EFFORTS IN AFRICA EMERGING, BUT STILL LOTS OF ROOM TO BUILD

Recent partnerships in Africa

**PHILIPS**

- Philips and local partner PPC Ltd are collaborating with the Federal Ministry of Health with new Brilliance CT 16-slice scanner.

**SIEMENS**

- Siemens in partnership with Meditec Systems Ltd to provide a complete solution to the Cancer Care Centre in Nairobi, Kenya, which serves the community of East and Central Africa.

- Siemens and TOGA (ZA) have partnered on the innovative TOGAtainer – a turnkey lab that can be placed anywhere for decentralized lab services.
Support to establish local R&D hubs is another way to transfer tech and improve access.

- Entered the Indian market through $1.65bn acquisition of Howmedica, a Pfizer subsidiary and leading producer of orthopedic implants and instruments in Haryana headquartered in Gurgaon.
- Haryana has a 20% share in the joint replacements market in India, but also sells surgical equipment and hospital beds.

- Significant investments in R&D infrastructure.
  - Opened first global technology center in Gurgaon Conducts product development on all categories of operation.
  - Functions as a global talent hub for Stryker operations throughout the world. Plans to set up state-of-the-art operation theater at the Gurgaon facility for interactive visual learning with partners around the world.
Strong local medical device players with ‘global profile’ emerging – Mindray example

### Fivefold revenue growth over the past five years

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue ($mn)</th>
<th>Net Income ($mn)</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>190</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>294</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>548</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>634</td>
<td>147</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>704</td>
<td>171</td>
<td></td>
</tr>
</tbody>
</table>

### Global sales performance 2010

**Revenue by product (%)**
- Patient monitoring and life support: 45%
- In-vitro diagnostic: 25%
- Medical imaging systems: 6%
- Others: 25%

**Revenue by region (%)**
- China: 32%
- Developed market: 42%
- Emerging market: 1%
- Others: 1%

### Expand its business rapidly in these years

- Mindray founded
- Mindray international, the Cayman islands holding company, was established
- IPO at NYSE
- Acquired Datascope’s patient monitoring device business for $209mn
- Acquired a controlling stake of Shenke medical, an infusion pump manufacturer
The markets are very different and still shaping and growing

**South Africa**
- 45% Global players have 2-3% shares
- Share of total business from small player incl. locals

**Nigeria**
- 51% 6 global players including (incl. Mindray)

**Kenya**
- 25% 5 Global players

- Most products are still imported (e.g., 90% in Kenya), and global link through local distributors.
- Some local production in South Africa but focus mostly on distribution.
- The market still looking for broader quality/price balance and service/tech. support.
- Players like Toshiba and Mindray now making strong in-roads.

**Local players should**
- Start investing in selected granular opportunities.
- Look for similar opportunities already implemented ex-Africa.
- Early ventures/entrepreneurs should actively seek investment to capture selected growth.
Some deal activity detected in last few years

Medical product-related acquisitions in Africa
(Number, per year)

- Deals split over Continent (in lead countries)
- Avg. ~ USD 10m deals
- Equally split across majority/partial interests, outright purchases and increased stakes
- 50% of deals focused on local manufacturing
- Most acquisitions by other industry players
WHAT NEXT??

- **Opportunities**
  - Overseas companies investing in East Africa to set up R & D units
  - Increasing Joint ventures and agreements
  - Overseas aid assisted projects to improve healthcare infrastructure
  - Regulations to improve market for domestic manufacturers.

- **Threats**
  - Regulation policies may slow down the development of the market
  - Unorganized market for medical disposables
  - Lack of regulations, specifications - leading to spurious products.
GROWTH DRIVERS

- Booming economy
- Increasing healthcare expenditure
- Changing demographic profile
- Increasing incidence of life style diseases
  - Ophthalmology
  - Cancer
  - Cardiovascular diseases
  - Hypertension, diabetes and renal diseases
  - Neurological and psychiatric disorders and addictions
- Increasing number of medical tourists
- Proliferation of hospitals
- Government programs and support
- User friendly and handy devices
Key issues in the industry and possible solutions

- Unstable regulatory environment
- Lack of funding in R&D
- Insufficient skill sets
- Lack of domestic participation

Conclusion

“The medical technology segment has tremendous potential. This potential should be recognized by the developing countries including East African countries and there have been many initiatives to promote the sector. Setting up the incubation centers and R&D department, reduced tax from 16 ~ 18 percent to 5 or less percent for medical devices components. The sector will grow at more than 5 ~ 10 % by 2015 ~ 2025.”
WHERE TO START

- It is always required to start with less R&D investment funds, but we are capable to design and assemble the following items;
- Infant incubator to save life for new born
- Suction pumps – to save patient in Operating room
- BP machine: for regular home use
- Thermometer: for home use
- Centrifuge for lab use
- X-ray machine for general propose
- Patient monitor: to save critical care patient
- We have talent but we are not explorer to the maximum
How can access to Med devices be achieved in Africa/EAC?
What role can local technologies play?
How much is “already invented” and just needs to be transferred/recreated?
Should the government intervene, like in PPP/PDP type deals seen in Pharma and across Emerging Markets, to create a local industry that boosts access?
What is the view of the group on status of players in Africa?
Are they an investment opportunity or better to place your money in players from other (emerging) markets?

.questions
Thank you