Go Beyond South Africa: North Africa (Francophonic Countries) Being the Next Generation Clinical Trial Destination in Africa

Abstract

Africa is the world's second largest continent, with a population of more than 1 billion. Africa accounts for 24 % of the global disease burden, while infectious diseases like HIV/AIDS and tuberculosis still remain a major problem. There is also an increasing demand for drugs treating non-communicable diseases like cardiovascular and respiratory disorders, cancer and diabetes. In 2012, African pharmaceutical market revenue was USD 18 billion and growing with a CAGR of 10.6 %, expected to reach USD 30 billion by 2016. Seven Sub-Saharan and North African countries **(South Africa, Nigeria, Kenya, Egypt, Morocco, Algeria and Tunisia)** are contributing to more than 80 % of the market in Africa. Large pharma can diversify their business and product portfolio and find the path to market in Africa by conducting local R&D studies and a greater number of local clinical trials. Currently more than 45 % of the whole continent's clinical trials are being conducted in South Africa, and hence there is now a need for a pharma company to identify the next generation clinical trial destination.

Problem Statement

The major challenges faced by a pharma company to find the path to market in Africa are:

- Regulatory timelines for registering a product takes an average of 2-3 years in the continent due to lack of availability of protocol standards and poor governance structure. This will increase cost and risk for a pharma company
- Limited opportunity for public reimbursements
- Weak infrastructure in cold chain distribution
- Limited knowledge among physicians on diseases, unmet medical needs and pharmacovigilance

Public reimbursement could be made better by pharma giants entering into the local pharma market and concentrating on innovative drugs for unmet medical needs such as malaria, tuberculosis, HIV and other antibiotics across African countries, and conducting local R&D and clinical trials that include Phase I-IV and other observational studies. Pharma giants can also consider technology transfer by partnering with local drug manufacturers and research centres to diversify their business portfolio.

This whitepaper will focus on alternative clinical trial destinations that also have potential to grow as big pharma markets in future. The focus of this whitepaper is on North Africa, with a special focus on Morocco, Tunisia and Algeria.

Introduction

Currently more than 45 % of clinical trials in Africa are being conducted in South Africa, whereas it is contributing 22 % of Africa's pharma market. This implies pharma giants have to diversify their clinical trial footprint in Africa and go beyond South Africa.

The North African countries Morocco, Tunisia, Algeria, Egypt, Libya and Sudan are currently nurturing their abilities in clinical research by preparing themselves with a developed healthcare infrastructure, skilled employees, and expertise in biostatistics and data management, to attract large pharma and ease clinical research activities in their countries. Having closer proximity to the European countries Portugal, Spain, Austria, Italy and Greece, and being francophonic enables North African countries to work closely with the European pharma companies as well. They are influenced by and have adopted clinical trial guidelines from EMA, which will not compromise the quality parameters for clinical research.

The pharma market in Morocco, Tunisia and Algeria is established, and combined revenue is 30 % more than South Africa's, with the promise of greater potential for clinical trials. To study more about the clinical research scenario in these countries, Beroe conducted interviews with the top management of regional CROs in Morocco, Tunisia and Algeria.

Morocco

As per BMI, Morocco Pharmaceuticals and Healthcare Report, Q3, 2013, the pharmaceutical drug market in Morocco is estimated to be USD 1.35 billion and expected to reach USD 2.07 billion by 2017. In 2012, the prescription drug market was USD 928 million. Of this, generic drugs accounted for 25 % and branded drugs for around 45 %. By 2017, the generic drug market is expected to increase to 32 %, and eventually patented drugs to decrease to 40 %.

70 % of the pharmaceutical drugs manufactured in Morocco are supplied for the domestic market. According to WHO, drugs manufactured in Morocco are as good in quality as the drugs manufactured in European countries. Sanofi, GSK and Pfizer have manufacturing units in Morocco, sustaining the domestic drug market. Hence more local clinical trials have been happening in Morocco.

Clinical Trial Scenario:

During 2001-2004, 245 local clinical trials were conducted, and in 2004 an ethics committee was formed. The first global clinical trial was conducted in 2007, and 15-20 global clinical trials were conducted during 2007-2010. The government then suspended clinical trials in

Morocco though they were reauthorised by the current government in 2012. A Moroccan regulatory/competent board is influenced by the European/French regulatory laws, and follows the same. Currently, clinical trials in different therapeutic areas are happening in the country but early-phase clinical trials are not allowed. CROs in Morocco are working on a bio-ethical bill to implement early-phase studies, which is expected to be implemented by 2014. Presently, 65 % of the clinical trials happening in Morocco are in Phase III.

CROs in Morocco:
When clinical trials were suspended in Morocco during 2010, only a few local CROs remained through the regulatory reforms and continued their services by outsourcing biometric and biostatistics services for European companies. Large pharma companies engaging with the CROs for outsourcing clinical trials should make sure that the CRO has investigating centres and certifications/authorisations from USFDA and EMA.

"Stratance Health is among them, having experience in outsourcing clinical trials for European clients as well as expertise in biometrics, biostatistics, data management, monitoring (on-site / centralised) and regulatory services."

Factors Favouring Clinical Trials in Morocco:
- Casablanca, the eighth-largest city and seventh-largest population in the continent, is in Morocco. It has stable ethnicity and is considered a good source of patients willing to participate in clinical trials.
- The cost per patient for clinical trials would be 30-40 % of the cost incurred in developed markets like the US and Europe.
- There is good accessibility to biology and life science graduates from schools of medical sciences and biology. Moroccan CROs recruit, train and depute them as CRAs. CRA turnaround rates are low. Regional CROs in Morocco have the potential to outsource CRAs for European countries for clinical monitoring in the near future as they are fluent in French, English and other European languages.

Tunisia

In 2012, the pharma market revenue was around USD 900 million. Top pharma companies like MSD, Roche and AZ have units in Tunisia manufacturing local drugs. Currently 135 clinical trials are happening in Tunisia.

"Out of 12 clinical studies kicked off in the last three years, six of them are conducted by Poseidon Pharma. The company engages with other firms for medical / scientific writing services and also provides patient-assisted programmes, healthcare market research etc. to sustain in the clinical trial industry."

Clinical Trial Scenario:
The first clinical trial was conducted in the late 1990s. GCP guidelines for clinical trials were framed by the Ministry of Public Health during 2000 and the same is being followed. Currently 172 clinical trials are being conducted in Tunisia. Of these, 12 clinical studies commenced in the last three years. The Ministry of Health (MoH) is the regulatory authority. Tunisia has a favourable regulatory environment for clinical trials with the shortest timeline for approvals. From scratch to site it takes three months approximately; one month for ethics committee approval, 4-6 weeks for MoH approval and another 3-4 weeks for site identification and study initiation. Phase III and IV clinical trials are allowed for most of the pathologies and Phase II is allowed when no effective treatment is available. But BA/BE and early-phase studies are not allowed to be conducted currently. CROs in Tunisia are proposing an amendment for new clinical trial guidelines for allowing BA/BE and Phase I studies and it is expected to be approved in the next 2-3 years. CROs in Tunisia have expertise in biostatistics and provide post-marketing services to Saudi, UAE and Turkey. The number of clinical trials is expected to double in the next two years.

Factors Favouring Clinical Trials in Tunisia:
- Tunisia has a high scientific medical standard with adequate accessibility to patients and hospitals with a better healthcare system.
- People living in Tunisia are Caucasian with heterogenic diversities. The literacy rate is around 90 % , with 17 % graduating in life sciences being the major source of clinical trial associates and coordinators.
- More than 75 % of the investigators for GCP monitoring graduated from European universities and hence the quality standards are high.
- Good relationship between physicians and patients, unavailability and unaffordability of medicine are the factors driving higher patient retention rates close to 90 % .
- Splendid telecommunication services.
- Conducting clinical trials in Tunisia will incur 50-60 % of the cost incurred in Europe and the USA.

Algeria

Algeria is the tenth-largest country in the world with a population of 37 million and it is the second-largest francophonic country in the world. In 2012, pharma market size in Algeria was USD 3.21 billion and expected to be USD 3.53 billion by 2013. Top pharma companies like GSK have manufacturing sites in Algeria partnering with Laboratoire Pharmaceutique Algerien (LPA) focusing on new antibiotics. Novo Nordisk is collaborating with the MoH by means of a bilateral relationship between Denmark and Algeria.

"Clinical Group is the active regional CRO conducting global clinical trials in all the therapeutic areas. They are recruiting Algerians who graduated and work in European countries as CRAs."

Clinical Trial Scenario:
The first scientific research was conducted in 1985 and the first clinical research was registered in 2006. The

Ministry of Health (MoH) is the regulatory/competent authority in the country. Algerian GCP regulation was approved in 2009 and was clearly adopted from international GCP. Regulatory approval is a sequential process with timelines of 4-5 months approximately; 4-6 weeks for ethics committee approval and 2-3 months for MoH approval. Patient documents should be recorded in both French and Arabic languages. Currently, most of the clinical trials conducted in Algeria are focused on oncology, haematology, cardiology and metabolism therapeutic areas. Phase I and BA/BE studies are allowed to be conducted in MoH-certified research laboratories. Global CROs cannot work directly in the country but can engage with a local CRO with MoH certification.

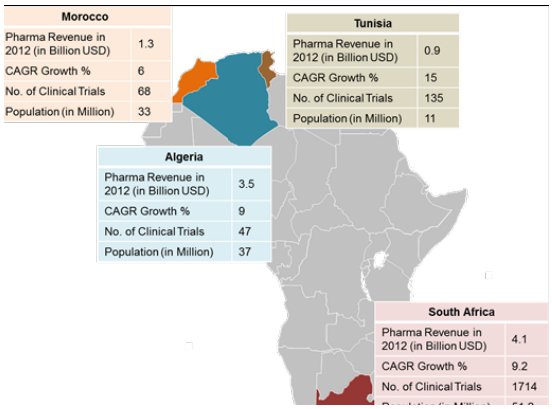

Figure 1: Showing Pharma Market and Clinical trials in North African Regions

	**Regional Supplier:** Global CROs are not allowed to operate their clinical research activities directly in Algeria, Tunisia and Morocco, and they have to partner with a regional CRO in that country. Large pharma have to ensure whether the CRO or research centre is certified by that country's regulatory body (MoH) before they engage for conducting clinical trials. ***CEO, Leading CRO, Algeria***
	**Consultant:** Clinical research in North African countries is reframing its regulations, infrastructure and service capabilities along with the Middle East countries, and together they are promoting their markets as MENA (Middle East and North Africa) regions. They have better accessibility to mostly accepted European regulations and guidelines. Adhering to EMA guidelines would promise better quality of clinical research in North African countries. ***CEO, Leading CRO, Tunisia***
	**Academic/Research Centres:** North African countries have good expertise in biostatistics as there is an institute of biostatistics studies graduating students every year. Biometrics and biostatistics services are being outsourced very frequently for European pharma companies. ***Managing Partner Leading Consulting Company, Morocco***

Industry Speaks

Factors Favouring Clinical Trials in Algeria:

- Hospitals in major cities of Algeria have better infrastructure and equipment for conducting clinical trials.
- Patient recruitment rate in Algeria is 10 times faster than in other developed countries.
- Cost of clinical trials would be 40-50 % lower than in developed countries.
- CROs adhere to GCP-ICH guidelines.
- Clinical research associates and coordinators are graduates from neighbouring European countries like France, and hence tend to maintain good quality standards.
- Good market access for novel drugs post clinical trial successful completion.

Conclusion:

- Francophonic Morocco, Tunisia and Algeria are also the potential pharma markets with growing demand for new drugs and medical awareness among physicians and patients.
- These are also emerging as next generation clinical trial destinations with their growing populations, developing infrastructure, availability of skilled personnel and flexible regulatory guidelines with shorter timelines.
- Cost of clinical trials per patient is 40-50 % lower than in developed countries and hence it is the major factor to be considered.
- It would be optimal for pharma companies to consider these regions in their 'Africa clinical research strategy'.

Harish Kuppam is an experienced analyst in the pharma R&D vertical, specialising in understanding the market scenario and industry dynamics across the globe in the outsourcing arena. His analysis of specific clinical research service segments has enabled large pharma companies in their strategic decisions on service outsourcing contracts. He has a biotechnology background and hands-on work experience in the state-of-the-art monoclonal antibodies and vaccines production facilities in India. His focus category is emerging markets for clinical trials. He specializes in supplier interviews and identifying latest major market impact factors. Based on such he has developed KPIs, advised best sourcing opportunities for major Pharma.
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