Are There any Markets Left to Emerge?

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When it comes to clinical research, an already small world continues to grow even smaller. In no area is this more evident than site selection for clinical trials.

North America, Western Europe and – to a lesser extent – Australasia once served as prime locations for the majority of research. But these Western markets are approaching saturation, which has led to a lack of naive patients who are available and willing to take part in trials.

Companies have thus turned to new global locations to run trials – an effort made far easier due to the huge improvements that emerging markets have made in investigator and patient identification, as well as regulatory initiatives. In fact, some say that all feasible emerging markets have already emerged, and that there are no other new markets where entry makes sense.

India and Brazil serve as prime examples of rapidly evolving markets for clinical research. Both countries have seen significant investment in infrastructure programs to improve the way they handle clinical trial applications – including trial review – and the granting of import licenses and permits. IMP supplies can be imported relatively quickly to allow trials to occur concurrently with those in Western Europe and North America.

Other global regions have seen a similar rise in attractiveness as clinical sites. Companies have realized significant cost reductions by performing trials in Eastern Europe, Latin America and Asia. In Russia and China, for example, it's possible to reduce operational costs by conducting trials in large hospitals, which have patient catchment areas that number in the millions and can speed patient recruitment.

National regulations have also spurred on the increase in the geographic disbursement of clinical trials. Many countries now require trials to be conducted within their borders prior to the drugs' introduction in those countries. China spent approximately US$66.8 billion on pharmaceuticals in 2011[i] – so local trials within that country are vital to any global pharmaceutical company's long-term growth and success.

Non-traditional Sites Seeing Growth

Apart from the large – and somewhat obvious – global markets, smaller countries are experiencing their own boom as trial sites.

For example in South America there are a total of 5,691 trials. In Africa, there are 3,842. In Southeast Asia, there are 3,416[ii]. And while these markets appear to have truly emerged, it's important to understand that not every individual country has emerged to the same extent.

South Africa might have 1,837 trials, but Brunei Darussalam has only one carcinoma study running. Libya has but four completed studies and is actively recruiting for a fifth. Many of the countries with small numbers of studies have been held back by political or civil unrest, and even United Nations sanctions for all but humanitarian aid. Other countries appear primed for growth, if given enough time. Specifically, the Middle East and Africa are showing significant growth in clinical trials numbers as the industry looks for even more new destinations, and not just in South Africa.

Clinical Logistics: Always Uniquely Challenging

For clinical trial logistics, does it even matter how far down the route of emergence each country is?

Every country represents challenges in logistics: Ensuring temperature control, arranging customs clearance and regulatory release. Every country is also different. Every shipment can be different. There are times when shipping into North America and getting shipments through FDA and USDA

requirements presents more issues than sending to Sub-Saharan Africa.

With so many obstacles in arranging shipping—many of which require knowledge of local practices, from how to address the package to what storage options are available in individual airports—one could argue that being first to enter a market offers a distinct disadvantage. First entrants must forge ahead into a country to find out about customs requirements, regulatory requirements and the practicalities of the supply chain. More than likely, first entrants must train local staff in all the necessary aspects of clinical trials and potentially introduce the whole culture of clinical trials to the local infrastructure.

Consider a few examples of frequent challenges that accompany specific markets in Southeast Asia. Vietnam is the easternmost country in the Indo-Chinese peninsula. The population is approximately 90 million, and there are 64 open clinical studies. Sending in without doing ample homework is a recipe for disaster. Shipments to Vietnam cannot come addressed to an individual, as it would be considered a personal package (even for a pallet-sized package). The recipient would likely become personally liable for any duty or taxes applied to the shipment. This can lead to problems making deliveries into a big hospital, particularly for time/temperature sensitive items. Clinical trial supplies received into a pharmacy department are also at risk of being stored incorrectly, because personnel with knowledge about the specific storage requirements may not have been advised.

In Cambodia, at Phnom Penh International Airport, there is no freezer and only one refrigerator set at +2 to +8°C: (interior space: 4x3x2m; door size: 1.8x1m), which is not qualified or controlled. There is a "controlled ambient" area set at +20 to +25°C: which is also not qualified or truly controlled, despite the name. Customs clearance can take many days, depending on the number of clinical trial shipments arriving at any one time, type of supply and country regulations. During this time it may be possible to access the consignment to refresh refrigerant, but knowledge of all these facts is crucial to shipment success. The right information makes it possible to plan and make selections about the airport of entry, packaging and even the time of year to ship.

Laos serves as another prime example where local knowledge plays an essential role in logistics. The country (25 studies) has three seasons in the year: hot, cold and rainy (although the temperature is rarely below 15°C even in the cooler months). August and September see a significant rise in rainfall, with frequent tropical downpours. Given the limited airport facilities and the significant time that shipments can be left on the runway, wise companies send shipments a couple of weeks early or later to avoid the risk of weather damage.

All this knowledge comes as a byproduct from companies that were brave enough to be first entrants into these countries, companies who were able to establish and encourage the available infrastructure to produce a friendlier environment for future clinical trials.

Does it matter whether a country has emerged? For a company's financial standing and positioning in the global marketplace, it absolutely matters. For logistics and study set-up, it matters much less, as every country along the spectrum will have special needs. The greatest tools in our arsenal are healthy amounts of patience and persistence. With these tools, the industry has taken the antiquarian globe and crossed off "Here be Dragons" around the world, as we go together into previously uncharted territories.

[i] *International Federation of Pharmaceutical Manufacturers & Associations*
The Pharmaceutical Industry and Global Health Report – Facts and Figures 2012

[ii] *www.clinicaltrials.gov*