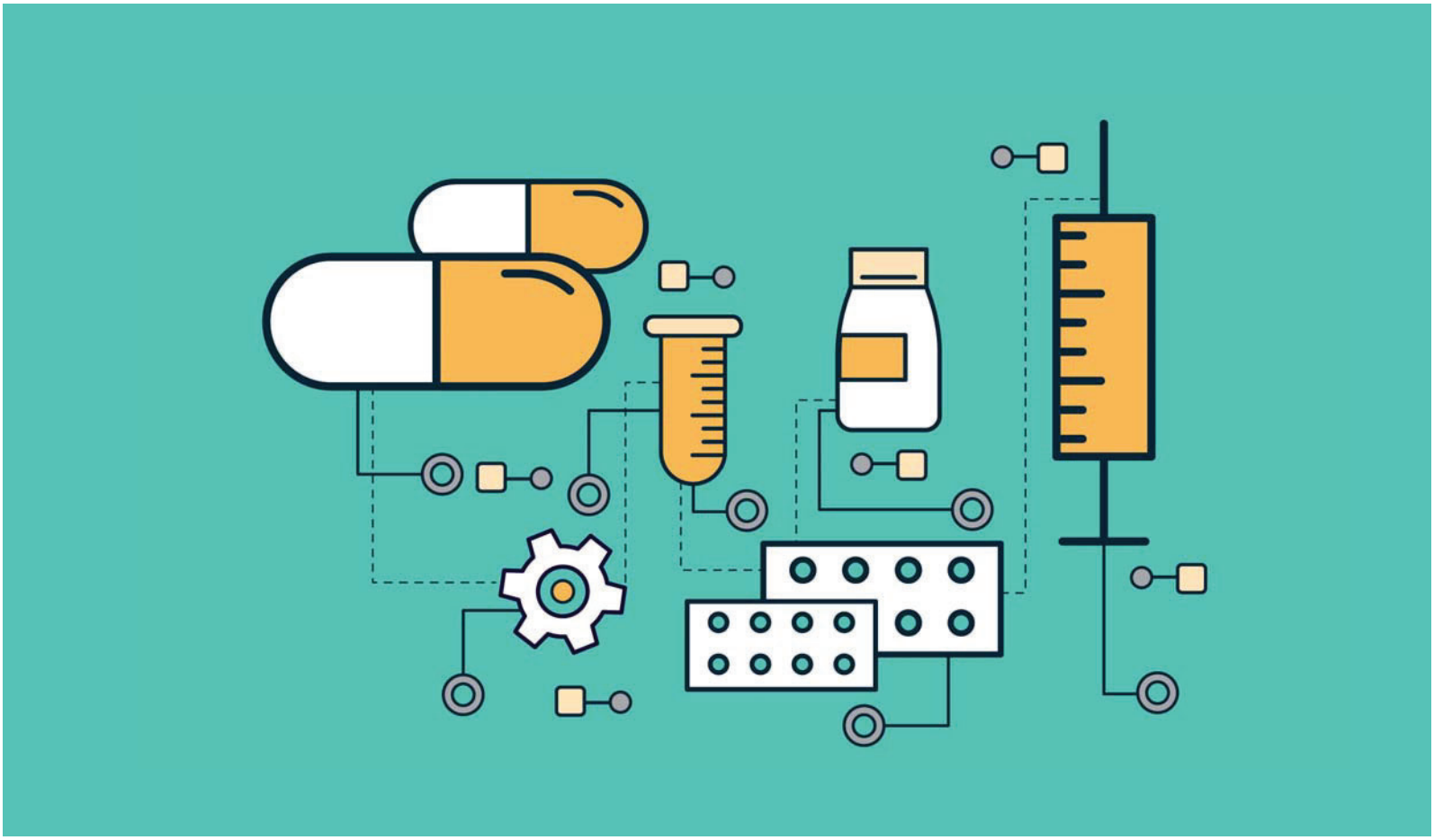


A Digital Transformation in Supply

How advanced solutions can boost the quality of supply chains in emerging economies.

By Maryam Mahdi

Foreign aid is – and will likely remain – a topic for debate in countries on the giving end. Some believe the money should be spent on issues closer to home and others have suggested that foreign aid does nothing for inequality. But such conversations are not limited to one side of the equation – those on the receiving end also hold strong opinions about foreign donations and their capacity to facilitate change.

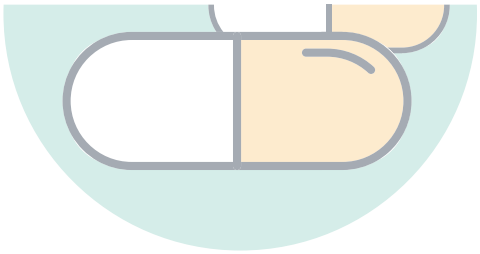
Although many emerging economies rely upon funding support to purchase medicines, improve healthcare infrastructure, and train staff, they are also keen to shake off the idea that they are unable to do it alone; after all, 70 percent of the world's population lives in emerging economies (1) and they, like the citizens of every other country, have a desire to see their healthcare and pharmaceutical industries improve.

For these countries to become independent of the aid provided to them, they must tackle a number of hurdles. Access to medicine is dependent on a functioning, efficient supply chain – a significant and proven challenge for low-income countries. In 36 low-middle income countries in WHO regions (Africa, Americas, Eastern Mediterranean, Europe, Southeast Asia, and Western Pacific), the average availability of medicines is a low as 29.4 percent despite medicines accounting for up to 60 percent of health spending in these areas (2). Further to this, patients are often left to foot the bill of medical care, with up to 90 percent of the population in low income countries making out-of-pocket payments for much needed treatments (2). As the governments of countries with the greatest disease burden struggle to find the talent and resources to deal with the end-to-end demands of a well-greased pharmaceutical supply chain, patients feel the significant consequences. Digital technologies are, however, emerging as solutions to address the structural demands of the industry.

Maeve Magner is an industry-renowned global health supply chain and market access advisor, whose clients include the Bill & Melinda Gates Foundation and multinational pharmaceutical companies. At the recent FutureLink Barcelona event, she told The Medicine Maker how digital platforms can transform the supply chains of developing nations.

What problems arise as a country becomes wealthier?

Though the number of middle-income countries is rapidly growing, it is important to remember that these nations still contribute to around 70



percent of the global disease burden. It is essential that they are able to navigate and manage their healthcare and pharmaceutical sectors.

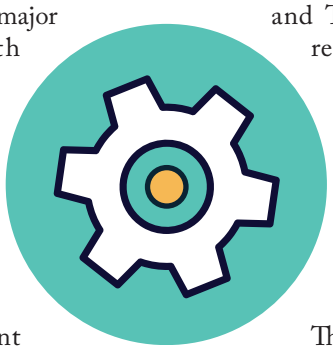
As countries transition away from their low-income status, their pharmaceutical and healthcare industries often remain unchanged, which is to say, small and fragmented due to attitudes toward drug purchasing (often the governments of these countries fail to buy drugs for the entire nation; rather, clinics place small, separate orders). Economic growth also results in the swift withdrawal of foreign aid, leaving them to deal with higher drug prices (as they are no longer able to receive cheaper drugs with the help of international organizations) and the challenges of restructuring their healthcare and pharmaceutical industries. Though the move may seem like donors pulling the carpet out from under these countries' feet, the intention is to inspire them to fund and sustain their own health programs, helping to eradicate the need for foreign assistance altogether. But when nations are unable to negotiate deals for cheaper medicines, some of the world's poorest and most vulnerable patients are left without regular access to much-needed therapies

What problems can affect the supply chains of emerging economies?

When countries lack personnel with expertise in supply chain management, it has a knock-on effect on how well people understand the end-to-end demands; the need for robust training is obvious. Employees need to understand how to use the tools that large pharmaceutical companies use to discern how much they should be paying for drugs. But the problem persists far beyond the drug purchasing process.

It is not an uncommon occurrence to see essential medicines stored in the same warehouses that house food products from United Nations agencies, as well as expired products, which, of course, are of no use to anyone! Essentially, the issue boils down to a need for better forecasting, procurement and distribution so that stockouts cannot happen.

These problems have a major impact on the smooth running of supply chains, but fortunately there are initiatives aimed at building awareness. People Who Deliver, is one such example. Represented by governments, donors, non-government organizations, academic institutions and private investors, the organization partners with other global agencies to help develop the professional expertise of supply chain personnel. The organization also works with governments to help them develop strategies to help encourage young people to consider careers in the field and to create a demand for these important services within the countries they support.



With the help of these types of organizations, countries are learning to budget and prevent wastage from happening; creating more efficiency in their supply chains for years to come. By eliminating these inefficiencies, more funds can be effectively diverted to address the requirements of a well-functioning supply chain.

How do digital platforms help?

Digital platforms for supply chain management are becoming more commonplace. Some western countries can be reluctant to adopt new technology (often because of challenges in integrating it with existing models and supply chain processes), but in many emerging economies there is a hunger to adopt digital technologies as they are the fastest method for implementing real change. For example, M-Pesa, a mobile money transfer service, was was first set up in 2007. The service initially allowed for the safe transfer of cash for East African (Kenyan and Tanzanian) citizens. Its reach has now expanded allowing customers from Afghanistan, South Africa, India, Romania and Albania to pay bills, set up savings accounts, apply for loans and insurance and purchase airtime. Though M-Pesa facilitates financial transactions, there is definitely scope for similar technologies to be developed and enhanced to help support the pharmaceutical industry and its supply chains.

East African nations are also proving that they are ahead of the curve with other technological innovations. For example, drone technologies are being used in Kenya and Tanzania to transport both blood and medical products to hospitals and clinics.

Tanzania's Civil Authority is also one of the world's first to develop strategies for managing the air traffic caused by drones and aims to make the country drone-friendly while protecting its airspaces. Zanzibar, a semi-autonomous region of Tanzania, has the highest density of young drone pilots anywhere in the world. Imagine the possibilities if this expertise could be exploited to effect change in pharmaceutical logistics – not just in East Africa but globally.

What else can advanced nations learn from low-middle income countries?

Advanced economies really do have the opportunity to learn from the innovative mindset that is whole-heartedly embraced by low-middle countries! Unconventional players enter the pharmaceutical market, shaking up

the way it operates. Companies who started in the telecoms and technology sectors like Google and Apple now have a growing presence in the industry and therefore it is important the traditional pharma players don't lose their relevance in the eyes of patients. Huge nontraditional companies are proving that they are willing to engage with patients in a very direct way, changing the way that patients interact with the industry. The recent partnership between Amazon, Berkshire Hathaway and JP Morgan is intended to form an independent healthcare company for their employees and is another example of industry outsiders transforming the pharma landscape. Well-known pharmaceutical companies will have to become more flexible and agile to keep up with the changing tide.

Some pharmaceutical companies are going out of their way to invest in novel technologies, such as blockchain, which is making a buzz in the supply chain world. But sometimes it feels as if these efforts are box checking exercises to demonstrate innovation, rather than a true belief that they will result in real change. Despite all of the communication technologies available today, many companies still haven't taken the time to create meaningful points of communication with patients and understand their concerns. Patient-centricity has to become more than a buzzword for traditional pharma to maintain its relevance in a rapidly changing sector.

Are the upfront costs of new supply chain technologies a barrier to adoption?

Low-middle countries have been the target of many pilot projects for digital models that aim to improve the access that patients have to medicines. But understanding how expensive these models will be to roll out in real life is necessary if they are to bring long-lasting benefits to healthcare systems.

If these models are able to demonstrate their inherent ability to address patient needs in a simplistic and interoperable manner; attract engaged stakeholders and function in a policy environment that prompts the use of such technology, then there is no reason why low-middle income countries should be priced out of adopting digital technologies. Many low-middle countries are already adopting digital platforms, such as those to deter counterfeit medicines, so further supply chain digitalization is not out of the question. In fact, I am optimistic in the ability of these countries to spark meaningful and lasting change through digital platforms on a global scale. But we must ensure they have the support needed to allow them to reach their full potential.

The topic of digital supply chain platforms will be further explored at FutureLink Nashville, October 2–4.

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