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EDITORIAL

Strengthening the Local Pharmaceutical Industry: A Vital Pillar of Universal Health Coverage

The desire for health and wellbeing has been a perpetual struggle for mankind since time immemorial. This doctrine derives from the recognition that effective healthcare requires proper infrastructure, adequate resources, quality medicines as well as trained and competent work force operating in a supportive sociopolitical framework. Health represents the epitome of basic human needs according to Maslow's matrix and is the proviso for robust economic, cultural, religious and political ecosystems. Over the past several millennia, socioeconomic disparities have defined healthcare with the nobles and gentry receiving extraordinary care while the masses lacked structured medical systems. History is replete with indicative metrics on infant mortality, impact of deadly epidemics/pandemics, life expectancy and human rights delineations that conspicuously demonstrate this distorted healthcare landscape. Royalty and nobility enjoyed physician, surgical, apothecary and nursing services beyond the reach of the commoners. For instance, the experimental use of chloroform (by inhalation) on Queen Victoria to allay labor pain in 1853, attained the royal seal of approval and established chloroform *a la reine* anesthetic.

In the 20th century there were typically three tracks of healthcare facilities *videlicet*, public, private and faith-based organizations. The latter were typically a creation of the mainstream religions and churches in support of evangelized and pacified communities for greater pastoral impact. Revolutionary movements questioned the existent healthcare disparities in the context of human rights and equality of all men. Consequently, universal healthcare emerged in societies that embraced social security mainly funded by the state. The Scandinavian countries Denmark, Norway and Sweden typified the universal healthcare system characterized by a strong primary and preventive healthcare sector. For this purpose, family physicians act as gatekeepers to specialist services, which are offered free, or with affordable co-payment plans by the state. This healthcare framework has recorded impressive results as evidenced by improved quality of life and enhanced life expectancy in Scandinavia. It is no wonder therefore that the World Health Organization (WHO) has borrowed leaf and promoted Universal Health Coverage (UHC) programs globally as a deliberate strategy towards attainment of sustainable development goals. Individual countries including sub-Saharan Africa jurisdictions have thus established legal and fiscal frameworks to actualize this dream.

The tenets of an effective UHC system rely heavily on a thriving pharmaceutical manufacturing industry capable of a steady supply of quality assured medicines and health technologies. Furthermore, healthcare facilities should be equipped with the necessary drugs, equipment and other utilities. Additionally, appropriate manpower of all cadres should be deployed in optimal numbers in accordance with the established WHO population ratios. A functional referral framework supported by apt hierarchical capabilities is necessary to assure continuity of care, optimum utilization of available resources and favorable patient outcomes.

Unfortunately, the domestic pharmaceutical industry is severely disabled thus undermining its output. Consequently, only 30% of drugs consumed in Kenya are locally produced with 70 % originating from international supply chains mainly India and China. The setbacks of the local manufacturing capacity in Kenya include funding shortfalls in the face of high cost of capital as well as a challenging business environment. Critically, the runaway cost of energy is a crippling factor in production, hence bound to impede manufacturing enterprises. Additionally, the research and development facet is weak thus daunting innovations in pharmaceutical development and advancement.

Valuable lessons were learnt from the COVID-19 pandemic connected with overdependence on imports from Asia. The pandemic elicited restricted travel hence low import inflows coupled with a spike in demand for pharmaceuticals and medical devices. Even though concerned countries especially in sub-Saharan Africa stimulated local capacity to produce specific items, a huge gap persisted throughout the COVID-19 period. The foregoing underscores the need to promote local manufacturing through tax incentives, allocation of market quotas and reserved pharmaceutical product portfolios.

The devolved system of government in Kenya is designed to cultivate prospects of localized manufacturing through practicable incentives. Unfortunately, this strategy has not gained traction among the County governments. Nonetheless, it still presents opportunities for pharmaceutical industries to invest in remote locations to provide localized healthcare solutions. Successful pharmaceutical manufacturing heavily relies on proper equipment, quality assurance systems, readily available inputs at competitive prices and a supportive industrial ecosystem. The country needs to plug skills gaps through pre-service and in-service training as well as advanced specialist education in order to effectively support its industrialization ambitions. These approaches are certainly essential for the success of the UHC programme.

In this issue of the journal, Wanyeki and Tirop have provided statistics on the use of extemporaneous preparations in a tertiary hospital in Kenya. The approach used in this case is dosage form modification, which can present uncertainty in the quality of the new formulations. The desirable approach may instead utilize drug substances (active pharmaceutical ingredients) and manufacturing procedures of known quality as inputs. Small-scale manufacturing under current good manufacturing practices (cGMP) may on occasion be a viable option where small quantities are required. In any case, appropriate quality assurance and quality control measures must be instituted to ensure that the products reaching the end users meet requisite standards and specifications.

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