Finding value through health technology: México’s Centro Nacional de Excelencia Tecnológica en Salud

Over the past 15 years, México has been making significant progress on increasing healthcare coverage for its low-income population. Underpinned by a structural reform passed in 2003, México has increased healthcare spending and expanded coverage. The national subsidised health plan Seguro Popular (Popular Insurance) now benefits more than 50m citizens (about 45% of the total population) who were previously uninsured as well as those who continue to lack formal employment. The country has also achieved world-class prevention practices; infant and maternal mortality rates have decreased, while life expectancy has risen to just under 75 years.¹
Nevertheless, the health system continues to feature many areas of low levels of effectiveness, equity and responsiveness. Currently, there is a wide range of subsystems with their own operating rules and, subsequently, uneven results, which adds complexity to policymakers’ response to address subsisting deficiencies. Budget restrictions also remain a challenge, and the government’s 2.8% share of GDP spent on healthcare is among the lowest of countries in the Organisation for Cooperation and Economic Development (OECD).2

To date, progress towards a value-based healthcare (VBHC) system has also not been a priority for Mexican policymakers. Despite important achievements in collecting epidemiological data, there is no comprehensive, standardised data on health outcomes and interoperable health records, which would facilitate monitoring and improvement in the quality of healthcare services. “The value-based healthcare approach in México is just starting to emerge,” says Eduardo González-Pier, visiting fellow at the Center for Global Development—an independent “think-and-do tank” that works to reduce poverty in developing countries—and a former deputy minister of health in México. “We are better than we were a decade ago, but we are not better than others in Latin America, and we have a lot to learn [regarding VBHC],” he adds.

Yet many organisations are supporting the move towards VBHC, such as Fundación Mexicana para la Salud, a think-tank that has been promoting quality measurements and standardisation across public and private hospitals, and Fundación Carlos Slim Salud, a non-profit health organisation that has been pioneering better use of technology and health registries to improve care at reduced costs.

Meanwhile, Mexican policymakers are prioritising improved access to healthcare, equity and greater financial protection, mainly by reducing out-of-pocket expenses. Indeed, in the context of limited financial resources, one key element to improve efficiency in the use of federal funding for the Seguro Popular is the assessment of technologies applied to health services, a task that the Ministry of Health assigns to the Centro Nacional de Excelencia Tecnológica en Salud (CENETEC, the national centre of technological excellence in health).

CENETEC is leading efforts to improve the allocation of federal funds to support the operation of the Seguro Popular, by working in fields such as the assessment of medical technologies, the issuance of guidelines and the promotion of telemedicine.

**CENETEC emerges as a leader of health technology assessment in México**

According to the World Health Organisation (WHO), health technology assessment (HTA) “refers to the systematic evaluation of properties, effects, and/or impacts of health technology. It is a multidisciplinary process to evaluate the social, economic, organizational and ethical issues of a health intervention or health technology. The main purpose of conducting an assessment is to inform a policy decision making.”
Hence, by definition, HTA is an invaluable tool to advise policymakers on the most cost-efficient emerging health technologies.

CENETEC acts as one of the few HTA agencies in Latin America, only comparable to similar bodies in other large regional economies, such as Brazil and Colombia. The institution was established in 2004 and has four core activity areas:

1. HTA, which analyses the implications of the technology use, thus aiding in policymakers’ funding allocation
2. Clinical practice guidelines (CPGs), which are used as a reference guide by health providers
3. Medical equipment management, which ensures the appropriate care and applications of healthcare equipment
4. Telemedicine, which uses digital technologies to provide health services

CENETEC’s staff is primarily comprised of doctors and biomedical engineers. The agency conducts HTAs mainly at the request of public entities involved in the sector, though it can also start them on its own if a particular technology is believed to have a significant impact on the healthcare system. The evaluation of technologies is followed by the issuance of a certificate to allow their use.

To accomplish its tasks, CENETEC has an active exchange with different actors in the healthcare system. As Mr González-Pier explains, “the institution interacts with doctors and nurses, who are key for the development and monitoring of CPGs, whereas interaction with manufacturers and distributors of medical devices and equipment is key to stimulate the accomplishment of minimum technical standards.”

Measuring success in HTA

Inspired by guidelines from the WHO and the Pan American Health Organisation, and under pressure from technological disruptions, in 2013 the Mexican government launched the Programa de Acción Específico (PAE) para la Evaluación y Gestión de Tecnologías para la Salud 2013-2018, a specific action plan for the assessment and procurement of health technologies. The plan aims to promote the evaluation of health technologies, improve fairness in the allocation of funds by generating and disseminating information on the most cost-effective technologies, develop and apply CPGs, and monitor the use of technologies applied in healthcare services, including telemedicine. Doing so is critical to ensure that the healthcare sector can contain costs while directing available resources toward quality of care.

According to CENETEC, the PAE has been efficient in establishing methodologies for HTA procedures involving different actors in the health services chain. In the 12 months to August 31st 2018 CENETEC performed 56 HTAs on medicines and medical devices and authorised 48 CPGs (bringing the total number of guidelines to 815 since the entity’s creation). During this time it also continued to lead an inter-institutional committee that conducted three HTAs on medical procedures with a high impact on the national health
service, including in the areas of dialysis and hepatitis C. “CENETEC has been successful in establishing national leadership in HTA, CPGs, management of medical equipment, and telemedicine,” says Mr González-Pier.

Dr María Elena Álvarez Lobato, co-ordinator of High Specialty Hospitals at the Health Department of the State of México, notes that “CENETEC’s role in the standardisation of medical equipment specifications allows better resource allocation and the universalisation of equipment use.” Furthermore, according to Dr Álvarez Lobato, the agency has an important impact on the private sector’s operations. “It positively is a reference point, because they set benchmarks for costs and specifications, which are closely followed by the private providers,” she adds.

Regional leader in telemedicine

Due in part to CENETEC’s efforts to generate guidelines, criteria and work with other public entities, México has become a regional leader in the use of telemedicine. And the agency’s HTA is the basis for equipment use such as robotics in telemedicine, says Dr Mónica Armas Zagoya, deputy director of Telehealth and Information at the Health Department in the state of Zacatecas.

CENETEC’s telemedicine promotion is one example of bringing VBHC to a broader population that, although covered by the Seguro Popular, has difficulty accessing specialised service. “Robotic units are key in remote areas, because they replace the specialist or even the surgeon,” says Dr Armas Zagoya.

By working with other federal agencies, regional governments and universities, CENETEC has contributed to more widespread use of telemedicine. In the State of México alone, Dr Álvarez Lobato explains, this has led to the adoption of teleconsultation in 25 hospitals and the use of robots for critical areas such as intensive therapy, surgery and emergency rooms, as well as surgery in remote locations.

Room for improvement

An OECD assessment on México’s health system generally recommends improving HTA in the country to achieve “sustainable and efficient health care funding in the future”. The OECD also believes that CENETEC should widen its role so that its recommendations can be applied not only to new treatments but also existing ones. In addition, it recommends that the agency expand its activities to directly impact other insured citizens, beyond those affiliated with the Seguro Popular. This, however, the OECD notes, “will require increased investment, and (possibly) a modification of its (the agency’s) legal status,” which will be challenging for policymakers. Finally, the OECD calls for an independent CENETEC, thus removing its affiliation with the health ministry.

Similarly, Mr González-Pier agrees on the need to expand and strengthen CENETEC’s role. He also emphasises the “importance that HTAs shall encompass more medicines,” not just medical devices. Furthermore, he sees room for improvement by collecting
more data on the actual use of devices, medicines and treatments, as opposed to just assessing their future use. Finally, he underscores the need for improved governance at CENETEC and having it gain more independence and budget autonomy.

Dr Álvarez Lobato, meanwhile, thinks that CENETEC has made important progress on speeding up the average timespan that it requires to complete HTAs, but it could further reduce such timelines if, for example, it can expand its personnel to include more doctors and financial analysts. In addition, Dr Armas Zagoya believes that CENETEC’s “vital role” in fostering telemedicine can be amplified if the states could be guided by a standard governance code for e-health services. Currently, taking advantage of CENETEC’s role in the promotion of telemedicine responds more to the local vision of each state and governor, rather than to a national strategy.

Going forward, CENETEC and the usage of value-based healthcare in México may change based on the actions of the nation’s new administration of president Andrés Manuel López Obrador (AMLO), who took office on December 1st 2018.

“On one hand, the intended downsizing of staff and reduction in pay might make it difficult for the Ministry of Health to find and/or retain the necessary talent to further strengthen CENETEC,” says Mr González-Pier. “On the other hand, to the extent that the new administration is capable of unifying the health system and, in particular, the stewardship function of the ministry, CENETEC could find an unusual opportunity to position itself as the HTA agency for the broader health system.”

Dr Álvarez Lobato adds that there’s potential to end the fragmentation of work that currently exists within CENETEC and the broader health system, which can lead to better delivery of value-based healthcare.

“If the AMLO administration wants to make the different areas and entities under the ministry more efficient, it must first create multidisciplinary teams that evaluate projects in an integral way—such as from the construction of a hospital, to its equipment, its operating expenses, etc—so that the limited funds that the country has can be optimised,” she says. “CENETEC’s overall role under AMLO’s health policy must be to continue existing, perhaps under a new name, but, I insist, as part of a model of an integral evaluation of technologies and resources.”

Footnotes
2. OECD. https://data.oecd.org/healthres/health-spending.htm
6. Some of the recent guidelines pertain to prevention, diagnosis and treatment of illnesses such as leukaemia, cervical cancer, Hodgkin lymphoma in children and coronary disease.
7. CENETEC. 2018. 6º Informe de Gobierno Secretaría de Salud Actividades del CENETEC. https://www.gob.mx/salud/cenetec/articulos/6-informe-de-gobierno-secretaria-de-salud-actividades-del-cenetec-174122
8. OECD, 2016