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Indonesia's healthcare landscape: embracing innovation in the new health regime

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COMMENTARY



Indonesia's healthcare landscape: embracing innovation in the new health regime

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ABSTRACT

The comment highlights the intricate health issues in Indonesia, emphasizing urban-rural gaps, healthcare financing challenges, and the government's dedication to Universal Health Coverage (UHC). The country's geographical layout amplifies the struggle of providing healthcare to rural areas, resulting in substantial health concerns like high tuberculosis rates and financial vulnerability for the impoverished. The concern raised underscores the paradox of low state healthcare spending despite high household expenditures, leading to individual payment reliance and underutilization of insurance. The analysis advocates a comprehensive healthcare approach, emphasizing prevention and curative actions. It also stresses the importance of decentralizing decision-making power to local governments for optimizing healthcare funds. The comment concludes by emphasizing the need for innovative solutions in Indonesia's healthcare landscape. It envisions a future where transformative approaches reshape the system, ensuring better health outcomes. Innovation, especially in medical technology, digital health, and healthcare delivery models, is identified as a central theme. The recommendation underscores the importance of creative solutions to address healthcare service limitations and advocates for leveraging advancements in preventive measures, education, and tackling lifestyle issues. The overall aim is to navigate Indonesia through its current healthcare challenges towards a more sustainable and effective system for the benefit of its population.

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Q1 Despite robust economic growth in recent years that has lifted millions out of poverty, Indonesia continues to grapple with various health challenges. Health issues persist in low to middle-income countries, ranging from maternal mortality to vector-borne diseases such as malaria and malnutrition¹. Simultaneously, Indonesia is witnessing a surge in degenerative diseases due to an aging population and a sedentary lifestyle².

Relative to other countries in Southeast Asia, its performance in health financing is suboptimal: total healthcare service expenditure remains significantly below the levels observed in many economically comparable nations³. The number of maternal deaths in Indonesia is currently approximately twice that of its counterparts in Asia⁴. These encompass concerns regarding Indonesia grappling with formidable obstacles in its maternal healthcare domain, notably encompassing apprehensions regarding the quality of care attributable to inadequacies such as under-equipped healthcare facilities and insufficient training among healthcare personnel². Persistent differentials in healthcare accessibility, notably afflicting women hailing from remote locales or marginalized socioeconomic strata, exacerbate the challenge². Furthermore, the inherent risks associated with pregnancy and childbirth underscore the necessity for concerted efforts to mitigate complications.

Nevertheless, there is a renewed optimism that the country is on the brink of significant improvement, attributed to the government's commitment to Universal Health Coverage (UHC). As part of this commitment, the government has pledged to maximize health expenditure in the upcoming years."

Implementing Universal Health Coverage (UHC) in Indonesia holds immense potential to tackle the nation's high maternal mortality rate by significantly enhancing access to quality maternal healthcare services⁵. Through UHC, Indonesia can broaden coverage of essential maternal health services, ensuring equitable access regardless of socio-economic status. Moreover, UHC may standardize and regulate healthcare practices, bolstering the quality and safety of maternal care while also prioritizing the improvement of healthcare infrastructure in remote areas⁶. Furthermore, UHC may facilitate comprehensive health education initiatives aimed at raising awareness and promoting healthy behaviors, ultimately contributing to the reduction of maternal mortality and the overall enhancement of women's health outcomes across the country⁷.

However, the success of these programs hinges on efforts to find solutions to various challenging issues, including the urban-rural disparity, shortage of doctors, nurses, and specialized professionals, as well as achieving a balanced engagement and funding equilibrium between the government and

the private sector.” Old Problems, New Solutions: The New Health Regime in Indonesia, Emphasizing Innovations from Other Developing Nations as Remedies for Indonesia’s Pressing Healthcare Service Challenges.

There are several crucial elements in addressing the aforementioned issues, including:

1. Expanding healthcare services to rural areas poses a primary challenge

The archipelagic geography of Indonesia makes extending healthcare services to rural regions even more daunting compared to other nations. As a result, the existing disparity is exceptionally pronounced: As of 2023, Indonesia reportedly has an estimated 165,453 general practitioners (GPs) based on data from the Indonesia Medical Council (KKI) and Indonesia Medical Doctor Association (IDI), constituting the majority of the total 214,878 medical doctors in the country⁸. Despite this figure, Indonesia grapples with a chronic scarcity of medical professionals. The doctor-to-population ratio currently stands at approximately 0.63 doctors per 1,000 populations, which remains below the optimal benchmark set by the World Health Organization (WHO) of 1 doctor per 1,000 populations⁹. The poverty prevalent in rural populations renders them more susceptible to substantial healthcare costs when diseases or disasters strike.

The shortage of healthcare professionals, particularly general practitioners (GPs), in rural areas of Indonesia poses a significant challenge to accessing primary care services⁵. This shortage is exacerbated by factors such as immigration, where healthcare professionals migrate to urban areas or other countries for better opportunities, and the preference for urban practice due to limited infrastructure and lower salaries in rural settings¹⁰. Additionally, the scarcity of nurses and physician assistants further compounds the issue, as these healthcare workers play a crucial role in filling gaps in primary care provision. Addressing this shortage requires comprehensive strategies to incentivize healthcare professionals to practice in rural areas, improve infrastructure and resources, and invest in training and professional development opportunities to ensure equitable access to healthcare services across Indonesia.

To tackle the shortage of healthcare professionals in rural areas and enhance primary care provision, several strategies could be implemented. Incentivizing rural practice through financial incentives, career development opportunities, and continuing education support may attract healthcare professionals to underserved regions¹⁰. Training programs for nurses and physician assistants aimed at strengthening their primary care skills and retention initiatives offering ongoing support can help fill gaps in healthcare provision. Additionally, leveraging telemedicine services and mobile health units may bridge access barriers by connecting patients with healthcare providers remotely and delivering care to underserved communities¹¹. By implementing these measures, Indonesia can address healthcare workforce shortages, improve access to primary care services, and enhance healthcare delivery in rural areas.

2. Low healthcare service spending, yet high household out-of-pocket expenses

The underutilization of insurance protection and the high proportion of healthcare costs borne directly by patients contribute to healthcare service challenges. Indonesia’s overall state spending on healthcare is among the lowest. Despite Vietnam, India, and Cambodia having lower per capita income than Indonesia, their per capita healthcare financing exceeds that of Indonesia¹². The latest data from the state budget (APBN) reveals that only about half of the healthcare budget comes from the government, with approximately one-third directly paid by individuals and the remainder sourced from insurance schemes, foreign aid, and other funds¹³.

The out-of-pocket healthcare expenditure in Indonesia remains notably high, with individuals bearing approximately 49.6% of the total healthcare costs in 2021, surpassing both the average for upper-middle-income countries and the global average¹⁴. Additionally, in 2020, out-of-pocket expenses accounted for around 50% of the average healthcare expenditure per capita¹⁴. Factors contributing to this high expenditure include shortcomings in the National Health Insurance (JKN) coverage, inadequate comprehensiveness of JKN services, and persistently high healthcare costs, particularly for chronic diseases and specialized care. Consequently, this places a substantial financial burden on the population, especially on low-income and vulnerable families, and may contribute to poverty and hinder access to healthcare services for those with financial constraints¹⁵. Government efforts to mitigate this issue include expanding JKN coverage and benefits and regulating healthcare costs¹⁴. However, despite ongoing efforts, addressing the challenge of high out-of-pocket healthcare expenditure remains paramount to ensure equitable access to quality healthcare for all Indonesians.

The Indonesian government is actively tackling the challenge of high out-of-pocket healthcare expenditure by focusing on several key initiatives⁶. These efforts include expanding the coverage of the National Health Insurance (JKN) through subsidies and educational programs, gradually broadening the range of benefits provided by JKN to encompass more diseases and healthcare services, and regulating healthcare costs to ensure affordability for the population. Despite ongoing endeavors, further action is required. Nevertheless, the government remains steadfast in its commitment to enhancing access to quality and affordable healthcare services for all Indonesians.

3. Government commitment to reform

Despite existing challenges, the government remains committed to achieving the Sustainable Development Goals (SDGs), addressing fundamental development issues such as sanitation, maternal mortality, and education. There is a specific commitment to a substantial increase in healthcare budgeting in the upcoming years, along with the launch of health insurance for those lacking coverage. The newly enacted omnibus health law in mid-2023 mandates the

237 government to enhance its healthcare spending¹⁶. A signifi- 296
238 cant portion of these funds is earmarked to support the new 297
239 health insurance scheme called BPJS, with the expectation 298
240 that the government can extend its coverage to the entire 299
241 population. 300

242 **4. Prevention is better than cure** 301

243 Investing in fundamental infrastructure, such as water supply 302
244 and sanitation, is as crucial as constructing hospitals. While 303
245 building healthcare facilities is important, some experts argue 304
246 that local governments may not always optimize the use of 305
247 funds. Thanks to decentralization, these institutions now 306
248 have significant bargaining power to develop the necessary 307
249 skills and autonomously manage their budgets¹⁷. 308

250 Indonesia's decentralization policy in the health sector has 309
251 led to a redistribution of authority, resources, and responsi- 310
252 bilities, with local governments gaining more control over 311
253 health service planning and implementation¹⁸. While this 312
254 approach allows for tailored services and local prioritization, 313
255 it also introduces challenges, such as resource disparities and 314
256 uneven service delivery across regions⁶. While some areas 315
257 may see improvements in health outcomes, others may 316
258 struggle due to limited resources and management capacity. 317
259 To address these issues, Indonesia must strengthen local cap- 318
260 acity, reform resource allocation, enhance monitoring sys- 319
261 tems, and establish standardized data collection practices. 320

262 The subsequent challenge entails encountered by local 321
263 authorities in Indonesia pose significant hurdles to the effect- 322
264 iveness of decentralization in the healthcare sector. Issues 323
265 such as limited qualified personnel, inadequate infrastructure, 324
266 unequal resource distribution, and weak policy implementa- 325
267 tion hinder the delivery of quality healthcare services and 326
268 exacerbate healthcare disparities across regions¹. To optimize 327
269 the benefits of decentralization, Indonesia must prioritize 328
270 investments in human resource development, infrastructure 329
271 enhancement, financial management capacity-building, and 330
272 improved policy implementation mechanisms. By addressing 331
273 these challenges comprehensively, Indonesia can enhance 332
274 the effectiveness of decentralization and ensure equitable 333
275 access to quality healthcare services for all citizens. 334

276 Despite the decentralization of healthcare services, central 335
277 oversight in managing healthcare funds in Indonesia plays a 336
278 crucial role in enhancing transparency, accountability, and 337
279 the effectiveness of the healthcare system⁸. It ensures effi- 338
280 cient and targeted use of funds, aligns programs with 339
281 national priorities, prevents duplication and wastage, enhan- 340
282 ces accountability and transparency, and contributes to the 341
283 sustainability and effectiveness of the healthcare system. 342
284 Despite challenges such as resource limitations, lack of stake- 343
285 holder coordination, and fragmented information systems, 344
286 efforts to strengthen central oversight through capacity 345
287 building, improved coordination, and integrated information 346
288 systems can lead to a more sustainable, effective, and 347
289 accountable healthcare system in Indonesia, providing qual- 348
290 ity healthcare services for all citizens. 349

291 Prevention efforts, particularly in family planning educa- 350
292 tion and nutritional improvements (especially those related 351
293 352
294 353
295 354

to lifestyle factors such as smoking and cardiovascular dis- 296
eases), are deemed to yield greater benefits compared to the 297
development of healthcare facilities¹⁵. In addition, private 298
sector involvement is crucial for the successful implementa- 299
tion of such public health programs. 300

Public health programs targeting diseases for instance 301
malaria and tuberculosis through vaccination play a critical 302
role in disease prevention and control. These programs typi- 303
cally involve widespread vaccination campaigns, targeted 304
immunization efforts, and surveillance to monitor disease 305
prevalence and vaccine coverage rates¹⁸. For instance, in 306
Indonesia, strategies such as distributing insecticide-treated 307
bed nets and providing the Bacille Calmette-Guérin (BCG) 308
vaccine for tuberculosis prevention have been implemented. 309
However, to maximize their impact, these efforts need to be 310
integrated into Universal Health Coverage (UHC), which sig- 311
nificantly affects access to public health programs. UHC 312
ensures financial protection and equitable access to essential 313
health services, including vaccinations, thereby reducing bar- 314
riers to access and improving coverage rates. By prioritizing 315
public health programs within UHC policies, governments 316
can optimize disease prevention efforts and enhance overall 317
health outcomes, particularly in resource-constrained 318
settings¹⁴. 319

However, integrating vaccination programs into Universal 320
Health Coverage (UHC) may significantly enhance their 321
effectiveness by ensuring financial protection for individuals, 322
increasing accessibility to vaccines, and improving coverage 323
rates, particularly among vulnerable populations¹⁸. UHC 324
assumes a critical role in addressing challenges in resource- 325
constrained settings by prioritizing public health programs, 326
thereby optimizing disease prevention efforts and enhancing 327
overall health outcomes. By enhancing access to vaccination 328
campaigns and other essential health services through UHC, 329
Indonesia may make significant strides in improving public 330
health outcomes and reducing the burden of vaccine- 331
preventable 332

333 **5. Innovation is crucial for addressing health 334** 335 **challenges in Indonesia** 336

337 Innovation to reduce the cost of healthcare technology and 338
339 expand its reach could be the key to helping Indonesia sur- 340
341 pass its healthcare service limitations. Underscores the signifi- 342
343 cance of introducing creative and groundbreaking solutions 344
345 to overcome the various health-related issues faced by the 346
347 country. Indonesia, like many developing nations, encounters 348
349 multifaceted challenges in its healthcare system, ranging 350
351 from inadequate infrastructure and limited access to health- 352
353 care services in rural areas to financial constraints and the 354
burden of preventable diseases.

The call for innovation implies a need for novel 350
approaches, technologies, and strategies to enhance the effi- 351
ciency, accessibility, and affordability of healthcare services. 352
This may involve leveraging advancements in medical tech- 353
nology, implementing digital health solutions, and exploring 354
new models of healthcare delivery¹⁹. Additionally, innovation
can play a vital role in preventive measures, public health

education, and addressing lifestyle-related health concerns. In the context of Universal Health Coverage (UHC), integrating health promotion and prevention programs focusing on diet and sedentary lifestyles is paramount in Indonesia. These initiatives, encompassing awareness campaigns, nutrition programs, physical activity promotion, and behavioral change interventions, aim to empower individuals to make informed health choices, prevent chronic diseases, and enhance overall well-being¹. By endorsing such programs within the UHC framework, Indonesia can effectively address the root causes of health-related issues, promote healthier lifestyles, and reduce the burden of preventable diseases.

This integration not only enhances individual health outcomes as well strengthens the sustainability and efficacy of the healthcare system, ultimately contributing to improved population health in the long term. These programs, including comprehensive awareness campaigns, targeted nutrition initiatives, physical activity promotion, and behavioral change interventions, serve as proactive measures to empower individuals, prevent chronic diseases, and foster holistic well-being. By prioritizing these initiatives within UHC, Indonesia can effectively tackle the underlying causes of health concerns, promote healthier lifestyle choices, and alleviate the burden of preventable illnesses across diverse populations¹. Moreover, such integration not only enhances individual health outcomes but also fortifies the resilience and efficiency of the healthcare system, laying a solid foundation for sustainable public health advancement and improved quality of life nationwide.

The complexities inherent in the current healthcare system necessitate innovative solutions that target issues such as access, cost, and efficiency. Among these innovations are telehealth and digital health platforms, which utilize technology to facilitate remote delivery of healthcare services. The benefits of these platforms include increased access to care, particularly in rural areas, enhanced management of chronic diseases, and reduced wait times for consultations. For instance, Rwanda implemented a nationwide family planning program, connecting rural health centers with specialists in urban hospitals, thereby significantly enhancing access to specialized care^{20,21}. Similarly, India launched “eSanjeevani,” a national teleconsultation platform enabling patients to consult doctors remotely, thereby alleviating travel burdens and reducing costs^{22,23}.

Another innovative solution is the utilization of Big Data and Analytics for Public Health Management, which involves harnessing large datasets to track disease outbreaks, forecast healthcare requirements, and allocate resources effectively. This approach offers several benefits, including enhanced epidemic preparedness, targeted interventions in public health, and data-informed allocation of resources. For instance, South Africa developed a data-driven HIV/AIDS treatment program, leveraging Big Data and Analytics to optimize resource allocation and improve patient outcomes¹⁵.

At present, Indonesia, though generally regarded as a natural treasure among affluent and technologically advanced nations, often necessitates innovative solutions for

developing countries facing challenges such as itself.” In essence, the statement emphasizes the transformative potential of innovative solutions in reshaping and improving the health landscape of Indonesia²⁴, with the ultimate goal of ensuring better health outcomes for its population.

Transparency

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The author has no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

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