








# How Do We Establish the Utility and Evidence of General Medicine in Japan?

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**Abstract:** Hospital Medicine in the United States has achieved significant progress in the accumulation of evidence. This development has influenced the increasing societal demand for General Medicine in Japan. Generalists in Japan actively engage in a wide range of interdisciplinary clinical practices, education, and management. Furthermore, Generalists have also contributed to advances in research. However, there is limited evidence regarding the benefits of General Medicine in Japan in all these areas, with most of the evidence derived from single-center studies. In Japan, the roles of Generalists are diverse, and the comprehensive definition of General Medicine makes it difficult to clearly delineate its scope. This results in an inadequate accumulation of evidence regarding the benefits of General Medicine, potentially making it less attractive to the public and younger physicians. Therefore, it is necessary to categorize General Medicine and collect clear evidence regarding its benefits.

**Keywords:** classification, evidence, general medicine

General Medicine (GM) in Japan is strongly aligned with rural healthcare,<sup>1,2</sup> geriatrics (addressing the multi-morbidity in older adults),<sup>3</sup> and infectious diseases.<sup>4</sup> Generalists in Japan are actively engaged in the practice of diagnosis,<sup>3</sup> education,<sup>3</sup> and the management of complex cases,<sup>5</sup> contributing to the streamlining of healthcare processes and enhancing diagnostic capabilities. In response to the growing societal needs, GM was introduced as the 19th specialty in Japan in April 2018.<sup>3</sup> GM has two sub-specialties: Hospital General Medicine (HGM) and Family Medicine (FM).<sup>6</sup> Compared to GM, HGM in Japan emphasizes leadership, management skills, and specialized abilities related to hospital administration and governance.<sup>1</sup> Meanwhile, FM requires specialized capabilities in primary care.<sup>7</sup> However, the roles of these GM specialists remain ambiguous,<sup>3,8-10</sup> and there is limited evidence regarding the effectiveness of GM. In contrast, the field of Hospital Medicine in the United States has witnessed remarkable development and evidence accumulation compared to Japan.<sup>11-13</sup>

General Medicine in Japan is characterized by its broad, cross-disciplinary approach to healthcare.<sup>14</sup> The evidence supporting the clinical benefits of GM is currently limited, with most evidence regarding cost reduction and improvement in quality of care derived from small-scale, single-center studies.<sup>15,16</sup> These studies cover a range of clinical areas, including improved quality of inpatient care for infectious endocarditis,<sup>17</sup> increased blood culture collection rate,<sup>18</sup> shortened length of hospital stay,<sup>19</sup> improved quality of home medical care,<sup>20</sup> COVID-19 care,<sup>21</sup> compensating for the shortage of specialists,<sup>22</sup> and improved heart failure management.<sup>23</sup> Studies have been conducted on the patient population, locations, and clinical skills covered during GM training.<sup>24,25</sup> However, the direct effects of GM education are still not clearly elucidated. Moreover, clinical research topics are scattered, including research papers encompassing case reports with valuable lessons, diagnostic excellence, healthcare safety, healthcare management, and disaster

preparedness.<sup>26</sup> Efforts to enhance the utility and evidence of GM in universities include multiple studies conducted by academic institutions. Research accomplishments,<sup>27</sup> investigations into research topics,<sup>28</sup> and studies on educational achievements have been undertaken,<sup>24,29,30</sup> yet research in this field remains relatively limited.

Hospitalists in the United States are specialized generalists who exclusively manage inpatient care,<sup>31,32</sup> operating within a system that prioritizes efficiency.<sup>33</sup> In the United States, a framework for researching the benefits of hospitalists has been established, facilitating evidence-based role modification and clarification, in addition to practice improvement through a robust database.<sup>34</sup> Specifically, hospitalists have demonstrated reductions in hospital stays and healthcare costs compared to primary care physicians,<sup>35</sup> orthopedic surgeons,<sup>36</sup> and oncologists,<sup>37</sup> along with improvements in survival rates, readmission rates, specialist burnout, quality of care, and in-hospital mortality.<sup>34,38</sup> The increase in emergency admission capacity by hospitalists during the COVID-19 pandemic has also been reported.<sup>39,40</sup>

Research on the clinical benefits of GM in Japan predominantly consists of single-center studies. This limitation arises from the diverse roles of generalists in Japan, including hospitalists involved in outpatient and home care settings. The comprehensive definition of GM, as outlined by the General Medicine Specialist Program Standards of the Specialty Board in Japan, encompasses all these roles. Currently, general internal medicine physicians, family medicine physicians, and hospitalists are all grouped under GM in Japan. These areas lack clear distinctions, leading to overlapping responsibilities based on their workplace. Gathering both process and outcome measures from these heterogeneous groups poses a significant challenge. It is crucial to establish a clear definition for each specific group of generalists in Japan to generate definitive evidence regarding the clinical benefits of GM. Specifically, the diversity of GM should be clarified or adjusted by settings, such as regional differences, the number of hospital beds, and required roles. Additionally, the results of the General Medicine In-Training Examination for Japanese residents who have undergone training in GM departments, akin to the structure of the US Internal Medicine In-Training Examination, has improved as indicated by previous studies.<sup>24</sup> Defining the recipients of the benefits of well-defined GM roles (whether the entire nation, its citizens, specialists, or medical students) is essential to generate quality and comparable evidence. Moreover, this classification can help visualize the educational impact or outcomes based on the generalists' demographics, training background, workplace, and roles.

In conclusion, it is essential to clearly distinguish among the diverse generalists for the future development of GM at the national level in Japan and to elucidate for whom these generalists provide benefits. In the future, it is essential to gather evidence on the benefits of GM in Japan to justify its existence and to clarify its role in healthcare to attract younger generations.

## Abbreviations

FM, Family Medicine; GM, General Medicine; HGM, Hospital General Medicine

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