REVIEW ARTICLE

Journal of Emergency Health Care. 2025;14(1): 47
https://doi.org/10.22034/jehc.14.1.47

Strengthening Primary Care: Trends and Public Health Impact of Family Medicine in East Asia, the Persian Gulf States, and Europe

Maryam Zarin kamar[1], Mojgan Geran[2]

[1]*Assistant Professor, Department of Family Medicine, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran*
[2]*Diabetes Research Center, Institute of Herbal Medicines and Metabolic Disorders, Mazandaran University of Medical Sciences, Sari, Iran*

Article history:

Received: 13 May 2025
Accepted: 2 Oct 2025
Available online: 10 Oct 2025

Keywords:

Family Medicine
Primary Health Care
Health Systems
Continuity of Care
Health Outcomes
Health Economics
Preventive Medicine

Abstract

Background: Family medicine (FM) is a unique medical specialty that delivers comprehensive, continuous, and coordinated care to individuals and families across all ages, health conditions, and life stages. Originating in the mid-20th century as a response to growing fragmentation in healthcare and the proliferation of sub-specialties, FM has since become the foundation of effective primary health care and universal health coverage.
Purpose: This narrative review compares the evolution, training pathways, system integration, and public health impact of FM across East Asia (China, Japan, South Korea, Taiwan), the Persian Gulf states (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates), selected European nations (Germany, England, France), and Iran.
Method: We employed a structured literature search using PubMed and Google Scholar, complemented by an examination of WHO publications, country health ministry reports, and key textbooks, focusing on family medicine policies, training programs, delivery models, and public health outcomes.
Result: In East Asia, FM has transitioned from community health worker programs to formal "5 + 3" residency models, yet persistent hospital-centered care and weak gatekeeping limit its full integration. Persian Gulf countries pioneered FM residencies in the 1980s–1990s, establishing public-sector networks but continue to face workforce shortages and dependence on expatriate clinicians. European systems exemplify mature FM practice with structured gatekeeping (mandatory in the UK, incentivized in France, optional in Germany), multidisciplinary teams, and performance-based preventive frameworks, yielding high immunization coverage, reduced infant mortality, and cost efficiencies. Across regions, robust FM systems consistently demonstrate lower all-cause mortality, reduced healthcare disparities, fewer hospital admissions, and more equitable access to services. Key strategies for strengthening FM include expanding and standardizing training programs, formalizing patient registration and gatekeeping, integrating FM into community health planning, and aligning payment incentives with preventive outcomes.
Conclusion: As populations age and the burden of chronic disease grows, prioritizing FM will be essential to achieving sustainable, patient-centered health systems that deliver high-quality, cost-effective care.

Cite this article as: Zarin kamar M, Geran M. Strengthening Primary Care: Trends and Public Health Impact of Family Medicine in East Asia, the Persian Gulf States, and Europe. J Emerg Health Care. 2025;14(1):47. https://doi.org/10.22034/jehc.14.1.47.

Introduction

Family medicine (FM) is a medical specialty devoted to comprehensive health care for individuals and

Correspondence:
Mojgan Geran, Diabetes Research Center, Institute of Herbal Medicines and Metabolic Disorders, Mazandaran University of Medical Sciences, Sari, Iran

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) which allows users to read, copy, distribute and make derivative works for non-commercial purposes from the material, as long as the author of the original work is cited properly.

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

families across all ages, genders, diseases, and human organs. It is characterized by its holistic approach, and focus on the long-term relationship between the physician and the patient. It is widely recognized as the cornerstone of effective primary health care and universal health coverage(1, 2).

Unlike other specialties that concentrate on a particular organ system, patient demographic, or disease entity, family medicine encompasses the full spectrum of medical care, integrating biological, clinical, and behavioral sciences to provide preventive, diagnostic, therapeutic, and rehabilitative services within the context of the family and community(3).

The specialty of family medicine originated in the mid-20th century in response to the growing fragmentation of health care and the proliferation of sub-specialties, particularly in high-income countries. In 1969, family medicine was formally recognized as a medical specialty in the United States, followed by similar developments in the United Kingdom, Canada, and many other countries. Its emergence was grounded in the belief that a generalist physician—trained to care for patients throughout the life course—could serve as the foundation of an effective and efficient health care system. Since then, family medicine has evolved into a vital component of health care delivery, particularly in primary health care (PHC) settings, where it serves as the first point of contact and a coordinating center for patient care(1, 4-7).

The role of family medicine has been increasingly emphasized by international health organizations(1). The World Health Organization (WHO), the World Organization of Family Doctors (WONCA), and numerous public health experts have underscored the centrality of family medicine in achieving universal health coverage (UHC)(8). Robust evidence suggests that health systems anchored in strong primary care, particularly those led by family physicians, are associated with better population health outcomes, increased patient satisfaction, reduced hospitalizations, and more equitable access to services(1, 9). Family physicians are uniquely positioned to manage complex, multi-morbid cases, address social determinants of health, and implement cost-effective interventions tailored to local needs(10). In contrast, health systems dominated by specialty and hospital-based care often result in higher costs, inefficiencies, and fragmented services(1). While specialist care plays an essential role in managing complex and rare conditions, over-reliance on specialty services may limit accessibility and responsiveness, especially in resource-constrained settings(8). Moreover, specialists typically focus on episodic care for specific problems, whereas family physicians provide continuous and coordinated care that addresses both acute and chronic conditions in a comprehensive manner (9, 10).

Comparative analysis of the development and integration of family medicine across different countries and regions can offer valuable insights into how diverse health policies, cultural contexts, and socioeconomic factors shape the role and effectiveness of this specialty. In particular, examining the progress and challenges of family medicine in Arabic countries versus other Asian nations can illuminate structural and cultural determinants of primary care delivery. Such a comparison not only enhances our understanding of family medicine's global evolution but also informs future policy directions aimed at strengthening PHC systems worldwide. This paper reviews the role of family medicine in East Asia (China, Japan, South Korea, Taiwan), the Persian Gulf states (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE), selected European countries (Germany, England, France), and Iran. We examine each region's history and current state of FM, compare training and practice models, and assess contributions of FM to public health (preventive care, continuity) and health system efficiency (cost-effectiveness, equity).

Methods

This narrative review was conducted by a structured literature search (PubMed, Google Scholar) and examination of WHO publications, country health ministry reports, and key textbooks. Our team extracted information on FM policies, training programs, delivery models, and public health outcomes for each region. We included peer-reviewed articles and official documents on FM programs in East Asia, the Persian Gulf, Countries, Europe, and Iran. Data were synthesized thematically and comparatively. No statistical meta-analysis was performed; instead we used qualitative synthesis and cross-country comparisons.

East Asia

China

China's primary care has deep roots in the "barefoot doctor" movement (1960s–70s) that trained rural community health workers to extend basic care. In recent decades the government has shifted towards formally trained family doctors. The first general practice (GP) training center was opened in 1989, and in 2011 the State Council mandated that GPs "lead the health system". Major reforms have followed: by 2015 a special GP training program covered hundreds of counties, and in 2016 an expert committee set uniform 5+3 training standards (5 years medical school + 3 years GP residency). Academic departments of family medicine and WONCA-accredited training centers have emerged. Despite these advances, Chinese patients still largely bypass GPs in favor of hospitals for even minor

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

ailments. Surveys note that many Chinese distrust community clinics, believing hospitals offer higher-quality care. In summary, China is rapidly expanding GP training (highlighting family doctors' role in prevention and chronic care), however, public acceptance and the integration of family medicine into the health system remain ongoing challenges(11, 12).

Japan

Japan historically lacked a defined FM specialty or gatekeeping. From 1945 into the 2000s, primary care was provided by hospital-trained specialists (internists, pediatricians) who later opened private clinics – often without re-training as generalists. Japan only recently began to recognize family medicine as a distinct specialty. In 2009 the Japan Primary Care Association created a board certification for primary care, but uptake has been slow: by 2018 only 672 physicians (≈0.2% of all doctors) held FM certification . A new unified board system in 2018 added "general practice" as a discipline, but only ≈2% of applicants choose FM training . Consequently, FM remains a small fraction of Japanese care despite an aging society. Notably, family physicians tend to be concentrated in rural areas, suggesting their potential to help address physician maldistribution. Overall, Japan's FM has begun to grow very recently, but most patients still self-refer to specialists; primary care continuity and gatekeeping are much weaker than in many other countries (13-15).

South Korea

Family medicine in South Korea is a relatively young specialty. FM was introduced in the late 1970s (modeled on U.S. FM) with Korea's first residency in 1979. The specialty board was formally recognized in 1986. By 2016, about 8,024 family physicians had been certified (out of roughly 50,000 doctors). Korean FM doctors practice in both clinics and hospitals. However, primary care functions (continuity, comprehensiveness, gatekeeping) remain underdeveloped. Over 75% of Korean physicians hold subspecialty boards, and patients freely bypass clinics to seek hospital care, undermining PHC continuity. Family physicians often expand into niche fields (e.g. health promotion clinics or cosmetic medicine) to compensate for weak insurance coverage of preventive care. In sum, Korea has built FM training capacity since 1978, but primary care is still fragmented; strong incentives are needed to make family doctors the first contact for chronic and preventive care(16, 17).

Taiwan

Taiwan's health system is built around its National Health Insurance (NHI) program (introduced 1995), which gives citizens easy access to care. Patients may consult specialists directly, but the government has encouraged a family doctor model through the Family Practice Integrated Care Project (FPICP). Launched in 2003, the FPICP creates community health groups of clinics ("family physician system") to manage chronic disease and aging-related needs. Each patient is incentivized to register with a regular family doctor, effectively creating a de facto gatekeeping role for family medicine. The FPICP is a government funded program (hundreds of millions USD) that supports care coordination, preventive screening, and family-focused care. While Taiwan has many well-trained GPs, historically any doctor could call themselves a "family physician." The FPICP and related payment reforms have strengthened FM in practice. For instance, by 2017 over 40% of eligible residents were registered with an FPICP team. In summary, Taiwan features universal coverage with freedom to choose providers, but has introduced a structured family practice network (FPICP) since 2003 to enhance preventive care and continuity in PHC(18).

Arab states of the Persian Gulf

The Persian Gulf countries have all invested in modernizing PHC since the mid-20th century, often supported by expatriate training and international collaboration. In general, family medicine residency programs and professional associations were established during the 1980s and 1990s. Today, family medicine services are primarily delivered through the public sector, including Ministries of Health and national health networks. The following sections highlight each country individually and conclude with a summary of common themes(19, 20).

Bahrain

Bahrain was among the earliest Persian Gulf States to adopt FM. It launched a four-year Family Practice Residency Program (FPRP) in 1979. Graduates since 1982 have served as primary care physicians across the kingdom. In June 2023 Bahrain formally reactivated its Family Physicians Association to strengthen the specialty. Bahraini family doctors have historically led regional training efforts: many served in Arab Board and international FM bodies, helping establish FM programs in other Arab countries. Today Bahraini family physicians work in public health centers providing continuum of care (well-baby, chronic care, preventive services). The long-standing experience in FM has contributed significantly to Bahrain's public health successes (high immunization coverage, maternal health, etc.)(21).

Saudi Arabia

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

Saudi Arabia has rapidly expanded its PHC network in recent decades. The Ministry of Health (MOH) runs thousands of primary health centers (PHCCs) across the country. Over 200 family medicine residency programs now graduate family physicians each year; however, a significant gap remains, with WHO/EMRO estimating a shortfall of approximately 12,000 family physicians. In 2016 MOH launched a major PHC reform (aligned with Vision 2030) to turn PHCs into patient-centered family practice clinics. Early results of this reform include a 37.5% rise in annual PHC visits and modest improvements in patient satisfaction. Saudi PHC reform emphasizes a "family practice model" (multidisciplinary teams, extended hours, health information systems) to improve preventive care and reduce hospital referrals. Nonetheless, challenges persist (urban–rural distribution, workforce incentives). In sum, Saudi Arabia has invested heavily to make family medicine the backbone of primary care, but still needs to scale up FM training and strengthen the family doctor role(22).

United Arab Emirates (UAE).

The UAE's health system blends public and private care, but family medicine is prominent in both. Its four-year family medicine residency program is administered by health authorities in Dubai and Abu Dhabi under the Arab Board, with strong academic affiliations such as the MRCGP International. Dubai's residency began in 1993; by 2017 it had trained 162 residents (92% completion rate). Practically all adult Emiratis carry medical insurance and can see specialists, but family doctors serve as primary providers. Recent data indicate roughly 17.3 physicians per 10,000 population, but only about 1 family physician per 59,000 people. Thus, the UAE still faces an imbalance with few nationals choosing primary care (FM accounts for a minority of specialists). Programs like the Abu Dhabi "Weqaya" health promotion plan and clinic accreditations are trying to boost FM emphasis. In practice, PHC is run by government facilities (HAAD/SEHA centers in Abu Dhabi; DHA centers in Dubai) and by private clinics. In summary, UAE continues to build its FM workforce through training reforms and incentives, but like other Persian Gulf States it remains heavily reliant on expatriate physicians(23, 24).

Regional Patterns

Across the Persian Gulf, FM training has a common pattern: 4-year residency programs (often under Arab Board or international accreditation) were established in the 1980s–90s(21, 23). Governments rapidly expanded health centers, often with free or universal service. Family doctors in this region focus on preventive medicine (maternal/child care, NCD screening, vaccinations) and coordinate referrals to hospitals. Unlike East Asia, continuity and patient registration are usually enforced or incentivized. For example, Saudi Arabia and Qatar have reoriented PHCs to a "family medicine team" model (22, 25), and France reports 95% of citizens voluntarily registering with a GP(26) (although France is not Persian Gulf, it shows a similar idea). Nonetheless, all Persian Gulf countries suffer from physician maldistribution and reliance on foreign doctors. Recent Persian Gulf health policies thus emphasize "nationalizing" the FM workforce and improving training quality. In all these states, FM is increasingly seen as key to controlling rising costs and NCD burdens – consistent with WHO and OECD guidance (27).

Europe

Germany

Germany has a well-resourced health system with high doctor density (~4.5 per 1000). Primary care is provided by Hausärzte (general practitioners) and general internists. Patients have free choice of physician, though sick funds encourage patients to use a "Hausarztmodell" by offering lower copayments when a GP is chosen as gatekeeper. FM training is a 5year residency (commonly 18 months hospital + 24 months ambulatory medicine + 18 months practice). Although family medicine is established, only a small fraction of students choose it (≈10%), and other specialists (pediatrics, internal medicine) also provide primary care. Germany had about 99 family physicians per 100,000 population in 2006, and roughly 80,500 FM doctors by 2016. Family physicians in Germany are mostly self-employed in group practices or solo offices, paid by statutory health insurance. They emphasize comprehensive care but patients may often see specialists directly. Importantly, many German FM practices include nurse practitioners and health educators, integrating chronic disease management. In summary, Germany's FM is fully integrated into a universal health system, with structured training and professional societies (DEGAM, Hausärzteverband)(28, 29).

England (United Kingdom)

England's National Health Service (NHS) is built on the "family doctor" model since 1948. Nearly all residents register with a general practitioner (GP) practice, making GPs gatekeepers for specialist referral. Historically, England developed the personal family doctor: group practices now dominate primary care. GP training consists of two years of general hospital foundation training followed by a 3-year GP specialty training and a final MRCGP exam. The College of General Practitioners (founded 1952) and successive GP contracts have steadily professionalized the field. In

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

1966 the "Family Doctor Charter" raised GP status and set patient quotas. Today, family medicine in England emphasizes preventive medicine (through the Quality and Outcomes Framework, QOF) and integrated community teams. England still faces challenges (GP recruitment, workload), but research consistently shows that NHS outcomes (life expectancy, cancer survival, equity) are supported by its strong primary care orientation. For example, a systematic review noted that a robust GP system correlates with lower mortality across countries (1, 30, 31).

France

France has one of Europe's highest physician densities, including about 102,000 general practitioners for ≈68 million people (~1.5 GPs per 1,000). Family medicine in France is partly voluntary in structure: since 2005 patients are encouraged (via small financial incentives) to choose a "médecin traitant" (treating doctor) who coordinates their care. Over 95% of adults have registered a GP as their gatekeeper, although specialists remain directly accessible if chosen. GP training is a 3-year residency (DES) following an internal internship; family medicine and general practice are essentially the same specialty. French GPs are predominantly self-employed and work in multi-physician practices. They provide a full range of primary care services (family planning, chronic disease management, minor surgery) and are complemented by free-standing ambulatory specialists. Key features of the French FM system include: multidisciplinary clinics (often with nurses and midwives), annual preventive health visits, and incentives for chronic care programs. Because France relies heavily on specialists as well, FM contributes to preventive and continuity functions but does not monopolize first-contact care. Studies show France's high rates of screening and vaccination are attributed in part to its strong primary care network(1, 26).

Family Medicine in Iran

Iran's Family Physician Program (FPP) – a national primary care reform – was launched in 2005 under Iran's Fifth Development Plan, initially deploying general practitioners (with no additional family-medicine specialty training) to provide preventive outpatient care and act as gatekeepers. In 2011 the FPP was expanded from purely rural areas to smaller urban cities (<20 000 pop.; with pilots up to 50 000)(32). Over time the training model has evolved: Iran has since introduced modular public-health courses and a dedicated 3-year family medicine residency to better equip FPs(33). The FPP coincided with strong gains in preventive indicators: by 2019 roughly 97% of Iranian women had ≥4 antenatal visits and about 95% of births were attended in health facilities(34). Childhood immunization is likewise very high (DTP3 coverage ≈99% in 2019(35)), meeting or exceeding global targets. In addition, a time-series analysis demonstrated that after FPP rollout, rural under-five and infant mortality rates fell significantly—underscoring the program's impact on child survival in Iran(36). These service gains helped drive dramatic declines in maternal mortality – Iran's maternal mortality ratio fell to 15.9 per 100 000 live births in 2019, far below the SDG target of 70 and well under the regional average (≈94) or global rate (≈145). In fact, analyses attribute much of this improvement to FPP-associated increases in rural physician and midwife coverage(37). Nevertheless Iran now faces a high burden of non-communicable diseases: as of 2016 NCDs caused ~82% of all deaths (predominantly cardiovascular 43% and cancer 16%). Adult risk factors are substantial – in 2015 about 17% of adults had raised blood pressure and ~10% had elevated fasting glucose(38) – levels comparable to global averages. Known challenges remain: urban FPP rollout has been hampered by financing, governance and referral-system issues(32), and Iran still faces shortages of fully trained family physicians and related workforce constraints(33).

Training Systems, Integration and Delivery Roles

Family medicine training varies by country. In East Asia, China now mandates a "5+3" model (5-year medical school + 3-year GP residency)(11). Taiwan and South Korea use similar structured residencies (3–4 years), whereas Japan's FM board arose late (certification started 2009, newly unified in 2018) and is still integrating into the curriculum(13). Persian Gulf States typically run 4-year FM residencies certified by national boards and/or Arab Board (e.g. Bahrain since 1979(21); Oman 4 years; Kuwait now 5 years(47); UAE 4 years(23)). These programs often collaborate with international bodies (RCGP, ACGME-I, Arab Board) and include community rotations(23, 47). Germany mandates 5 years of postgraduate training for "Facharzt für Allgemeinmedizin". UK trainee GPs complete ~7 years post-graduate (2 foundation + 3 GP specialty), and France requires 3 years(29).

The integration of FM into health systems also differs markedly. In England, every patient is registered with a family doctor or practice, and GPs are the formal gatekeepers to secondary care. France has a quasi-gatekeeping system – voluntary on paper, but effectively embraced by 95% of the populace(26). By contrast, Japan and China have weak gatekeeping; patients can usually see specialists directly, leading to hospital crowding for minor issues(11, 13). Korea and Taiwan similarly allow open access, though Taiwan's FPICP incentivizes GP choice. In most Persian Gulf countries

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

(e.g. Saudi Arabia, Qatar), patients are assigned or empaneled to family physicians in PHC centers, making FM the first contact. Within practices, FM roles often expand: family doctors usually deliver preventive screening, maternal-child health, chronic disease management and health education. They lead multidisciplinary teams including nurses and allied health (as is now common in France and the UK)(26), whereas in some East Asian contexts nurses play a smaller role(11, 13, 48).

Key differences: delivery and funding. In East Asia versus Persian Gulf States, most FM services are public (MOH clinics or national health funds). In Germany and France, FM practices are largely private or self-employed, paid by insurance or state fees. England's NHS GPs are contractors to government. Funding schemes also shape FM activities: the UK's QOF and France's capitation payments have driven preventive care targets, while Persian Gulf services are typically free at point of use with internal budgets set by governments (13, 29).

Overall, training in FM is robust across regions, but systems with formalized roles for family doctors (UK, Bahrain, Taiwan, etc.) show stronger integration than those where FM was a late addition (Japan). Continued development efforts in all regions emphasize team-based care, electronic health records, and expanded public health roles for family physicians.

Table1. Comparison of family medicine systems across East Asia, the Persian Gulf, and Europe, highlighting public health metrics and outcomes

Metric / Country	China	Japan	South Korea	Taiwan	Iran	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE	Germany	UK	France
DTP3 immunization(39) (% of 1-year-olds)	99%	98%	97%	98%	99%	99%	99%	98%	99%	99%	98%	93%	91%	95%
Infant mortality(40) (per 1,000 live births)	6.2	1.9	2.8	3.8	14.3	6.1	6.4	7.2	6.8	11.7	5.0	3.1	3.8	3.1
Life expectancy(41) (years)	77	84	82	80	76	78	80	79	80	75	77	81	81	82
NCD mortality(42) (% of total deaths)	88%	90%	86%	89%	76%	81%	80%	79%	83%	78%	80%	91%	89%	90%
Diabetes prevalence(43) (% of adults 20–79)	10.9%	7.9%	7.6%	9.8%	9.5%	15.6%	17.5%	14.2%	15.5%	18.3%	16.3 %	9.5%	8.0%	7.7%
Hypertension Prevalence(44)(% of adults)	23%	25%	22%	27%	26%	28%	29%	30%	27%	31%	30%	28%	27%	26%
Tuberculosis incidence(45) (per 100,000)	55	11	47	33	14	15	23	8	26	10	1	6	7	8
Hepatitis B prevalence(46) (% of population)	6.1%	1.2%	2.7%	1.3%	1.5%	1.3%	1.5%	2.2%	1.7%	1.6%	1.3%	0.7%	0.6%	0.8%

Family Medicine in Public Health and Health System Efficiency

A substantial body of evidence demonstrates that family medicine provides significant public health benefits and contributes to cost savings(49). At the population level, health systems oriented around strong family medicine frameworks tend to achieve better health outcomes compared to those dominated by specialty care(50). For instance, an increased supply of primary care physicians is associated with lower all-cause mortality and reduced health disparities, whereas a higher density of specialists often yields limited benefits(51).

Family medicine is particularly effective in disease prevention and management; patients with a regular family physician are more likely to receive recommended preventive services and are less likely to delay seeking care(52). Studies have shown that individuals with a continuous relationship with a family doctor experience fewer hospitalizations, undergo fewer diagnostic tests and prescriptions, and incur lower overall healthcare costs compared to those without such continuity(53). Similarly, communities served by long-term family physicians report reduced pediatric hospital admissions(49).

In practical terms, family medicine contributes through vaccination programs, cancer screenings, and

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

effective management of chronic conditions such as hypertension and diabetes, ultimately reducing the future burden of disease and associated healthcare expenditures (50-53).

East Asia (China, Japan, S. Korea, Taiwan)

East Asian countries vary in their use of formal family medicine. China has recently expanded community "family doctor" contract services in its PHC reform(54) , while Japan, South Korea and Taiwan provide universal insurance with high primary-care access (though Japan/SK traditionally allow specialist access). Mongolia has a more rural PHC network but fewer doctors per capita. Across these countries vaccination and child health are strong. For example, DTP3 coverage is nearly universal: China and Japan report ~99% (2022)(55, 56), and even Mongolia ~95% (57). Consequently, infant mortality is very low in East Asia – e.g. ~4.8 per 1,000 in China (2022)(58) and only ~2.4 in Japan(59) – except in Mongolia (≈11.5/1,000 in 2022)(60). Life expectancy is correspondingly high: Japan ~84 years, S.Korea ~82 yrs, Taiwan ~80 yrs, while China ~77 yrs (41). Non-communicable diseases dominate mortality (≈80–90% of all deaths in these aging populations). Diabetes affects roughly 10% of adults (e.g. ~10% in China and ~8% in Japan)(43). Other indicators (maternal mortality, antenatal care, institutional delivery) are excellent: nearly all births are institutional and antenatal coverage is above 90% in all these countries (e.g. China and Japan report ~99% skilled birth attendance)(61) (Table 1).

Persian Gulf States (Saudi Arabia, Bahrain, UAE)In the Persian Gulf, governments have invested heavily in family medicine clinics and training. DTP3 immunization is likewise very high (≈95–99%) across Saudi Arabia, Bahrain and the UAE(39). Infant mortality and child health have improved: for example UAE's infant mortality is ~6 per 1,000 (2020), Saudi ~8 per 1,000(40). Life expectancy is mid-70s: Saudi ≈75.5 yrs , Bahrain ≈77.6 yrs , UAE ≈77–78 yrs. However, NCDs are a major problem. Diabetes prevalence is among the world's highest: ~23.1% in Saudi Arabia (2024) , ~22.1% in Bahrain , ~20.7% in the UAE(43) . Hypertension is also common (roughly 25–30% of adults in these populations). As a result, NCDs account for roughly 70–80% of all deaths(42, 44).

Europe (Germany, UK, France)

European countries have long-established GP/family medicine systems (GP gatekeeping in UK/Germany; registered "médecin traitant" in France). DTP3 coverage is somewhat lower than in Asia: Germany ~91%(2022)(62) and France ~96% (2022)(63); the UK is in the mid-90s(64). Infant mortality is very low in all: ~3–4 per 1,000 (e.g. Germany ~3.1, UK/France ~3.7)(40). Life expectancy is high (~81–83 yrs)(41). NCDs account for ~85–90% of deaths; diabetes prevalence is modest (~7–10% of adults)(43) and hypertension ~25% of adults (44)(Table 1).

Iran versus Other Regions

Iran's health system combines a strong rural PHC network with more recent urban family medicine pilots. Coverage of core services is high: for example, ~96.9% of pregnant women receive antenatal care(65) and nearly all deliveries occur in health facilities. DTP3 coverage in Iran exceeds 98% (per WHO estimates), comparable to East Asian and Persian Gulf countries. However, Iran's health indicators lag slightly behind the richest countries: infant mortality is ~11 per 1,000 (2022)(66) versus single-digits in Europe/East Asia. Life expectancy in Iran (~77 yrs) is slightly lower than in Europe or Persian Gulf states(41). Chronic disease prevalence is also substantial: adult diabetes~9% (2024) (higher than Europe but lower than Persian Gulf), and hypertension affects roughly one quarter of adults(67). Overall, Iran's well-funded PHC and family-medicine initiatives have achieved high coverage of preventive services, reflected in strong immunization and maternal care, but some mortality indicators remain higher than in peer nations.

Continuity of care is a unique strength of family medicine

Family physicians typically care for individuals and their families across generations, fostering long-term relationships over time. This continuity enhances the detection of psychosocial issues and supports more holistic and patient-centered management(68, 69). Research indicates that elderly patients with a stable family physician have significantly lower rates of emergency department visits and mortality(70, 71). Continuity of care also promotes more efficient chronic disease management; for example, experimental family physician networks in France have demonstrated improved outcomes in patients with diabetes and cardiovascular disease(72). From an economic perspective, investment in family medicine is highly cost-effective. By managing routine and preventive care in community settings, family medicine reduces reliance on costly specialist consultations and hospital services (1, 4, 73). Comparative data from the organization for Economic Co-operation and Development (OECD) show that countries with higher rates of primary care visits per capita tend to spend less on health care overall while achieving comparable or superior health outcomes(74, 75). For instance, early evaluations of Saudi Arabia's PHC reforms—aimed at strengthening family practice—indicate that each dollar invested in primary care can yield multiple dollars in savings by reducing hospital

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

admissions(22). Globally, the WHO and the World Bank have noted that a 10% increase in the supply of primary care physicians can lead to an estimated 0.35% reduction in total health expenditures, alongside improvements in population health and survival(4). In summary, family medicine functions as essential public health infrastructure: through its focus on preventive care, lifestyle counseling, and community outreach, it addresses the root causes of illness while ensuring more efficient use of healthcare resources (1, 4, 73).

Conclusion

Family medicine plays a pivotal role in strengthening health systems, and comparative analyses across East Asia, the Persian Gulf, and Europe highlight its diverse models and benefits. In all regions, well-established family medicine systems are associated with improved access to care, enhanced disease prevention, and more appropriate utilization of specialist services. For instance, Bahrain's early adoption of family medicine and Taiwan's Family Practice Integrated Care Project (FPICP) have been linked to high immunization coverage and effective chronic disease management. Similarly, the United Kingdom's National Health Service (NHS) GP network has contributed to reductions in infant mortality and improved cancer screening rates. A consistent body of evidence demonstrates that greater investment in family medicine leads to healthier populations at lower cost. Strengthening family medicine requires expanding training programs, integrating family physicians into community health planning, and aligning payment mechanisms with preventive health outcomes. As population age and the prevalence of chronic diseases increases, reforms that reinforce family medicine are more critical than ever. Ultimately, countries with a strong foundation in family medicine can expect improved life expectancy, enhanced health equity, and higher levels of patient satisfaction. Policymakers should therefore prioritize the development and support of family physician services, as only a robust and trusted primary care network can fully realize the goals of universal health coverage and efficient, people-centered care.

References:

1. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. The milbank quarterly. 2005;83(3):457-502.
2. Kringos DS, Boerma WG, Hutchinson A, Van der Zee J, Groenewegen PP. The breadth of primary care: a systematic literature review of its core dimensions. BMC health services research. 2010;10:1-13.
3. Europe W. The European definition of general practice/family medicine. Barcelona: WONCA Europe. 2002.
4. Van Lerberghe W. The world health report 2008: primary health care: now more than ever: World Health Organization; 2008.
5. Organization WH. Primary health care: transforming vision into action: operational framework. 2018.
6. Rhydderch M, Edwards A, Elwyn G, Marshall M, Engels Y, Van den Hombergh P, et al. Organizational assessment in general practice: a systematic review and implications for quality improvement. Journal of evaluation in clinical practice. 2005;11(4):366-78.
7. Shi L, Starfield B, Politzer R, Regan J. Primary care, self-rated health, and reductions in social disparities in health. Health Services Research. 2002;37(3):529-50.
8. Green LA, Fryer Jr GE, Yawn BP, Lanier D, Dovey SM. The ecology of medical care revisited. Mass Medical Soc; 2001. p. 2021-5.
9. Sox HC. The future of primary care. Annals of Internal Medicine. 2003;138(3):230-2.
10. Starfield B. State of the Art in Research on Equity in Health. Journal of Health Politics, Policy and Law. 2006;31(1):11-32.
11. Li D. Training doctors for primary care in China: Transformation of general practice education. Journal of Family Medicine and Primary Care. 2016;5(1):1-2.
12. Team H. Improving Hong Kong's Health Care System: Why and for Whom?1999.
13. Yoshida S, Matsumoto M, Kashima S, Koike S, Tazuma S, Maeda T. Geographical distribution of family physicians in Japan: a nationwide cross-sectional study. BMC Family Practice. 2019;20:1-7.
14. Otaki J. Considering primary care in Japan. Academic Medicine. 1998;73(6):662-8.
15. Ikegami N. Universal health coverage for inclusive and sustainable development: lessons from Japan: World Bank Publications; 2014.
16. Shin H-Y. A survey of the working status of family medicine physicians in clinics and hospitals in Korea. BMC Family Practice. 2020;21:1-6.
17. Jo J. The Role of Korea Institute for Health and Social Affairs. Health Policy and Management. 2018;28(3):217-21.
18. Jan C-F, Hwang S-J, Chang C-J, Huang C-K, Yang H-Y, Chiu T-Y. Family physician system in Taiwan. Journal of the Chinese Medical Association. 2020;83(2):117-24.
19. Al-Kuwaiti AA, Subbarayalu AV. Capacity building in health care professions within the Gulf cooperation council

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

countries: paving the way forward. BMC Medical Education. 2019;19(1):1-9.

20. Al-Khaldi YM, Al-Ghamdi EA, Al-Mogbel ES. Development of family medicine in the Middle East. Family Medicine. 2007;39(10):736-40.
21. Alnasir FA. Family Medicine in the Kingdom of Bahrain. 2017.
22. Al Khashan H, Abogazalah F, Alomary S, Nahhas M, Alwadey A, Al-Khudhair B, et al. Primary health care reform in Saudi Arabia: progress, challenges and prospects. Eastern Mediterranean Health Journal. 2021;27(10):1016-26.
23. AlSharief WM, Abdulrahman M, Khansaheb HH, Abdulghafoor SA, Ahmed A. Evolution of family medicine residency training program in Dubai Health Authority: A 24-year review, challenges, and outcomes. Journal of Family Medicine and Primary Care. 2018;7(2):425-9.
24. Schiess N, Ibrahim H, Shaban S, Perez MN, Nair SC. Career choice and primary care in the United Arab Emirates. Journal of graduate medical education. 2015;7(4):663-6.
25. Syed MA, Al Mujalli H, Kiely CM. Development of a model to deliver primary health care in Qatar. Integrated healthcare journal. 2020;2(1):e000040.
26. Isabelle Durand-Zaleski A-HaUP-E. International Health Care System Profiles France June 5, 2020 [Available from: https://www.commonwealthfund.org/international-health-policy-center/countries/france#:~:text=There%20is%20a%20voluntary%20gatekeeping,can%20also%20serve%20as%20gatekeepers.
27. Macinko J, Starfield B, Shi L. The Contribution of Primary Care Systems to Health Outcomes within Organization for Economic Cooperation and Development (OECD) Countries, 1970–1998. Health Services Research. 2003;38(3):831-65.
28. Systems EOoH, Policies. State of Health in the EU Germany: Country Health Profile 2021: OECD Publishing; 2021.
29. Global Family Medicine - Wilfrid Laurier University [Available from: https://globalfamilymedicine.org/germany-1#:~:text=practice.
30. Rosen DR. A short history of the GP contract and its evolution in England 24/01/2025 [Available from: https://www.nuffieldtrust.org.uk/news-item/a-short-history-of-the-gp-contract-and-its-evolution-in-england#:~:text=The%20first%20contract%20in%C2%A01948%20%E2%80%93,drew%20GPs%20into%20the%20NHS.
31. Boerma WG, Dubois C-A. Mapping primary care across Europe. Primary care in the driver's seat? :22.
32. Heidarzadeh A, Hedayati B, Huntington MK, Madani ZH, Farrokhi B, Mohseni F, et al. Near two decades of the family physician program in Iran and the structural challenges: A systematic review. International Journal of Preventive Medicine. 2023;14(1):44.
33. Heidarzadeh A, Hedayati B, Huntington MK, Alvandi M, Arabi A, Farrokhi B, et al. Challenges Associated with the Education of Family Physicians in Iran: A Systematic Review. Journal of Medical Education. 2022;21(1).
34. Dadras O, Dadras F, Taghizade Z, Seyedalinaghi S, Ono-Kihara M, Kihara M, et al. Barriers and associated factors for adequate antenatal care among Afghan women in Iran; findings from a community-based survey. BMC pregnancy and childbirth. 2020;20:1-11.
35. Iran (Islamic Republic of): WHO and UNICEF estimates of immunization coverage: 2022 revision. June 26, 2023.
36. Naderimagham S, Jamshidi H, Khajavi A, Pishgar F, Ardam A, Larijani B, et al. Impact of rural family physician program on child mortality rates in Iran: a time-series study. Population health metrics. 2017;15:1-8.
37. Sepanlou SG, Aliabadi HR, Malekzadeh R, Naghavi M, Collaborators GIM. Maternal mortality and morbidity by cause in provinces of Iran, 1990 to 2019: an analysis for the global burden of disease study 2019. Archives of Iranian medicine. 2022;25(9):578.
38. World Health Organization - Noncommunicable Diseases (NCD) Country Profiles, 2018.; 2018.
39. Estimates of National Immunization Coverage. World Health Organization (WHO) and United Nations Children's Fund (UNICEF). 2022.
40. The World Factbook 2023. Central Intelligence Agency (CIA). 2023.
41. Life expectancy at birth, total (years). The World Bank. 2022.
42. Noncommunicable Diseases Country Profiles 20222022.
43. IDF Diabetes Atlas, 10th ed2021.
44. Global Health Observatory data repository: Raised blood pressure. World Health Organization. 2019.
45. Global Tuberculosis Report 20222022.
46. Global Hepatitis Report 20172017.
47. Family Medicine Residency Program Trainers '& Residents 'Guide to the curriculum MARCH 2023 [Available from: https://kfmrp.com/documents/curriculum.pdf#:~:text=Kuwait%E2%80%99s%20primary%20health%20care%20system,MRCGP%20%28INT.
48. Yaman H. Training in family medicine: need for changes? European Journal of General Practice. 2002;8:120-21.
49. van Weel C, Rosser WW. Improving health care globally: a critical review of the necessity of family medicine research and recommendations to build research capacity. The Annals of Family Medicine. 2004;2(suppl 2):S5-S16.
50. Thomas KJ, Nicholl J, Fall M. Access to complementary medicine via general practice. British Journal of General Practice. 2001;51(462):25-30.

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]

51. Smith S, Allwright S, O'Dowd T. Effectiveness of shared care across the interface between primary and specialty care in chronic disease management. The Cochrane database of systematic reviews. 2007(3):CD004910.
52. Wilson A, Childs S. The relationship between consultation length, process and outcomes in general practice: a systematic review. British Journal of General Practice. 2002;52(485):1012-20.
53. Jee SH, Cabana MD. Indices for continuity of care: a systematic review of the literature. Medical care research and review: MCRR. 2006;63(2):158-88.
54. Cai C, Xiong S, Millett C, Xu J, Tian M, Hone T. Health and health system impacts of China's comprehensive primary healthcare reforms: a systematic review. Health Policy and Planning. 2023;38(9):1064-78.
55. China: WHO and UNICEF estimates of immunization coverage: 2022 revision. June 26, 2023.
56. Japan: WHO and UNICEF estimates of immunization coverage: 2023 revision. June 27, 2024
57. Mongolia: WHO and UNICEF estimates of immunization coverage: 2022 revision. June 26, 2023.
58. China: Infant mortality rate from 2012 to 2022 [Available from: https://www.statista.com/statistics/806754/infant-mortality-in-china/.
59. Japan (JPN) - Demographics, Health & Infant Mortality - UNICEF DATA [Available from: https://data.unicef.org/country/jpn/.
60. Mongolia: Infant mortality rate from 2012 to 2022 [Available from: https://www.statista.com/statistics/807042/infant-mortality-in-mongolia/.
61. Births attended by skilled health personnel (%) [Available from: https://www.who.int/data/gho/data/indicators/indicator-details/GHO/births-attended-by-skilled-health-personnel-%28-%29.
62. Germany: WHO and UNICEF estimates of immunization coverage: 2023 revision. June 27, 2024.
63. France: WHO and UNICEF estimates of immunization coverage: 2023 revision. June 27, 2024.
64. United Kingdom of Great Britain and Northern Ireland: WHO and UNICEF estimates of immunization coverage: 2023 revision. June 27, 2024.
65. WHO EMRO | Islamic Republic of Iran highlights national plans to improve primary health care on World
66. Patient Safety Day [Available from: https://www.emro.who.int/iran/news/islamic-republic-of-iran-highlights-national-plans-to-improve-primary-health-care-on-worldpatient-safety-day.html.
67. Iran Infant Mortality Rate 1950-2025 | MacroTrends [Available from: https://www.macrotrends.net/global-metrics/countries/irn/iran/infant-mortality-rate.
68. Iran - International Diabetes Federation [Available from: https://idf.org/our-network/regions-and-members/middle-east-and-north-africa/members/iran/.
69. Saultz JW. Defining and measuring interpersonal continuity of care. The Annals of Family Medicine. 2003;1(3):134-43.
70. Stille CJ, Jerant A, Bell D, Meltzer D, Elmore JG. Coordinating Care across Diseases, Settings, and Clinicians: A Key Role for the Generalist in Practice. Ann Intern Med. 2005;142:700-8.
71. Worrall G, Knight J. Continuity of care for older patients in family practice: how important is it? Canadian Family Physician Medecin de Famille Canadien. 2006;52:754-5.
72. Cabana MD, Jee SH. Does continuity of care improve patient outcomes? Journal of Family Practice. 2004;53(12).
73. Trakatellis A, Gerochristos I, Trakatelli MG. The programme of Community action in the field of health (2007-2013). Pharmaceuticals policy and law. 2005;8:3-11.
74. Qidwai W, Beasley JW, Gomez-Clavelina FJ. The present status and future role of family doctors: a perspective from the International Federation of Primary Care Research Networks. Primary Health Care Research & Development. 2008;9(3):172-82.
75. Marshall M, Klazinga N, Leatherman S, Hardy C, Bergmann E, Pisco L, et al. OECD Health Care Quality Indicator Project. The expert panel on primary care prevention and health promotion. International journal for quality in health care: journal of the International Society for Quality in Health Care. 2006;18:21-5.
76. STARFIELD B. Primary care and health: a cross-national comparison. JAMA, the journal of the American Medical Association. 1991;266(16):2268-71.

[Downloaded from intjmi.com on 2026-11-16]

[DOI: https://doi.org/10.22034/JEHC.14.1.47]