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# Primary Healthcare Reform in Greece: Progress, System Challenges and Future Directions

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## Abstract

Primary healthcare (PHC) is fundamental to equitable healthcare access, disease prevention, early diagnosis, chronic disease management and coordination across levels of care. In Greece, the development of a comprehensive and integrated PHC system has been constrained by longstanding organizational fragmentation, parallel public and private delivery arrangements; incomplete implementation of successive reforms; and the absence of consistently standardized patient pathways. This narrative review presents a structured analysis of Greek PHC based on the published literature, official policy documents and administrative evidence, organized around accessibility; adequacy; affordability; appropriateness; availability; and additional domains of continuity, digital integration, patient experience and quality assurance. Greece has developed an extensive network of public, publicly financed private and exclusively private providers, while the Personal Doctor reform provides an institutional basis for population registration, first-contact care and longitudinal monitoring. However, the evidence indicates implementation gaps, geographical variation in physician availability and continued reliance on uncoordinated access to multiple providers. Appointment delays, limited access to contracted physicians and private consultation costs remain important barriers, while gaps persist in home-based care; rehabilitation; palliative care; and integration with public health, mental health and social services. Fragmented clinical information further restricts continuity, accountability and performance assessment. Strengthening Greek PHC requires a transition from administrative registration and fragmented provision towards accessible, multidisciplinary and coordinated care. Proposed priorities include standardized patient pathways, interoperable electronic records, systematic assessment of patient experience, strengthened community-based services, expansion of the nursing workforce and a feasible national quality-monitoring system. Population-based capacity planning is proposed conditionally on secured financing, workforce availability and phased verification of operational services; Italy's incomplete implementation illustrates the risk of equating planning standards with delivered care. Sustainable reform will depend on workforce capacity, institutional continuity, professional and patient participation, and the translation of policy commitments into measurable improvements in routine care.

**Keywords:** primary healthcare; Greece; personal doctor; healthcare access; integrated care; quality indicators; patient experience; health-system reform

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## 1. Introduction

Primary healthcare (PHC) constitutes the operational foundation of an effective health system because it is the level at which most health needs should initially be identified, assessed and managed [1]. Its functions extend beyond acute treatment to include health promotion, disease prevention, early diagnosis, chronic disease management, rehabilitation, palliative support, and coordination with specialist and hospital services [2]. When appropriately integrated, PHC provides a coherent entry point, strengthens continuity and reduces unnecessary or inappropriate use of secondary and tertiary care [1]. First-contact access, longitudinal continuity, comprehensiveness and coordination are therefore defining attributes of effective primary care, ensuring accessible entry, sustained therapeutic relationships and coherent care across professionals and organizations [1,2].

The importance of PHC was established through the Declaration of Alma-Ata, which positioned primary care as a central mechanism for improving population health and reducing inequalities in access to essential services [3]. The Declaration emphasized that healthcare should be universally accessible, socially acceptable, scientifically sound and responsive to individual and community needs [3]. Subsequent frameworks expanded this perspective to include universal health coverage; person-centered organization; community participation; and the integration of preventive, curative and rehabilitative services [4]. PHC is therefore understood not only as a distinct level of care but also as an organizing principle through which health systems respond to population needs over time [5], with services oriented around people, prevention, continuity and coordination across organizational boundaries [6].

The need for effective PHC has intensified because of demographic aging, multimorbidity, the increasing prevalence of non-communicable diseases and the rising cost of specialized and hospital-based care [2]. These pressures require a transition from sporadic, disease-specific and provider-centered models towards integrated approaches capable of addressing complex needs longitudinally [2].

In Greece, PHC reform has remained a longstanding health-policy priority, with successive interventions seeking to strengthen first-contact services; improve population coverage; and establish a coordinating role for general practitioners, family physicians and the Personal Doctor [7]. However, integration has been constrained by institutional fragmentation, parallel financing arrangements, heterogeneous service-delivery structures, incomplete reform implementation and substantial dependence on private providers [7]. The system has historically combined publicly operated services, social-insurance arrangements, contracted private provision and direct private expenditure [7]. The Greek National Health System (NHS; Ethniko Systima Ygeias, ESY) was established in 1983 by Law 1397/1983 and is a mixed system with elements of both the Beveridge and Bismarck models [8], combining tax-based financing with social health insurance [9]. Since 2011, the National Organization for Health Care Services Provision (EOPYY) has acted as the single purchaser of publicly funded health services [10].

The coexistence of public and private providers offers considerable service capacity; however, further coordination could strengthen accessibility, continuity, efficiency and equity across the health system. In some cases, citizens may move between providers without a clearly defined first-contact mechanism or a single team maintaining overall responsibility for continuity of care [11]. As a result, patients may need to arrange appointments, transfer information and coordinate recommendations across services, creating opportunities to improve referral processes, information exchange and chronic disease follow-up while reducing unnecessary duplication and avoidable specialist or hospital use [11]. Digital and remote-care technologies, including telemedicine, are increasingly regarded as tools for strengthening primary care and the management of people with chronic conditions, provided that their risks and limitations are addressed [12]. Strengthening these coordina-

tion mechanisms would be particularly important for people who may experience greater difficulty navigating the system, including those with lower income, limited health literacy, chronic illness, disability or reduced mobility [13]. It would also support more equitable access for populations living in rural, mountainous, island and remote areas, where service availability and geographical conditions may create additional challenges [14].

This narrative review examines the organization, accessibility, adequacy, affordability, appropriateness, availability, continuity, digital integration, patient experience and quality-assurance capacity of Greek PHC and identifies the operational and governance priorities required to support more integrated, person-centered and evidence-informed care.

## 2. Materials and Methods

A narrative review-based situational analysis was conducted to examine the organization, performance limitations and reform priorities of PHC in Greece. This design was selected because the objective was to evaluate the interaction between institutional arrangements, service-delivery structures, access barriers, quality-assurance mechanisms and implementation challenges rather than to assess a single clinical intervention or calculate a pooled quantitative effect. This approach allowed the analysis to combine descriptive information concerning the organization of the Greek system with a conceptual assessment of the factors affecting accessibility, continuity, quality and responsiveness.

The included evidence was identified through targeted searches of PubMed, Scopus, CINAHL and the Cochrane Library, supplemented by searches of the official websites of the World Health Organization, the OECD, the European Observatory on Health Systems and Policies, the Hellenic Ministry of Health, EOPYY, the Personal Doctor platform and the Greek Government Gazette. The search was conducted between January and July 2026 and primarily considered evidence published from 2015 onwards, while earlier landmark policy documents and legislation were retained when directly relevant. Eligible sources included peer-reviewed studies, systematic and scoping reviews, official reports, legislation, policy documents, administrative data and technical guidance addressing the organization, financing, accessibility, workforce, clinical quality, digital integration or patient experience of Greek PHC. Evidence was selected purposively according to its relevance, authority, recency and applicability to the predefined analytical domains and was subsequently organized thematically. Searches combined terms describing the setting (Greece OR Greek) with terms for primary care ("primary health care", "primary care", "general practice" and "personal doctor") and for the analytical domains (access*, continuity, quality and reform*), with publication dates from 2015 onwards and English or Greek language. International sources were included where they provided conceptual frameworks or evidence from comparable health systems. Sources were excluded if they concerned exclusively hospital or specialist care without implications for PHC; lacked empirical, legal or policy content; or were not available in full text. Press-reported Personal Doctor enrollment and physician totals were excluded from the reported quantitative findings because a dated official dataset confirming the same reporting periods could not be verified. Targeted checks of the sources discussed in the reviewer comments were completed on 25 October 2026; these checks did not constitute a repeat database search. The database searches yielded 740 records (PubMed, n = 200; Scopus, n = 371; CINAHL, n = 162; and Cochrane Library, n = 7). After removal of duplicates, titles and abstracts were screened for relevance to the analytical domains, and the full texts of potentially relevant records were assessed before purposive selection; these records were complemented by documents identified through institutional websites and the reference lists of included studies. The revised reference list comprises 66 sources: 29 peer-reviewed articles; 4 book chapters; 18 reports, health-system reviews and strategies; 7 online policy monitors, institutional web pages and statistical databases; 6 legal texts; 1 official administrative notice; and 1 trade-media article. This

review followed a narrative rather than systematic approach; consequently, PRISMA-based study selection, formal risk-of-bias assessment and quantitative synthesis were not undertaken.

The analytical structure was based on five interrelated dimensions of healthcare access: accessibility, adequacy, affordability, appropriateness and availability [15]. Accessibility was defined as the ability of citizens to obtain services without excessive organizational, geographical, administrative or discriminatory constraints [5]. Adequacy concerned whether the volume and quality of services were sufficient to meet actual population health needs [5]. Affordability referred to the financial burden of accessing care for patients and households, as well as the financial sustainability of service provision for the public payer [5]. Appropriateness concerned whether services corresponded to patients' clinical needs and were delivered according to evidence-based processes. Availability referred to the presence, geographical distribution and operating capacity of healthcare professionals, facilities and diagnostic services [5]. Because availability is a precondition of accessibility, the two dimensions partly overlap. They were nevertheless retained as separate dimensions, consistent with the adopted framework [15], in order to distinguish the supply side of care (whether services and professionals exist in sufficient number, distribution and operating capacity) from the ability of the population to reach and use these existing services in practice. Accordingly, availability is examined jointly with adequacy in Section 3.5, whereas Section 3.4 focuses on practical barriers to the use of existing services. Additional analytical domains included continuity of care, integration between PHC and other sectors, implementation of the Personal Doctor model, public–private coordination, information-system capacity, patient experience, governance and quality measurement. These domains were included because they determine whether formally available services operate as an integrated system or as separate and weakly connected points of care.

The evidence was synthesized narratively, beginning with an assessment of system organization and followed by analysis of its implications for access, continuity, equity, clinical quality and health-system performance. Reform priorities were subsequently derived from the documented weaknesses and organized according to governance, workforce, service delivery, digital infrastructure, patient participation and quality assurance.

## 3. Results

### *3.1. Organization and Governance of Primary Healthcare in Greece*

The Greek PHC system comprises public, publicly financed private and exclusively private providers. Public provision includes Health Centers, Local Health Units, and regional and rural clinics, while public hospital outpatient departments also deliver ambulatory care [16]. Local Health Units (Topikes Monades Ygeias; ToMY) constitute community-based PHC units introduced as part of the 2017 PHC reform. They were designed to operate through multidisciplinary teams, with a defined catchment population and an emphasis on first-contact care, prevention, health promotion, chronic disease management and coordination with other health and social services [16]. EOPYY contracts private physicians, diagnostic centers and other providers, whereas non-contracted professionals remain accessible through direct payment [17]. This broad network increases service capacity, but providers frequently operate through separate administrative, contractual, information and clinical arrangements, limiting their integration into a unified system [18].

The current structure also reflects longstanding differences between urban and rural provision. Urban outpatient care was historically delivered mainly through social-insurance organizations and contracted private providers, whereas rural and semi-urban populations relied more heavily on NHS Health Centers [19]. Although EOPYY was established as a single purchaser, parallel public and private arrangements continued to influence financing, access and patient behavior [17,18]. Citizens may therefore move between public facilities, con-

tracted providers, hospital outpatient departments and non-contracted physicians according to appointment availability, preference, perceived quality and financial capacity [20,21].

Greek evidence documents limitations in operational integration. Lionis et al. described fragmented referral coordination for chronic disease management and the lack of a uniform electronic health record across regions and care settings [22]. In a study of 22 PHC units in two Greek Health Regions, 57% of units had a basic level of integration, and observed patient pathways differed from the proposed integrated model [23]. These findings describe specific organizational and information gaps; they do not quantify how responsibility for individual follow-up tasks is allocated nationally.

Lionis et al. also described a recurrent gap between policy formulation and operational implementation [22]. Workforce shortages, limited digital infrastructure, unclear allocation of responsibilities, changing policy priorities and organizational resistance have contributed to incomplete incorporation of reforms into routine practice [18,22]. Consequently, formally adopted policies have not always resulted in consistent changes in service delivery [18].

### *3.2. Implementation of the Personal Doctor Reform*

The Personal Doctor was introduced under Law 4931/2022 as a recognized first point of contact, with responsibilities covering health education, prevention, diagnosis, treatment, rehabilitation, palliative support and guidance across levels of care [24]. For the adult population, the core medical specialties eligible to act as Personal Doctors are General/Family Medicine and Internal Medicine. Subsequent reform expanded the pool of eligible physicians to include rural-service physicians and private General/Family Medicine physicians and internists, while introducing financial incentives for physicians entering training in General/Family Medicine or Internal Medicine and extending the model to Personal Pediatricians for the child population [25]. The Personal Doctor function is therefore performed under different employment and payment arrangements. Physicians working in NHS Health Centers, ToMY and rural practices are salaried public employees, so that the Personal Doctor role forms part of their public employment rather than a separate contractual relationship [9,26]. Private General/Family Medicine physicians and internists may instead contract with EOPYY as Personal Doctors; under the 2022 contractual framework, they act as independent practitioners remunerated by the public payer according to the size and age composition of their registered list, with up to 2000 registered adults per physician [27]. This arrangement resembles the Italian model, in which general practitioners are independent professionals with a special contract with the national health service, remunerated mainly by capitation and with a maximum of 1500 patients per list [28]. Contracted Personal Doctors may additionally serve up to 500 citizens on a private basis, and since Law 5157/2024 citizens may also register with a non-contracted private physician, in which case consultations are paid out of pocket [25,26].

The 2025 Greece Country Health Profile describes shortages of public physicians and limited participation by private physicians as factors preceding the 2024 expansion of the Personal Doctor model [29]. The sources reviewed did not provide linked data on registration, appointment availability and longitudinal follow-up for individual registered patients.

According to the 2025 Greece Country Health Profile, automatic enrollment of remaining unregistered adults began on 1 June 2025 [29]. A dated official dataset verifying national enrollment and active Personal Doctor numbers for the 2025 reporting periods was not identified in the sources reviewed. Accordingly, national registration coverage and Personal Doctor density were not estimated. Data disaggregated by Health Region; list size; and urban, rural or island location were also insufficient for assessing regional variation in enrollment and Personal Doctor availability.

### *3.3. Continuity, Coordination and Integration of Care*

Studies of Greek PHC describe weaknesses in relational, informational and management continuity. Patients may consult different public and private professionals according to availability, geographical location or financial capacity, while laboratory findings, specialist recommendations and hospital-discharge information may remain dispersed across providers [18]. The absence of shared management plans and clearly allocated follow-up responsibilities increases the possibility of duplicated investigations, contradictory recommendations and medication-related risks, particularly among people receiving multiple medications or using several services [18]. The sources reviewed did not provide national estimates of the proportion of consultations with the usual physician, continuity-of-care indices, completed referral loops or timely post-discharge follow-up.

Recent patient-reported data provide quantitative evidence of these continuity and coordination gaps. According to the 2025 OECD Patient-Reported Indicator Surveys (PaRIS), only 43% of people in Greece with two or more chronic conditions reported having the same primary-care professional for more than five years, compared with an OECD PaRIS average of 58%. In addition, only 47% of people with chronic conditions reported good care coordination. These indicators derive from 2173 primary-care users aged 45 years or older, selected by probability sampling from the national patient dataset, and from 104 participating primary-care practices, surveyed in 2023–2024 [30]. These continuity and coordination findings are presented alongside the other selected PaRIS indicators in Table 1.

**Table 1.** Selected patient-reported indicators for Greece and OECD PaRIS comparators [30].

| Indicator | Population or Measurement Basis | Greece | OECD PaRIS Average |
|---|---|---|---|
| Same primarycare professional for >5 years | People with ≥2 chronic conditions | 43% | 58% |
| Good care coordination | People with chronic conditions | 47% | Not reported here |
| Good person-centered care | People with chronic conditions; P3CEQ composite score | 78% | 87% |
| Good quality of care | People with chronic conditions | 74% | 87% |
| Confidence in managing own health | People with chronic conditions | 37% | 59% |
| Trust in the health system | People with chronic conditions | 36% | 62% |
| Practice offers follow-up consultations > 15 min | People with ≥2 chronic conditions | 24% | 47% |
| Medication review in the previous 12 months | People with ≥3 chronic conditions; reported care event | 81% | 75% |

Note: Greek PaRIS data were collected in 2023–2024 from 2173 primary-care users aged ≥ 45 years and 104 practices; indicators refer to the chronic-condition subgroups specified above. Percentages are reported as presented in the manuscript; subgroup denominators and confidence intervals are not supplied here. "Not reported here" means that no comparator was presented in the manuscript. The P3CEQ percentage is based on an eight-item scale and does not represent item-level event frequencies. OECD, Organisation for Economic Co-operation and Development; PaRIS, Patient-Reported Indicator Surveys; P3CEQ, Person-Centred Coordinated Care Experience Questionnaire.

Gaps have also been reported in home-based care, rehabilitation and palliative care, which are provided largely by the private sector, and in the links between PHC, public health and social care [9,22]. People with complex needs may require coordinated medical, nursing, rehabilitation, psychological and social-care input, but these services frequently operate independently. As a result, patients, families and informal caregivers may assume responsibility for arranging appointments, transferring information and reconciling advice. This burden is particularly pronounced where formal homecare and rehabilitation services are limited [31,32].

Limited integration with mental health and social care may restrict responses to psychological distress, financial hardship, social isolation, functional dependence and caregiving limitations, all of which may affect treatment adherence and healthcare access [33,34]. Links between PHC and public health were also found to be insufficiently developed for the systematic organization of vaccination, screening, risk-factor management and surveillance [7].

Home care, rehabilitation and palliative care remained incompletely incorporated into routine PHC pathways, with limitations in staffing and communication across healthcare and social-care settings [7,35].

### *3.4. Accessibility*

Greek evidence indicates that formal healthcare coverage does not consistently translate into timely and practical access. Appointment availability, opening hours and geographical access to contracted providers were identified as important determinants of whether citizens could obtain PHC services [14].

In a nationally stratified, computer-assisted telephone survey of 1002 adults conducted in October–November 2022 (response rate approximately 10%), 47.8% of participants who had required a medical consultation reported experiencing barriers to access. Among those reporting barriers, 83% identified delays in obtaining an appointment with an NHS physician, 35.8% reported difficulty scheduling an appointment with an EOPYY-contracted private physician, and 34.5% reported inability to cover the cost of a visit to a non-contracted private physician. Geographical distance and transportation difficulties were reported by 8.5% and 5.8%, respectively [7]. The same survey found that barriers to consultations were more frequently reported by residents of Northern and Central Greece and the Aegean–Crete area than by those of Attica and Thessaloniki, and that they were concentrated among lower-income respondents [7]. Because the sample was drawn from landline telephone directories, groups facing the greatest barriers may be under-represented; these findings are therefore interpreted together with independent sources, namely the PaRIS indicators of continuity and coordination (Section 3.3), regional workforce data (Section 3.5) and Eurostat and WHO data on unmet need and financial protection (Section 3.6).

National survey estimates may conceal geographical inequalities and differences affecting older adults, people with disabilities and patients requiring repeated monitoring [7]. No Greece-specific estimate of the association between out-of-hours PHC availability and non-emergency hospital emergency-department attendance was extracted in this review.

### *3.5. Adequacy and Availability*

Greek reviews describe staffing shortages and uneven workforce distribution alongside an extensive network of PHC providers [18,29]. The reported constraints concern the operational capacity of services, as well as their geographical presence.

Italy provides a comparative example of the implementation of population-based standards. Ministerial Decree 77/2022 established one hub Community House per 40,000–50,000 inhabitants and one family and community nurse per 3000 inhabitants [36]. AGENAS monitoring for 30 June 2025 recorded 660 of 1723 planned Community Houses (38%) with at least one service declared active; 46 had all mandatory services active, including the required medical and nursing presence [37]. These figures describe reported service activation at that date, rather than measured improvements in access or patient outcomes.

Recent international data illustrate this imbalance in workforce composition. In 2023, Greece reported approximately 6.6 doctors per 1000 population, compared with an EU average of 4.3, but only 3.8 nurses per 1000 population compared with an EU average of 8.5. Greek physician data include all physicians licensed to practice rather than exclusively professionally active physicians, while nursing data also have limitations in national coverage. These aggregate national ratios additionally conceal substantial differences in specialty and geographical distribution [29]. Regional data illustrate the extent of these differences. In 2024, physician density was 867 per 100,000 inhabitants in Attica, compared with 338 in Central Greece (Sterea Ellada), 359 in the North Aegean, 381 in Western Macedonia and 388 in the South Aegean, against a national figure of 674 per 100,000 [38]. Because Eurostat

flags the Greek regional data as following a different definition, and the figures include all specialties, they indicate relative rather than absolute differences in availability; regional data specific to PHC physicians were not identified.

Publicly financed private services constitute a substantial component of actual PHC capacity [15]. Among participants who underwent diagnostic or laboratory testing in the survey described in Section 3.4, 75% used a private diagnostic laboratory contracted with EOPYY [7]. Access to non-contracted private services requires direct household payment [7].

Workforce composition also influences service adequacy. Comprehensive PHC involves physicians, nurses, health visitors, midwives, pharmacists, physiotherapists, psychologists, social workers and administrative personnel [7,39]. Clinical complexity, consultation intensity, health literacy and geographical conditions affect workforce requirements beyond simple professional-to-population ratios [7,40,41]. Service capability is associated with multidisciplinary composition, professional competencies, diagnostic support and follow-up capacity, as well as facility and consultation numbers [7,42].

### *3.6. Affordability and Financial Protection*

Affordability is influenced by insurance coverage, provider contracting, co-payments, publicly financed service availability and reliance on non-contracted private care [43]. The Greek survey also documented financial barriers within specific categories of care. In addition to the cost barriers to medical consultations reported in Section 3.4, 30.7% of those reporting barriers to diagnostic and laboratory testing cited inability to cover the relevant costs [7].

Recent Eurostat data further demonstrate the persistence of unmet healthcare needs in Greece. In 2024, 13.4% of people aged 16 years or older reported an unmet need for medical examination or treatment for any reason, while 12.1% reported unmet need attributable specifically to health-system-related barriers, including cost, distance or waiting lists. Cost represented the most frequently reported specific barrier, affecting 9.1% of the population [44]. Independent WHO analysis of household budget survey data for 2008–2023 found that out-of-pocket payments led to catastrophic health spending in nearly 10% of Greek households, increasingly concentrated in the poorest fifth of the population, for whom outpatient medicines and outpatient care were the main drivers [45].

Although EOPYY was established to improve contractual coverage and reduce direct expenditure, many private physicians remain outside its contracts, with consultation costs paid directly by patients [22]. The Greek access survey reported both appointment delays and inability to pay for private consultations [7].

Contracted private providers contribute capacity, but their contribution varies according to geographical distribution, reimbursement arrangements and patient co-payments [7]. The WHO financial-protection review for Greece identifies gaps in coverage of outpatient medicines and outpatient care as important sources of hardship among low-income households [45]. This evidence does not isolate the additional financial burden attributable to chronic disease or estimate its effect on treatment adherence in Greek PHC. The affordability dimensions considered include out-of-pocket expenditure for PHC services, total public PHC spending, the proportion of healthcare expenditure allocated to PHC and access to necessary care without delay or financial hardship [46].

Provider payment arrangements also differ across PHC providers. NHS physicians are salaried [9], Personal Doctors contracted with EOPYY are remunerated according to the size and age composition of their registered lists [27], and EOPYY-contracted physicians operate under monthly ceilings on the number of visits and on the value of prescriptions [10]. The WHO financial-protection analysis found that gaps in coverage, including user charges,

widen inequalities in access, and recommended replacing percentage co-payments with low fixed amounts and introducing an income-based cap [45]. However, no study evaluating the effects of these payment mechanisms or of co-payment levels on PHC access, continuity or quality in Greece was identified in the sources reviewed.

### *3.7. Appropriateness and Quality of Care*

The WHO PHC measurement framework includes measures of service delivery processes, outputs, quality and health outcomes [47]. Relevant outcome indicators include non-communicable disease outcomes and hospital admissions for ambulatory care-sensitive conditions [47].

Available prescribing data also indicate opportunities for improvement in appropriateness of care. In 2024, total consumption of antibacterials for systemic use in Greece reached 29.9 defined daily doses per 1000 inhabitants per day, the highest level reported among EU/EEA countries, compared with an EU population-weighted mean of 20.3. Although antimicrobial consumption is not an exclusive measure of PHC performance, it provides a relevant system-level indicator of prescribing practices and antimicrobial stewardship [48].

Process dimensions include the implementation and updating of diagnostic and therapeutic protocols, medication-safety requirements, monitoring of treatment adherence and integration of information into comprehensive clinical records [47]. These measures provide information about the delivery of evidence-based activities before long-term outcomes become observable.

Although diagnostic and therapeutic protocols have been introduced in Greece for selected conditions, comprehensive standardized patient pathways linking first contact, diagnostic assessment, referral, specialist care and follow-up are not yet consistently implemented across PHC. Where such pathways are established, they can clarify required assessments, referral criteria, professional responsibilities and follow-up timeframes while allowing adaptation to multimorbidity, individual risk and patient preferences [49]. Avoidable hospital use is also included as a potential indicator of PHC performance, although its interpretation is affected by social vulnerability, hospital admission practices and the availability of family and community support [47]. However, nationally reported, internationally comparable data on hospital admissions for ambulatory care-sensitive conditions in Greece were not identified in the sources reviewed, so this indicator could not be assessed. The measurement framework incorporates structural, process, outcome and patient-experience measures because no single indicator captures accessibility, continuity, safety, effectiveness and responsiveness [47,50]. The findings across the five dimensions of access, together with their principal evidence limitations, are summarized in Table 2.

**Table 2.** Summary of findings across the five dimensions of access to primary healthcare in Greece.

| Dimension | Findings Reported in the Review | Evidence Limitations |
| --- | --- | --- |
| Accessibility | Appointment delays, costs and geographical barriers affected practical access. Among survey participants needing a consultation, 47.8% reported barriers [7]. | 2022 telephone survey; approximately 10% response rate and landline sampling [7]. |
| Adequacy | Staffing and multidisciplinary capacity constrained the ability to meet population needs; gaps included home care, rehabilitation and palliative care [9,18,22,29]. | Evidence describes service gaps; a comprehensive national assessment of needs relative to operational PHC capacity was unavailable. |
| Affordability | In 2024, 12.1% reported unmet medical need due to cost, distance or waiting lists; cost alone affected 9.1%. Catastrophic spending affected nearly 10% of households [44,45]. | Population and household measures cover healthcare broadly and do not isolate PHC-specific financial burden. |

**Table 2.** *Cont.*

| Dimension | Findings Reported in the Review | Evidence Limitations |
| --- | --- | --- |
| Appropriateness | Standardized pathways were inconsistently implemented. Systemic antibacterial consumption was 29.9 defined daily doses per 1000 inhabitants per day in 2024 [48,49]. | Antibacterial consumption is a system-level measure. Comparable national data on admissions for ambulatory care-sensitive conditions were not identified. |
| Availability | In 2023, Greece reported 6.6 doctors and 3.8 nurses per 1000 population versus EU averages of 4.3 and 8.5, respectively; regional physician density varied substantially [29,38]. | Greek physician counts include all licensed physicians; nursing coverage is limited. Regional figures cover all specialties rather than PHC alone. |

Note: Dimensions follow the analytical framework described in Section 2. Findings summarize Sections 3.4–3.7 and retain their source-specific scope; they are not a composite assessment of national PHC performance. PHC, primary healthcare; EU, European Union.

### *3.8. Digital Integration and Information Continuity*

Greek studies identify fragmented clinical information as a major limitation to coordinated PHC. Professionals may lack access to diagnoses, laboratory findings, medication histories, specialist recommendations and hospital-discharge information generated elsewhere in the health system [22]. This fragmentation increases the possibility of repeated investigations, treatment delays and medication-related risks and restricts the coordinating role of the Personal Doctor [18].

The 2019 analysis by Lionis et al. reported that information arrangements did not consistently connect public and publicly financed providers or systematically support clinical decision-making, referral communication, preventive reminders, chronic disease registries and quality monitoring [22]. Information generated during specialist consultations or hospital admissions was not always returned to the Personal Doctor or PHC team, limiting continuity after referral or discharge [22,26].

Aggregated patient information has potential applications in vaccination monitoring, chronic disease surveillance, screening assessment and geographical resource planning, subject to appropriate governance and data-protection requirements [51]. However, interoperability depends on common definitions, compatible systems, structured data fields and standardized exchange procedures rather than the simple conversion of paper documents into separate electronic records [52]. Limitations in standardized information also affect the measurement of waiting times, referrals, continuity, protocol adherence and health outcomes [7,53].

Recent national initiatives indicate progress towards more systematic digital quality infrastructure. In March 2026, the Quality-for-All digital platform, developed within the HEALTH-IQ program, entered pilot implementation in 13 healthcare entities, including seven public hospitals and six Health Centers across six of Greece's seven Health Regions. The platform is intended to integrate health-service data and support the analysis and monitoring of quality indicators. The cited policy description does not report an evaluation of clinical information exchange across PHC, specialist and hospital settings [54].

### *3.9. Patient Experience and Responsiveness*

The reviewed literature describes communication, respect, waiting times, continuity, physical conditions and confidence in healthcare professionals as dimensions of patient experience [7,55–57].

A cross-sectional survey of 1012 users of 20 public PHC centers in Athens assessed satisfaction, person-centered care and reported waiting times. Overall satisfaction with PHC services was moderate, with a mean score of 2.62 ± 0.18 on a five-point scale, while

person-centered care was rated at 2.49 ± 0.28. Accessibility and availability received a mean score of 2.19/5 and waiting times 2.89/5. In addition, 57.8% of respondents reported waiting 16–30 days for an appointment, while 30.6% reported waiting between one and two months [55]. Because this survey was restricted to public PHC centers in Athens, its findings cannot be considered representative of Greek PHC as a whole, particularly of private, rural and island settings.

Nationally sampled, validated patient-reported experience data are available from PaRIS [30]. In Greece, 78% of respondents with chronic conditions reported good person-centered care, measured with the Person-Centred Coordinated Care Experience Questionnaire (P3CEQ), compared with an OECD PaRIS average of 87%; 74% reported good quality of care (OECD average 87%); 37% felt confident in managing their own health (OECD average 59%); and 36% of people with chronic conditions reported trust in the health system (OECD average 62%). Among people with two or more chronic conditions, 24% attended practices offering follow-up consultations longer than 15 min, compared with an average of 47% [30]. Table 1 summarizes these findings and the available OECD PaRIS comparators, specifying the population and measurement basis for each indicator.

PaRIS also reports a specific care event: 81% of Greek respondents with three or more chronic conditions reported a medication review by a healthcare professional in the previous 12 months, compared with 75% across OECD PaRIS countries [30]. This item is reported separately from the composite P3CEQ person-centered-care score. This care-event measure is also included in Table 1.

The P3CEQ person-centered-care percentage summarized here is based on an eight-item scale and is not an item-by-item frequency of events [30]. Greek item-level frequencies for clear explanations, active listening and arranged follow-up were not extracted from the cited sources. No such frequencies were inferred from the composite score.

## 4. Discussion

This review indicates that Greece possesses several of the structural components required for a strong PHC system, including a broad provider network, publicly financed services, substantial private-sector capacity and an emerging population-registration model. Nevertheless, these components do not yet operate consistently as an integrated and coordinated system. The main remaining challenge is therefore not the complete absence of PHC infrastructure but the limited integration of existing resources through shared pathways, information systems and accountability mechanisms.

The central weakness is the gap between formal institutional reform and operational implementation. The Personal Doctor creates a potentially important first-contact mechanism, but registration alone does not guarantee access, quality, continuity or coordination. The model will achieve its intended purpose only when citizens can obtain timely appointments, physicians have sufficient capacity, clinical information follows the patient and referrals are systematically managed. Evaluation should therefore focus on functional outcomes, including accessibility, preventive coverage, continuity, referral completion and patient experience, rather than treating registration as the principal measure of success. The PaRIS findings on continuity and coordination (Section 3.3) reinforce the need to evaluate these dimensions separately from registration. The survey was conducted in 2023–2024 and does not constitute an evaluation of the subsequent automatic-enrollment policy. Defined patient lists could nevertheless provide a framework for vaccination, screening, cardiovascular risk assessment, chronic disease monitoring and proactive follow-up, as well as denominators for evaluating preventive coverage, service utilization and outcomes, provided that list data are linked to clinical information.

Fragmentation across public, contracted private and exclusively private provision represents one component of the broader coordination challenge in Greek PHC. The central issue is therefore not provider ownership itself, but whether services operate within shared referral arrangements, information requirements, clinical standards and accountability mechanisms. Regardless of ownership, weak coordination may compromise continuity and contribute to differences in access according to geographical location and ability to pay.

Financial and organizational barriers are closely interconnected. Inability to obtain a timely publicly financed appointment may push patients towards direct private expenditure, while individuals unable to pay may postpone care. Policies intended to improve financial protection should therefore address not only reimbursement arrangements but also the underlying availability and responsiveness of publicly financed services. Reducing co-payments may have limited effect if appointments remain unavailable, whereas increasing capacity without addressing direct payments may continue to expose households to financial burden. These interactions have not been evaluated directly in Greece and should therefore be regarded as hypotheses for future research.

The gaps in home care, rehabilitation, palliative care, mental health and social-care integration are particularly important in the context of aging and multimorbidity. A PHC model focused predominantly on office-based medical consultations cannot adequately respond to patients with complex functional, psychological and social needs. Comprehensive care requires multidisciplinary teams, community-based services and shared responsibility across sectors. Expanding the role of nurses and other professionals may increase the capacity for preventive care, chronic disease monitoring, home assessment and patient education while allowing physicians to focus on diagnosis and complex clinical decision-making.

Expanding nursing roles, however, presupposes that the chronic shortage of nurses is addressed, given that Greece reports fewer than half the EU average number of nurses per population [29]. Meeting this shortage will require a combination of concrete measures rather than a single intervention [58]. First, nursing education should be expanded and aligned with population needs through a national workforce plan that estimates PHC nursing requirements according to population size, age structure, disease burden and geography rather than historical staffing norms [22,41,58]. Second, retention should be improved through better working conditions, protection of workforce well-being and continuing professional development, which could include postgraduate specialization in community and family nursing [58]. Third, specific strategies are needed to recruit and retain nurses in rural, island and remote areas [58], for example, targeted incentives analogous to those recently introduced for physicians entering General/Family Medicine and Internal Medicine [25]. Fourth, the scope of practice of PHC nurses could be extended through protocol-based roles in prevention, chronic-disease monitoring, health education and home visits, which had been implemented, to varying extents, in 27 of 39 countries in Europe, North America and Oceania [59], and which have been associated with similar or better health outcomes and slightly higher patient satisfaction than physician-led care for several chronic conditions [60]. Fifth, nursing time could be protected through an appropriate skill mix, including health visitors, nursing assistants and administrative staff, and through digital and remote-care tools that support the workforce and the follow-up of people with chronic conditions [12,58]. Population-based benchmarks, such as the Italian standard of one family and community nurse per 3000 inhabitants [36], could provide a reference for planning nursing staff in Health Centers and ToMY, provided that recruitment and financing follow.

The Greek experience should also be considered in a broader European context, as health workforce shortages affect health systems across the WHO European Region [58]. Several countries have already linked the organization of PHC to the size and characteristics

of the population served. In Spain, PHC has been organized since 1984 around basic health zones that generally cover 5000–25,000 inhabitants, each served by a multidisciplinary primary-care team, including family physicians, pediatricians, nurses, midwives, social workers and administrative staff [61]. In Portugal, Family Health Units, created from 2006 onwards, are set up on the voluntary initiative of teams of NHS professionals, including family physicians and nurses, who participate in managing the unit and are responsible for a registered population, with financial incentives based on clinical performance in the more advanced model B units [62]. In Italy, Ministerial Decree 77/2022 introduced population-based standards for community care, including one hub Community House per 40,000–50,000 inhabitants and one family and community nurse per 3000 inhabitants [36]. These organizational examples provide options for consideration rather than evidence that transferring their standards would improve Greek PHC. The Italian service-activation data in Section 3.5 illustrate a gap between planned capacity and operational services [37]. Population-based planning is therefore proposed as a conditional approach, with local needs assessment, secured recurrent financing, feasible workforce recruitment, phased implementation and monitoring of services actually delivered. Its effectiveness and transferability to Greece require evaluation. Because these challenges are common across health systems, the priorities proposed in this review—population-based capacity planning, expansion of the nursing workforce, standardized patient pathways, interoperable records and phased quality monitoring—may warrant evaluation in other countries facing similar pressures.

Patient experience is multidimensional and includes patients' perceptions of interactions across their care journey [63]. In this review, satisfaction ratings, composite experience scores and the separately reported medication-review event are interpreted as distinct measures. Future Greek PHC monitoring could report individual experience items, recall periods and denominators alongside composite scores, and examine variation by socioeconomic position, residence, disability and health status. Such data should complement clinical-quality measures and could be interpreted with patient and community representatives.

Quality assurance represents another major area for development. A multidimensional approach incorporating accessibility, adequacy, affordability, appropriateness and availability provides a practical basis for assessing PHC performance. However, indicators should be introduced progressively. A large and complex monitoring system established without adequate information, infrastructure or professional engagement could create administrative burden without producing meaningful quality improvement. Initial indicators should be limited to measures that are valid, feasible and directly relevant to recognized priorities.

These priorities are increasingly reflected in ongoing national policy. Greece launched its National Strategy for Quality of Care and Patient Safety 2025–2030 in January 2025, structured around leadership and governance; evidence and innovation; and behavioral insights, literacy and engagement [64]. In parallel, the HEALTH-IQ program is developing and implementing a national framework for quality measurement, including methodological guidance for quality indicators, mechanisms for patient feedback and digital infrastructure for quality monitoring. These initiatives could provide an institutional basis for translating quality measurement from a proposed reform priority into routine health-system practice, although their implementation and effects have not yet been independently evaluated [64,65].

Quality monitoring should initially focus on a limited set of valid, feasible and actionable indicators aligned with national priorities and supported by available information systems. Their implementation should be accompanied by standardized patient pathways and clear definitions of professional responsibilities, referral processes and expected follow-up, as consistent performance measurement depends on sufficiently standardized processes of care [66].

A combined national and local implementation strategy is required. Central authorities should establish strategic objectives, minimum standards and core outcome expectations. Healthcare professionals, managers and patient representatives should participate in translating these objectives into practical workflows suited to different settings. Pilot implementation would allow technical and organizational barriers to be identified before national expansion. This phased approach could reduce resistance, improve feasibility and allow the indicator set to evolve as information systems and organizational capacity improve.

Sustained institutional leadership is also necessary. PHC reform involves the Ministry of Health, Health Regions, EOPYY, quality-assurance organizations, professional associations, academic institutions, public and private providers, and patient organizations. Without clearly defined responsibility and accountability, broad stakeholder involvement may result in repeated consultation without effective implementation. Leadership must therefore ensure continuity, coordinate responsibilities, monitor progress and maintain reform objectives across administrative and political changes.

PHC reform in Greece should prioritize the transition from administrative coverage to accessible, continuous and coordinated care. Population registration should be assessed together with physician availability, waiting times, patient-list size and continuity, while standardized pathways should define referral, follow-up and hospital-discharge responsibilities. Reform also requires multidisciplinary teams supported by an expanded nursing workforce; capacity planned according to population size and characteristics and matched to funded staffing and verified service activation; interoperable electronic records; and a limited set of feasible quality indicators introduced through pilot implementation. Community-based services, including home care, rehabilitation, mental health and palliative care, should be strengthened, while provider payment arrangements could be reviewed to assess whether they support prevention, continuity and quality rather than service volume alone, as their effects in Greece have not yet been evaluated (Section 3.6). Finally, patient organizations should participate systematically in the design, monitoring and evaluation of PHC reforms.

This narrative review offers a structured overview of Greek PHC by examining its organizational, financial, clinical, information-related and patient-experience dimensions. Using the five dimensions of accessibility, adequacy, affordability, appropriateness and availability allowed access to be assessed more comprehensively, rather than simply in terms of the number of facilities or healthcare professionals. The analysis also explored how access barriers, the public–private mix, fragmented information systems and implementation capacity interact and influence the success of PHC reform.

However, several limitations should be considered. The study was based mainly on documentary evidence and was not a systematic review of all relevant research on Greek PHC. The quantitative data were drawn from different time periods and may not reflect the current situation. National registration coverage and Personal Doctor density could not be estimated from a verified, dated official dataset for the reporting periods considered; registration would in any case be an administrative measure rather than a direct measure of access, continuity or quality. Nationally representative data were also unavailable for several proposed quality indicators, while some source documents lacked complete bibliographic details. Several quantitative findings on access and affordability derive from a single cross-sectional telephone survey with landline-based sampling and a response rate of approximately 10% [7], which may under-represent the groups facing the greatest barriers; these findings were therefore triangulated with Eurostat, OECD PaRIS and WHO financial-protection data. Press-reported enrollment and physician totals were excluded, and regionally disaggregated Personal Doctor data remained insufficient. The satisfaction survey was limited to public PHC centers in Athens. PaRIS findings refer to primary-care

users aged 45 years or older and to the specified chronic-condition subgroups; the composite person-centered-care score cannot establish the frequency of each component event. No participant-level reanalysis or disaggregated P3CEQ item analysis was undertaken. Finally, all authors are affiliated with the WHO Athens Quality of Care and Patient Safety Office, which coordinates the HEALTH-IQ Project that funded this publication, and the National Strategy for Quality of Care and Patient Safety was published jointly by the WHO Regional Office for Europe, the Ministry of Health and the Agency for Quality Assurance in Health [64]. Although these initiatives were described on the basis of published documents and their effects were not assessed, this institutional relationship may have influenced their appraisal, and independent evaluation of their implementation is needed. Therefore, the findings should be understood as an evidence-informed description of the main characteristics, weaknesses and reform needs of Greek PHC, rather than as a complete evaluation of its current national performance.

## 5. Conclusions

PHC in Greece benefits from an extensive network of public and private providers, and from the evolving Personal Doctor model, which provides an important institutional basis for first-contact care and population follow-up. However, its effectiveness remains limited by fragmented organization, uneven access, weakly defined patient pathways, financial and geographical barriers, and incomplete integration of clinical information. Future progress will depend on translating existing reforms into consistent routine practice through adequate workforce capacity, particularly in nursing, multidisciplinary teams, coordinated referral and follow-up processes, interoperable electronic records, and systematic monitoring of clinical performance and patient experience. A phased quality-assurance approach, supported by institutional accountability and meaningful participation of healthcare professionals and patients, can strengthen continuity, accessibility, equity and responsiveness and help ensure that policy reforms produce measurable improvements in everyday care. Because fragmentation, workforce shortages and incomplete reform implementation are shared by many health systems, these priorities may also be relevant to other countries facing similar challenges.

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## Abbreviations

| | |
|---|---|
| ECDC | European Centre for Disease Prevention and Control |
| EEA | European Economic Area |
| EOPYY | National Organization for Health Care Services Provision |
| ESY | Ethniko Systima Ygeias (National Health System) |
| EU | European Union |
| HEALTH-IQ | HEALTH-IQ Project |
| NHS | National Health System |
| OECD | Organisation for Economic Co-operation and Development |
| PaRIS | Patient-Reported Indicator Surveys |
| PHC | Primary healthcare |
| ToMY | Local Health Units (*Topikes Monades Ygeias*) |
| WHO | World Health Organization |

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