



Developments in Internal Medicine

What is the role of general internists in the tertiary or academic setting?



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ABSTRACT

The changing demography of European populations mandates a vital role for internists in caring for patients in each level of healthcare. Internists in the tertiary or academic setting are highly ranked in terms of their responsibilities: they are clinicians, educators, researchers, role models, mentors and administrators. Contrary to the highly focused approach of sub-specialties, general internists working in academic settings can ensure that coordinated care is delivered in the most cost-conscious and efficient way. Moreover, internal medicine is one of the most appropriate specialties in which to teach clinical reasoning skills, decision-making and analytical thinking, as well as evidence based, patient oriented medicine. Internists deal with challenging patients of the new millennium with a high burden of chronic diseases and polypharmacy; practice personalised medicine with a wide scientific background and so they are the perfect fit to establish and implement new tools for scientific research. In conclusion, internal medicine is developing a new identity as a specialty in its own right. The European Federation of Internal Medicine supports the concept of academic internists and calls upon the member countries to construct academic (general) internal medicine departments in their respective countries. As 'internal medicine is the cornerstone of every national healthcare system', academic (general) internal medicine should strive to be the cornerstone of every integrated, patient-centred, modern medical care and training system.

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1. Introduction

Although healthcare systems in Europe vary, many systems are composed of primary care, secondary care, such as general hospitals and more specialist or tertiary institutions. In these academic tertiary institutions, patients may be solely under specialists who focus on one system, e.g. gastroenterology or one disease process e.g. oncology. Although some institutions may have strong 'internal medicine departments', some have subspecialties with dominant roles and internal medicine may be functioning under 'general internal medicine divisions' or there be no internal medicine department at all. The terminology can be variable but the vital roles of the internists are the same. This article reflects on the role of (general) internists in the tertiary setting

and the terms general internal medicine and internal medicine will be used interchangeably.

Healthcare is becoming more specialised and patients have increasing expectations that they will be managed by a specialist. However, the changing demography of European populations, with increasing ageing, presence of multiple co-morbidities, health inequalities and low health literacy means that there is a role for internists in caring for patients in primary, secondary and tertiary settings [1]. Internists play a unique role in managing the patient in a holistic context and coordinating care from many different specialities [2]. A recent report from the Royal College of Physicians in UK has called for greater involvement of internists in patients' hospital care and integration with the community setting, since uncoordinated, specialty driven medicine was deemed to be failing patients [3,4]. Now, more than ever, the public and the patients need internists to facilitate patient-centred, sustainable, efficient, high quality and safe healthcare across a range of different healthcare venues [3,5,6]. The American College of Physicians has championed the importance of training a new generation of internists for 'high-value, cost-conscious care', with an emphasis on the engagement of residents in clinical decision making in real life contexts [7].

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2. General internists in academic settings

Perhaps the first great internist was Hippocrates of Cos, the so-called 'father of medicine'. He recommended the power of observation as well as a thorough history as the roots of a generalist approach. Avicenna built on the ideas of Hippocrates and Galen, on the diagnosis and the treatment of diseases in a holistic way. His famous book, 'The Canon of Medicine', became the standard medical book in Europe for hundreds of years [8]. Osler's influence on the importance of general internal medicine in the hospital and Flexner's report set the direction for academic internal medicine at the turn of the 20th century [9,10]. However, academic divisions of general internal medicine only began to appear in the 1970's, ironically after the formation of many of the subspecialty divisions.

General internists in the academic setting are highly ranked in terms of their responsibilities within and outside their institutions: they are clinicians, educators, researchers, role models, mentors and administrators. Whilst there are several career options for an academic general internist, the majority become clinician educators, clinician researchers and hospitalists/acute care physicians [11]. Academic general internists are highly dedicated in working in areas of medical education and service needs based on the modern values of care and professionalism, and hence, they will bring a new inspiration and vision to those institutions where subspecialties have played the dominant roles.

3. General internists can improve care in academic hospitals

Academic institutions are under pressure, due to increased demand on service needs and cost containment, whilst striving to maintain and improve quality of care at the same time. The patient-centred model of care requires a generalist approach [2]. Contrary to the highly focused approach of sub-specialties, general internists working in academic settings can ensure that coordinated care is delivered in the most cost-conscious and efficient way.

The perception of general internal medicine has evolved from essentially a primary care specialty to a dynamic specialty handling in-patient care efficiently and effectively [12]. The implementation of patient-centred care by a multidisciplinary team led by a generalist physician helps to ensure that patients receive broad, multi-system care to a high standard, throughout the academic hospital, no matter how complex the patients' needs. Furthermore, in the outpatient setting, chronic disease management programmes can result in improved care and cost reductions. These programmes require teamwork structured around a general internal medicine approach and have been shown to be successfully integrated into academic general internal medicine practice [13].

4. What does academic general internal medicine offer for the internist?

Internists working in academic settings will not only gain more experience of different sub-specialties, but will have improved opportunities to be involved in teaching and to undertake high quality research. The privilege to be a named, full time consultant who serves in general internal medicine leading a multidisciplinary team delivering holistic care will be rewarding in terms of care success, trainee feedback and hospital quality improvement [14]. The environment of an academic institution will be likely to have a different culture to that of the secondary care hospital, which is often driven by political targets and financial constraints.

5. Training the next generation of internists

How should we train the next generation of internists to encourage trainees to become general internists who will want to work in academic settings? Training internists in Europe should provide trainees with the skills to deliver patient-centred models of care with high

professional standards. A recent survey of postgraduate education in internal medicine in Europe identified variations in training and practice across European countries [15]. Whilst the patient demography, disease spectrum and therapeutic options have changed dramatically over the recent years, the way in which we educate students and train residents has not kept up with this pace of change. The doctors of the next generation not only require a deep knowledge of their craft, medicine, but also, and maybe more vitally, they will require skills in leadership, clinical reasoning, problem solving, system-based practice and management in healthcare delivery and coordination of a patient's care.

It could be argued that internal medicine is one of the most appropriate specialties in which to teach clinical reasoning skills, decision-making and analytical thinking, as well as evidence based, patient oriented medicine. Academic general internists can offer this teaching and supervision in ambulatory and in-patient settings. As generalists, they can demonstrate how a patient can be managed with safe, high quality care in the most cost-conscious manner. In the academic setting, there needs to be an effective consultant-resident interaction sensitive to the generational differences at each step of the residency-training programme [16].

All internists, be it either general internists or subspecialists, should go through a patient-centred (not system or organ centred), competency based training process and be certified in internal medicine [17]. Competency based education reform requires an academic environment endowed with faculty who will be role models for residents, train them in a patient-centred, practice based manner and who will evaluate them objectively with new tools of evaluation [18]. This process will inevitably require a core faculty of general internists, who will link education and practice in every training centre where trainees exist. As educators, general internists in the academic setting can be expected to function as 'master teachers' [19]. It has been shown that role modelling starts at the very early stages of medical training, as early as the first years of medical school. Career choices are shaped by the encouragement and the influence of mentors and role models, as much as the personalities and learning experiences of trainees [20]. An additional role for general internists is that of a mentor and a role model. Trainees in internal medicine need to observe seniors who enjoy their job. Good role models in internal medicine will encourage trainees to choose it as their speciality.

6. Opportunities for research in internal medicine

Research in the field of academic internal medicine should be focused on the areas that aim to refine the most cost-effective, high quality and evidence based care strategies tailored for the needs of individual patients. Traditionally research has tended to be mainly focused on testing drugs, procedures or strategies in designed, 'perfect' conditions known as 'clinical trials'. However, these trials have usually been conducted in ideal study settings with specific enrolment criteria, usually focusing on the effects of specific treatment regimens. It has been realised that the results of these 'ideal' clinical trials are not necessarily reproducible in real life settings. Moreover, clinical guidelines based on these trials are far from the realities of the multimorbid, polytreated elderly population and the individual patient.

Internists deal with challenging patients of the new millennium with a high burden of chronic diseases and polypharmacy; practice personalised medicine with a wide scientific background and so they are the perfect fit to establish and implement new tools for scientific research. For instance REPOSI, i.e., REgistro POLiterapie SIMI, is a tool to collect clinical and laboratory data on elderly patients in their hospitalization periods and offers an opportunity to start a new era of patient-oriented clinical trials [21]. Data of over 4 thousand patients enrolled in the REPOSI registry yielded valuable findings and several publications focusing on the appropriateness of drug prescription, the relationship between multimorbidity/polypharmacy and clinical outcomes. Registry data as such can provide real life data on large patient groups that can be

used to set up comparative effectiveness research (CER) or network analysis.

Comparative effectiveness research (also called patient-centred outcomes research), which is defined as ‘the generation and synthesis of evidence that compares the benefits and harms of alternative methods to prevent, diagnose, treat, and monitor a clinical condition or to improve the delivery of care’, is attracting attention as a more useful and realistic method of research in the field of internal medicine [22]. The purpose of CER is to assist consumers, clinicians, purchasers, and policy makers to make informed decisions that will improve healthcare at both the individual and population levels. Another exciting research area for academic internal medicine is health services research, ‘the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organisational structures and processes, health technologies and personal behaviours affect access to healthcare, the quality and cost of healthcare, and ultimately our health and well-being’ [23].

As clearly evident, these new tools to produce and analyse scientific data require a wide vision and generalist approach in the academic setting to evaluate the implementation of health algorithms and strategies rather than focusing on a single intervention or treatment.

7. Conclusion

Internal medicine is developing a new identity as a specialty in its own right. It has many interfaces with modern health care and training systems: chronic disease management, preventive medicine, integrated care, patient-centred care, e-health, health literacy, quality based performance systems, focused areas of care such as acute medicine and hospital medicine, new generation scientific research, competency based residency training and systems based practice. Academic general internal medicine offers an opportunity to transform healthcare delivery as well as undergraduate and postgraduate medical education within the new framework over the coming decades [24].

The European Federation of Internal Medicine supports the concept of academic internists and calls upon the member countries to construct academic general internal medicine departments in their respective countries. General internal medicine units in academic health care centres should unite to express mutual interest and emphasise their essential role working alongside all other specialties and subspecialties. As ‘internal medicine is the cornerstone of every national healthcare system’, academic general internal medicine should strive to be the cornerstone of every integrated, patient-centred, modern medical care and training system [25].

Learning points

- Internists have vital roles in caring for patients at every level of healthcare and internal medicine is developing a new identity as a specialty in its own right.
- Internal medicine has several interfaces with modern health care and training systems: chronic disease management, preventive medicine, integrated care, patient-centred care, e-health, health literacy, quality based performance systems, focused areas of care such as acute medicine and hospital medicine, new generation scientific research, competency based residency training and systems based practice.
- Academic general internal medicine offers an opportunity to transform healthcare delivery and scientific research as well as undergraduate and postgraduate medical education over the coming decades.
- The European Federation of Internal Medicine supports the concept of academic internists and calls upon the member countries to construct

academic (general) internal medicine departments in their respective countries.

Conflict of interests

The authors have no conflicts of interests to declare related to this manuscript.

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