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Special Article

Provision of Care by Medical Residents and the Impact on Quality☆

Estefanía Llopis Pastor,[a,*] Estibaliz Pérez Guzmán,[b] Regulo Ávila Martínez,[c] Maria Victoria Villena Garrido,[d] Patricia Sobradillo Ecenarro[e]

[a] Servicio de Neumología, Hospital Clínico Valencia, Valencia, Spain
[b] Servicio de Neumología, Hospital Universitario de Cruces, Baracaldo, Vizcaya, Spain
[c] Servicio de Cirugía Torácica, Hospital 12 de Octubre, Madrid, Spain
[d] Servicio de Neumología, Hospital 12 de Octubre, Madrid, Spain
[e] Servicio de Neumología, Hospital Universitario Araba, Vitoria, Álava, Spain

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ABSTRACT

The quality of care received by patients is a basic element of modern medicine. Medical residents or interns are essential within the healthcare system, but their lack of experience can raise concerns about the quality of care given. A registrar or specialist has greater knowledge and skills, while a resident has greater motivation and enthusiasm. The aim of training programs is to prepare residents to provide high quality care. This requires close supervision that seems to be lacking, with the consequent impact on both healthcare quality and academic results.

The so-called "July effect" refers to the diminished quality of care during the summer months when resident physicians switch over. The results of studies analysing this effect vary widely, but the loss of efficacy during these months does seem to be real.

Pulmonology is one of the medical specialties that generates the least demand for internships and residencies, but it is impossible to determine if this affects the quality of care. The high prevalence of respiratory diseases and the latest diagnostic and therapeutic advances may mean that this situation will change in coming years.

Impacto de la calidad de la atención por parte de los residentes

Palabras clave:
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RESUMEN

La calidad de la atención que recibe el paciente es un aspecto fundamental de la medicina actual. Los residentes son esenciales en la organización sanitaria, pero su falta de experiencia produce la preocupación de que descienda la calidad asistencial entregada. Un adjunto tiene mayores conocimientos y habilidades, un residente mayor motivación y entusiasmo. El objetivo de los programas formativos es preparar a los residentes para proporcionar unos cuidados de alta calidad. Es fundamental para ello su supervisión, que parece ser inadecuada e influye tanto en la calidad asistencial como en sus resultados académicos.

La disminución de la calidad asistencial en los meses de recambio de residentes es el llamado «efecto julio», y aunque los estudios que analizan dicho efecto tengan resultados heterogéneos, la efectividad parece verse realmente afectada en estos meses.

Neumología es una de las últimas especialidades médicas en adjudicar sus plazas MIR, sin que podamos precisar si eso influye en la calidad asistencial. La alta prevalencia de las enfermedades respiratorias y los últimos avances diagnósticos y terapéuticos podrían producir un cambio de esta situación en los próximos años.

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* Corresponding author.
E-mail address: esllopas@hotmail.com (E. Llopis Pastor).

Introduction

Quality is understood as "the degree to which health services [...] increase the likelihood of desired health outcomes and are consistent with current professional knowledge".[1] The quality of care in health services has become one of the key issues in modern medicine. Innumerable problems have arisen in recent decades, stemming from the increasing complexity of health systems, development of medical technology, greater demands by patients and their families, and spiraling costs. These problems require effective solutions which can guarantee patients the right treatment, at the right time, and within a framework of equality and respect for their rights and values[2]; in other words, the establishment of procedures that guarantee quality care.

Society must accept that junior doctors need to acquire experience that they can later benefit from; however, it must also insist that the healthcare system and the individuals responsible for this training ensure that risks are minimized. The National Council of Medical Specialties Guidelines for Specialized Training[3] recommends that tutors protect patients by supervising their students while gradually increasing their responsibilities.

It is universally accepted that safety and high quality patient care are only possible if doctors are well prepared to meet these demands during their residency training. This is why training programs are aimed at preparing residents to provide high quality care. Clinicians worldwide involved in residency programs are focused on improving education by modernizing competency-based training and assessing the quality of resident training using accredited standards.

The following article is based on presentations made at the Sixth National Forum of Young Pulmonologists, held during the 47th National SEPAR conference (Spanish Society of Pulmonology and Thoracic Surgery) in Bilbao in 2014, organized by the Healthcare Quality Committee. It attempts to answer some key questions that will encourage readers to reflect on the need to detect, solve and avoid mistakes, and to improve quality of care. To that end, the following points will be discussed: (1) Is it better to be seen by a specialist or a resident? (2) The influence of resident supervision; (3) The July effect; and (4) Why is respiratory medicine is such low demand as a specialty?

Is it Better to be Seen by a Specialist or a Resident?

Most patients prefer to be seen by a specialist rather than a resident. In a survey administered to patients in an emergency department, 79.5% of respondents expected to be assessed by a specialist, regardless of the acuity of symptoms or potential cost-savings.[4] We can speculate that this is probably due to the specialist's years of experience in clinical practice, greater knowledge and training in clinical skills, dexterity in performing procedures, certainty in delivering diagnosis, and efficacy in implementing treatments. Specialists also bear legal responsibility for the consequences of their actions. However, residents contribute other elements that should not be underestimated: young doctors are generally more highly motivated than specialists; their enthusiasm and desire to learn mean that they are often more aware of the latest developments in their field; they show a greater capacity for work, enduring 24-h on-call shifts, sometimes with no time off (either because of hospital/department policy or their own interest in continuing to learn), and being considered "cheap labor", they are often required to perform tasks not theoretically assigned to them (due to departmental needs).

Previous studies have attempted to relate the grade obtained in qualifying examinations with the quality of care that these doctors might provide in their future practice. Wenghofer et al.[5] selected 208 doctors taking QE1 (medical knowledge) and QE2 (clinical skills) exams in Canada between 1993 and 1996, and followed them for 7–10 years of clinical practice. They observed that those in the bottom quartiles in both tests were ultimately at greater risk of failing their quality of care evaluation. The authors concluded, therefore, that these scores could be significant predictors of future quality-of-care problems.

Evaluating clinical performance is a basic element in training. This initially posed a challenge, as historically the evaluation of a doctor's performance was implicit, non-standardized, and based on subjective opinions. The need to change this system led to reforms in medical training that introduced new systems for evaluating skills and activity. Miller et al.[6] conducted a systematic review of studies evaluating the impact of workplace-based assessment on doctor's education and performance. They observed that both aspects improved when assessments were received from multiple sources, and that changes in clinical practice were more likely to occur when the assessment was credible or helped the subjects to identify their weak points. This has also been demonstrated in more specific contexts: determining the quality of care in emergency departments can potentially be used in the assessment of training programs,[7] and linking competency-based learning objectives in critical care units[8] with clinical outcomes was shown to improve both resident education and patient care.

One of the most extensive systematic reviews[9] carried out so far encompassed all articles published from December 2004 to February 2011, and evaluated the impact of residency training on patient health outcomes. Ninety-seven articles were included; of these, 43 evaluated the care outcomes achieved by residents compared to the "gold standard" care provided by specialists. In 31 of these 43 articles, there were no statistically significant differences between specialists and residents in a wide variety of outcomes such as length of hospital stay, morbidity and mortality. However, in 12 of these 31, surgery times were longer in interventions undertaken by residents. Nine of the 43 studies showed poorer outcomes in resident care (mainly in terms of morbidity, and increased length of hospital stay in patients seen by unsupervised residents), and 3 studies showed poorer outcomes in specialist care, probably due to selection bias.

In 16 of these studies, the need for supervision was underlined, as outcomes were worse among unsupervised residents.

Another issue concerns possible differences between the first and subsequent years of residency. A study conducted in residents from a respiratory care department did not find differences in monthly weaning rates or mortality rate between first-year and more senior residents. The authors concluded that, in a well organized setting, the level (experience) of the resident does not significantly affect patient outcomes.[10]

Influence of Resident Supervision

Resident supervision and duty hours have been a matter of public importance since 1987, when a law was passed in New York regulating, for the first time, the number of hours that residents should work each week.[11] These limits formed the basis of the Accreditation Council for Graduate Medical Education (ACGME) recommendations on supervision and duty hours, published in 2003 and in 2010. In 2008, the American Institute of Medicine (IOM) recommended increased resident supervision in training programs, including night and weekend shifts.[12]

In Spain, the MIR (resident training program) contract[13] states that residents must learn by working under the supervision of a tutor and a teaching committee. These latter must periodically evaluate the resident's performance and draw up a record of the objectives achieved, and on this basis give him or her the autonomy