Med Intensiva. 2017;xxx(xx):xxx–xxx

medicina intensiva

www.elsevier.es/medintensiva

SPECIAL ARTICLE

Physician staffing needs in critical care departments☆

V. Gómez Tello[a], J. Ruiz Moreno[b,*], M. Weiss[c], E. González Marín[d], P. Merino de Cos[e], N. Franco Garrobo[f], A. Alonso Ovies[g], J.C. Montejo González[h], T. Iber[i], G. Marx[j], V. Córcoles González[k], F. Gordo Vidal[l], E. Palencia Herrejón[m], J. Roca Guiseris[n], on behalf of the Spanish Society of Intensive Care Medicine and the German Board of Anesthesiologists

[a] *Servicio de Medicina Intensiva, Hospital Moncloa, Madrid, Spain*
[b] *Servicio de Medicina Intensiva, Hospital Universitari Sagrat Cor, Barcelona, Spain*
[c] *Klinik für Anästhesiologie, Universitätsklinikum, Ulm, Germany*
[d] *Servicio de Urgencias, Hospital Universitari Sagrat Cor, Barcelona, Spain*
[e] *Servicio de Medicina Intensiva, Hospital de Can Misses, Ibiza, Spain*
[f] *Servicio de Medicina Intensiva, Hospital Universitario de Móstoles, Madrid, Spain*
[g] *Servicio de Medicina Intensiva, Hospital Universitario de Fuenlabrada, Madrid, Spain*
[h] *Servicio de Medicina Intensiva, Hospital 12 de Octubre, Madrid, Spain*
[i] *Stadtklinik Baden-Baden und des Kreiskrankenhauses Bühl, Institut f. Anästhesiologie und Intensivmedizin, Baden-Baden, Germany*
[j] *Klinik für Operative Intensivmedizin und Intermediate Care, Aachen, Germany*
[k] *Servicio de Medicina Intensiva, Complejo Hospitalario Universitario de Albacete, Albacete, Spain*
[l] *Servicio de Medicina Intensiva, Hospital Universitario del Henares, Coslada, Madrid, Spain*
[m] *Servicio de Medicina Intensiva, Hospital Infanta Leonor, Madrid, Spain*
[n] *Servicio de Medicina Intensiva. Hospital Virgen de las Nieves, Granada, Spain*

Received 18 November 2016; accepted 17 September 2017

KEYWORDS
Activity;
Department of critical care medicine;
Intensive care unit

Abstract Departments of Critical Care Medicine are characterized by high medical assistance costs and great complexity. Published recommendations on determining the needs of medical staff in the DCCM are based on low levels of evidence and attribute excessive significance to the structural/welfare approach (physician-to-beds ratio), thus generating incomplete and minimalistic information. The Spanish Society of Intensive Care Medicine and Coronary Units established a Technical Committee of experts, the purpose of which was to draft recommendations regarding requirements for medical professionals in the ICU. The Technical Committee

☆ Please cite this article as: Gómez Tello V, Ruiz Moreno J, Weiss M, González Marín E, Merino de Cos P, Franco Garrobo N, et al. Estimación de las necesidades de profesionales médicos en los servicios de medicina intensiva. Med Intensiva. 2017. https://doi.org/10.1016/j.medin.2017.09.013

* Corresponding author.
E-mail address: javiruiz@wanadoo.es (J. Ruiz Moreno).

defined the following categories: (1) patient care-related aspects; (2) activities outside the ICU; (3) patient safety and clinical management aspects; (4) teaching; and (5) research. A subcommittee was established with experts pertaining to each activity category, defining criteria for quantifying the percentage time of the intensivists dedicated to each task, and taking into account occupational category. A quantitative method was applied, the parameters of which were the number of procedures or tasks and the respective estimated indicative times for patient care-related activities within or outside the context of the DCCM, as well as for teaching and research activities. Regarding non-instrumental activities, which are more difficult to evaluate in real time, a matrix of range versus productivity was applied, defining approximate percentages according to occupational category. All activities and indicative times were tabulated, and a spreadsheet was created that modified a previously designed model in order to perform calculations according to the total sum of hours worked and the hours stipulated in the respective work contract. The competencies needed and the tasks which a Department of Critical Care Medicine professional must perform far exceed those of a purely patient care-related character, and cannot be quantified using structural criteria. The method for describing the 5 types of activity, the quantification of specific tasks, the respective times needed for each task, and the generation of a spreadsheet led to the creation of a management instrument.

PALABRAS CLAVE
Actividad;
Servicio medicina intensiva;
Unidad de cuidados intensivos

Estimación de las necesidades de profesionales médicos en los servicios de medicina intensiva

Resumen Los servicios de medicina intensiva se asocian a una alta complejidad asistencial y un alto coste monetario. Las recomendaciones sobre el cálculo de las necesidades de intensivistas adolecen de baja evidencia y favorecen un criterio estructural y asistencial (proporción médico/camas), lo que origina modelos reduccionistas. La Sociedad Española de Medicina Intensiva y Unidades Coronarias constituyó una comisión técnica para redactar unas recomendaciones sobre la necesidad de intensivistas en los servicios de medicina intensiva. La comisión técnica definió 5 actividades: 1) asistencial; 2) actividades extra-UCI; 3) seguridad del paciente y gestión clínica; 4) docencia; y 5) investigación. Para cada actividad o categoría se crearon subcomités específicos que definieron criterios para cuantificar el porcentaje que supone cada tarea para los intensivistas por rango profesional. Para las actividades asistenciales dentro y fuera de la UCI, y también para las actividades docentes e investigadoras, se siguió un sistema cuantitativo del número de procedimientos o tareas por tiempos estimados. En relación con las actividades no instrumentales, más difíciles de evaluar en tiempo real, se siguió una matriz de ámbito/productividad, definiendo los porcentajes aproximados de tiempo dedicado por categoría profesional. Se elaboró una hoja de cálculo, modificando un modelo previo, atendiendo la suma de horas estipuladas por contrato. Las competencias exigidas van más allá de la asistencia intra-UCI, y no pueden calcularse bajo criterios estructurales. La metodología sobre 5 actividades, la cuantificación de sus tareas específicas y tiempos y la construcción de una hoja de cálculo generan un instrumento adecuado de gestión.

Introduction

Productivity in critical care medicine departments (CCMD) is a complex issue, and costs are high, which is why it is absolutely justified to address the problem of the workforce sizing of intensivists. There have been intensive care (IC) societies that have elaborated recommendations on the needs for intensivists[1,2] based on very different healthcare models on the management of critical patients (CP) rather than on adequacy analyses of the intensivists' productivity by measuring the intensivist/bed ratios (the reference source is shown in electronic tables 1,[3–11] 2[1,2,12–15] and 3[5,16,17] of additional material). In Spain, several recommendations have been proposed,[14] but all with the same philosophy of taking the doctor/bed ratio into consideration. Since they do not take productivity into consideration, such recommendations have called for reducing the number of intensivists. For all these reasons, in 2013, the Spanish Society of Intensive Care Medicine and Coronary Units established a technical taskforce of experts to assess the reference sources and recommendations from other similar societies, provide its own experience, and elaborate recommendations on the