

## **CHAPTER 3**

### **MANAGING COMPLEX MEDICAL CONDITIONS IN ACUTE CARE SETTING**

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#### **Abstract**

Managing complex medical conditions in an acute care setting presents unique challenges due to the severity and multidimensional nature of patients' health issues. Acute care environments, including emergency departments, intensive care units (ICUs), and acute medical units (AMUs), are often characterized by high-stress situations, rapid decision-making, and the need for multidisciplinary collaboration. Patients with complex medical conditions typically present with multiple coexisting chronic diseases, polypharmacy, acute exacerbations, and unstable physiological conditions that require tailored and dynamic treatment approaches. This abstract explores the key strategies and

challenges associated with managing such patients in acute care settings, focusing on assessment, rapid stabilization, decision-making frameworks, interdisciplinary team roles, and patient-centered care. It emphasizes the importance of individualized treatment plans, evidence-based interventions, and timely interventions in preventing further deterioration and improving patient outcomes. The article also addresses the integration of technology, advanced diagnostics, and continuous monitoring in supporting the clinical decision-making process and ensuring the safety and well-being of patients with complex medical conditions. Effective management requires not only clinical expertise but also strong communication skills, adaptability, and a collaborative approach to care.

**Key words:** Complex, Acute, care, settings, Medical conditions, critical, terrible, severe life threatening, dangerous, vital, serious. emergency, complicated.

### **3.1 Introduction**

Chronic diseases are the major cause of death (59%) and disability worldwide, representing 46% global disease burden. According to future hospital commission of the Royal college of physicians, Medical Division (MD) will be responsible for all hospital medical services, from emergency to specialist wards. The Hospital Acute Care Hub will bring together the clinical areas of the MD that focus on the management of acute medical patients. The Chronic Care Model (CCM) places the patient at the center of the care system enhancing the community's social and health support, pathways and structures to keep chronic, frail, poly-pathological people at home or out of the hospital. The management of such patients in the hospital still needs to be solved. Hereby, we propose an innovative model for the management of the hospital's acute complex patients, which is the hospital counterpart of the CCM.

The target population are acutely ill complex and poly-pathological patients (AICPPs), admitted to hospital and requiring high technology

resources. The mission is to improve the management of medical admissions through pre-defined intra-hospital tracks and a global, multidisciplinary, patient-centered approach. The ACCM leader is an internal medicine specialist (IMS) who summarizes health problems, establishes priorities, and restores health balance in AICPPs.

### **3.2 Research Objectives**

- Identify complex medical conditions in acute care setting
- To identify treatment approaches in acute care setting
- To explore various treatment approaches in acute care setting
- Examine case studies on complex medical conditions in acute care nursing

### **3.3 Research Methodology**

In the research study the researcher has used secondary data. The data has been collected from research papers, published materials, online websites, and survey reports published by various research organisations.

### **3.4 Acute Complex Care Model (ACCM)**

The model, object of the present work, is the hospital counterpart of the Chronic Care Model and is similarly aimed to ensure efficacious and effective care of complex and poly-pathological patients when they are hospitalized for acute diseases. The target population are acutely ill complex and poly-pathological patients (AICPPs), admitted to hospital and requiring high technological resources.

The mission is to improve management of medical admissions through pre-defined intra-hospital tracks

### **3.5 High-dependency areas in internal medicine (HDA)**

According to literature, 20% of people admitted to IMWs require more frequent clinical and nursing monitoring than it is provided in ordinary wards, even if less than in ICU, in order to support vital organs

and functional recovery . These areas, here called HDAs, but often called intermediate care units (IMCU), have shown to improve the outcome of ICU patients. According to a recent multicenter European cohort study across 17 European countries, patients admitted to ICUs with an IMCU

The role of internal medicine is heterogeneous and the activity of the internists also varies in different areas. For example, the patient care provided by an internist in a local hospital or in a referral hospital is often different. In some circumstances internists act as true subspecialists in their specific areas of interest. In others, they play an important role outside the hospital setting. In addition, the medical problems that an internist faces cannot easily be distinguished from those of other medical specialties. Certainly, the internists have to deal with older adults, in whom comorbidities and drug side effects and interactions are common while evidence based treatments are often lacking.

### **3.5.1 Role of internists**

This highlights the importance of defining the basic knowledge and skills that any European internist must possess, regardless of workplace or personal interests. However, it is difficult to distinguish between essential and advanced competencies. Moreover, there is a tendency to misinterpret what should be acquired during specialised training with professional skills acquired later. These concerns are not unique for Europe. In the U.S. there have been several initiatives to establish what skills should be acquired by competent internists. However, the results in general have been dissimilar and are not very operative .

Internal medicine in southern European countries is essentially considered as an independent specialty and has a great influence within their respective national health care systems, while in other European countries general internists are less common. In Spain, Internal Medicine Departments are responsible for more than 16% of all hospital discharges [5]. The Spanish Society of Internal Medicine (SEMI) has also an important role within the European Federation of Internal Medicine (EFIM) and, therefore, its position has a significant impact at the European level.

### **3.5.2 Strategy of SEMI**

According to the strategy of SEMI, the development of a “handbook of the competencies of the internist” has been established as a priority, which must be complementary to the Internal Medicine training programme revised in depth in 2007 [7]. In this spirit, the SEMI Board of Directors established a working group whose initial conclusions are reflected in this document and presented as a working document possibly useful to open a debate in this journal among the different Internal Medicine national societies of the European community.

To bridge the educational gap, there is a need to develop a curriculum with ‘minimum AI in nursing competencies’, a set of domains and concepts that all entry-level nurses should receive as part of their basic nursing education. Some organizations, such as the American Association of Colleges of Nursing (AACN), are moving to a competency-based education with a technology domain crossing over all domains due to the current need for this topic in all levels of nursing education. Similar efforts concurrently need to be made to support the development of these competencies among practising nurses, as well as nurse leaders where this material can be delivered through continuing education initiatives. Graduate nursing education also would benefit from the creation of opportunities for advanced AI education as well as the formation of sub-specializations in AI under health informatics programs. Specific recommendations are outlined in the summary Table 1 towards ensuring that a curriculum with ‘minimum AI in nursing competencies’ can be met, with the goal of having all nurses hold basic knowledge and competence related to AI use in nursing.

The principal role of internists is to provide medical care for adults. Certain professional attributes are required for the internist to be successful in a rapidly evolving world of medicine. As a member of health care team, the internist has to effectively coordinate the care provided by other professionals for the benefit of the patient. Internists should also facilitate and support the participation of patients in their own care and aid them in making decisions regarding health issues. The internist needs to be an advocate on health issues for both individual patients and the community at large. He or she must be able to communicate clearly with

both patients and colleagues alike. Furthermore, the internist will, in certain situations, require managerial and business skills. Finally, internists should be proficient in both teaching and scientific enquiry.

### **3.5.3 Task of internists**

Major task of internists is the diagnosis and management of multiple medical problems that may be complex and are frequently of chronic nature. These disorders may be managed in an outpatient and/or inpatient setting, with or without the contribution of a subspecialist colleague. The internist must be able to recognize and evaluate the symptoms and signs of common diseases. The internist may also be faced with obscure symptoms or features of multisystem disease that require expert diagnostic evaluation. However, most internists will spend the majority of their time managing a relatively limited number of common medical problems.

Internists need to be capable of providing effective and compassionate patient care that focuses on maintaining health, preventing disease, and diagnosing and treating established illness. Internists should practice evidence-based medicine supported by sound clinical judgment. The following are essential tasks involved in the care of patients.

The medical interview is the initial step in the diagnostic process. Despite the ever-increasing technology available to physicians for the evaluation of patients, the medical history remains the most important and cost-effective tool. The internist needs to listen carefully to the patient and to use open-ended questions. He or she must be capable of recognizing the constellation of symptoms associated with different diseases and be familiar with symptoms suggestive of life-threatening or serious illness. Finally, the internist has to respect confidentiality and be sensitive to personal, cultural, and religious issues.

Internists need to have the ability to perform a thorough and skillful physical examination. Usually, this will be a focused examination guided by the patient's history. When examining patients, the internist should be empathetic and treat the patient with dignity. Forming and testing hypotheses is a pivotal component of the diagnostic evaluation carried out

by internists. In order to establish a diagnosis, the internist has to put together a limited number of unifying hypotheses based on the clinical findings in the case. The internist attempts to either confirm or reject each hypothesis and thereby narrow the list of differential diagnoses. The internist should be familiar with fundamental aspects of clinical decision-making.

Depending on the diagnosis, the internist needs to consider a short-term or long-term management plan based on scientific evidence, clinical judgment, and patient preference. He or she should attempt to ensure that the selected treatment is cost-effective. All medical treatment must be founded on compassion and the best interests of the patient. Whenever possible, the internist should discuss the treatment options with the patient (and family members, when appropriate) and respect their preferences. He or she should emphasize strategies to improve compliance with therapy and encourage self-care. The internist should discuss the prognosis with the patient and consider limitation of therapy when appropriate, including 'do not resuscitate' (DNR) orders. Internists should also be capable of providing palliative care at the end of life. It is important that they recognize the need of acutely and chronically ill patients for nutritional support and physical therapy. Internists should always strive to avoid inflicting injury on patients — 'primum non nocere'.

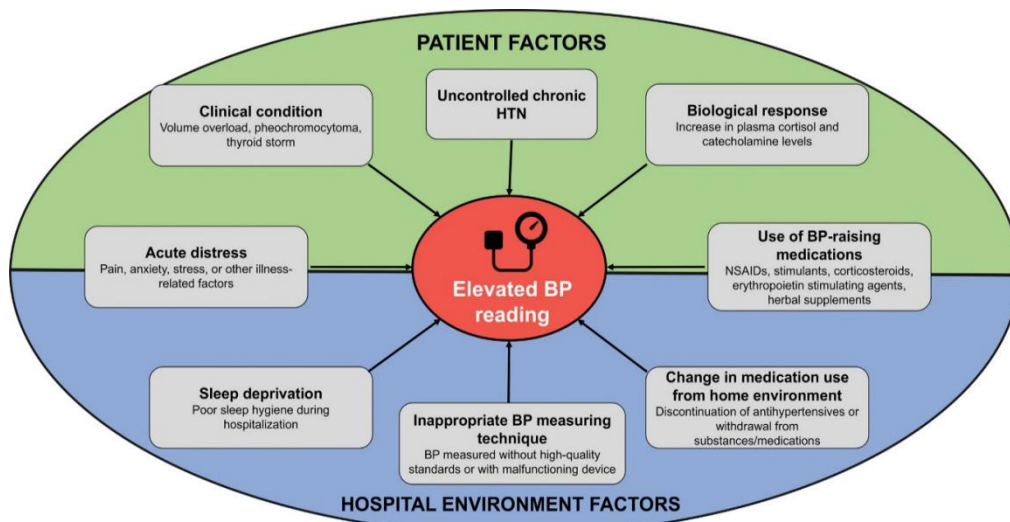


**Figure 1 : Post Acute Care Facility and Team Health**

Post-acute care refers to a range of healthcare services provided to individuals recovering from illness, surgery, or injury after their discharge from an acute care hospital. The primary goal is to support recovery, promote functional independence, and prevent readmission to hospitals. Services may include physical therapy, occupational therapy, speech therapy, and specialized nursing care.

### Types of Post-Acute Care Facilities:

1. **Skilled Nursing Facilities (SNFs):** These facilities offer 24/7 nursing care and rehabilitation services for patients requiring short-term recovery or long-term care.
2. **Inpatient Rehabilitation Facilities (IRFs):** IRFs provide intensive rehabilitation therapies and are suitable for patients needing comprehensive therapy services.
3. **Long-Term Care Hospitals (LTCHs):** LTCHs deliver extended medical care for patients with clinically complex conditions requiring prolonged hospitalization.
4. **Home Health Care:** For patients who prefer recovering at home, healthcare professionals provide services such as nursing care, physical therapy, and assistance with daily activities.
- 5.



**Figure 2 : Hospital and environmental factors**



Managing complex medical conditions in acute care settings necessitates a collaborative approach, involving multidisciplinary teams working together to provide comprehensive care. Visual representations of such teamwork can be insightful. Here are some images that depict this collaborative effort.

- **Doctor Talks to Patient:** An image of a doctor engaging in conversation with a patient, exemplifying patient-centered communication.
- **Emergency Medical Service Team:** A depiction of paramedics assisting a patient, highlighting the role of emergency care teams.
- **Healthcare Coordination:** Visuals illustrating coordinated care among healthcare professionals, emphasizing the importance of teamwork in managing complex cases.

These images underscore the significance of collaborative efforts in delivering effective care to patients with complex medical needs in acute settings.

### **3.5.4 Multiple roles of internists**

Internists must have the ability to perform the diagnostic and therapeutic procedures considered essential for the practice of internal medicine. They should be aware of the utility, indications and contraindications, complications, and cost of commonly applied procedures. The types of procedures performed by internists may vary between individual physicians, institutions, or countries. Examples of procedures usually performed by internists throughout Europe include phlebotomy, collection of arterial blood specimens and analysis of blood gases, electrocardiography, lumbar puncture and thoracentesis. However, with evolving technology, internists in some countries have begun to perform procedures that have belonged to subspecialties of internal medicine, such as cardiac ultrasound.

In addition to the communication skills required for obtaining a medical history, internists should be capable of explaining carefully to patients and their families the results of the diagnostic process and the

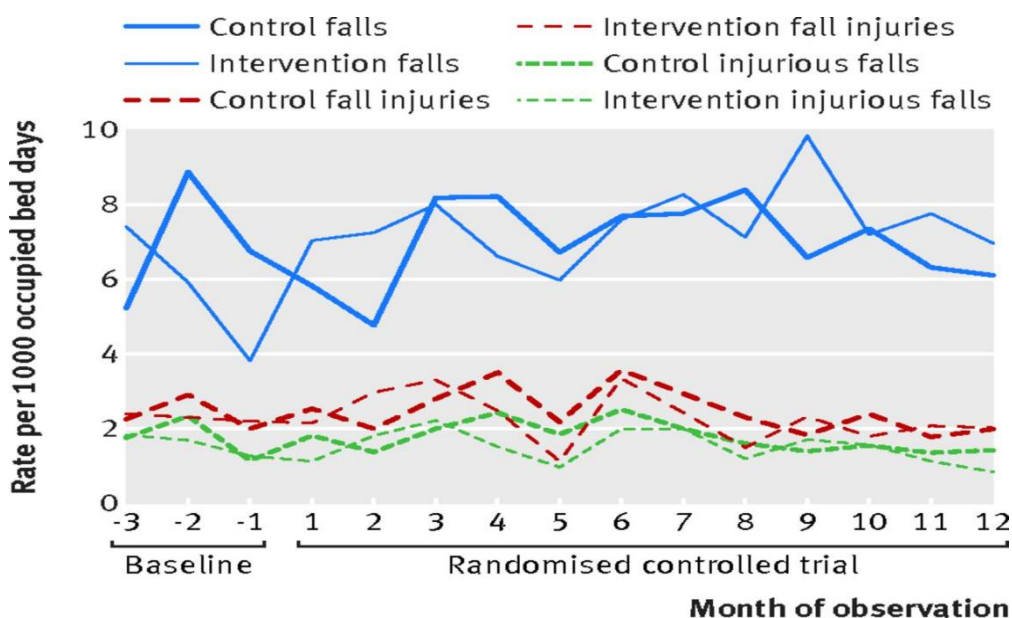
treatment required. Particularly important is a clear description of the appropriate therapeutic measures, including the explanation of the effects of medications, their efficacy, side effects, and interactions. Internists should be able to involve patients in the decision-making process and to offer them rational choices when possible. Internists should also be able to communicate effectively with other physicians and health care professionals using verbal, written, and electronic media.

Internists should be familiar with the principles of professional behavior as outlined by the Charter on Medical Professionalism published jointly by the European Federation of Internal Medicine, the American College of Physicians, and the American Board of Internal Medicine . They should honor the principles of confidentiality, altruism, autonomy, and social justice in the practice of medicine. Internists should put patients' well-being first and exhibit responsible attitudes toward society. They should respect the views of patients and act with honesty, empathy, and sensitivity. They should promptly inform patients (or their relatives) if a medical error occurs. Internists should display sensitivity to diversity in the community with respect to religion, culture, and socioeconomic status.

They should practice medicine according to methods of best practice guidelines. They should be conscientious and recognize the importance of attention to detail. Internists need to understand the importance of lifelong learning. They should recognize their personal limitations and be open to constructive criticism. They should respect colleagues and be willing to consult them when needed. Internists should maintain comprehensive, timely, and legible medical records.

Internists should apply evidence-based and cost-effective strategies to the prevention, diagnosis, and treatment of disease. They should be capable of utilizing the resources, providers, and systems necessary to provide optimal patient care. Internists should be familiar with the essence of collaboration and teamwork in medicine. They need to know how a team works effectively and how to be a team leader. In addition, internists should be familiar with the relevance and benefit of clinical governance and be willing to accept professional regulations and assessment of performance. Internists should be aware of time-

management strategies. They should make effective use of available resources and search for ways to cope with bureaucracy. Internists should facilitate the implementation of quality programs in the clinical practice setting.



**Figure 3: Rate per 1000 occupational beds**

Acute care settings are specialized environments within healthcare facilities, such as emergency departments (EDs) and intensive care units (ICUs), designed to provide immediate and intensive treatment for patients experiencing severe or life-threatening conditions. Understanding the utilization and performance metrics of these settings is crucial for healthcare planning and resource allocation.

### 3.5.5 Key Statistics and Trends in Acute Care Utilization:

- **Emergency Department Visits:** In 2019, there were approximately 139.8 million ED visits in the United States, equating to about 42.7 visits per 100 persons. Notably, 13.1% of these visits resulted in hospital admissions.

- **Hospitalization Rates:** The age-adjusted percentage of individuals aged 1–64 with a hospital stay in the past year decreased from 5.9% in 2009 to 5.1% in 2014, with a slight increase to 5.9% in 2019.
- **ICU Costs:** Between 2000 and 2010, annual costs for critical care medicine escalated by 92%, from \$56.6 billion to \$108 billion, representing 13.2% of hospital costs and 4.1% of national health expenditures in 2010.
- **Emergency Department Wait Times:** In South Australia, only 38% of "urgent" (category three) patients were seen within the recommended 30 minutes in 2023-24, significantly below the national average of 60%.
- **Patient Age Distribution:** In 2018, approximately 63.8% of inpatient cases treated for acute conditions in U.S. acute-care hospitals were among patients aged 65 years and older.

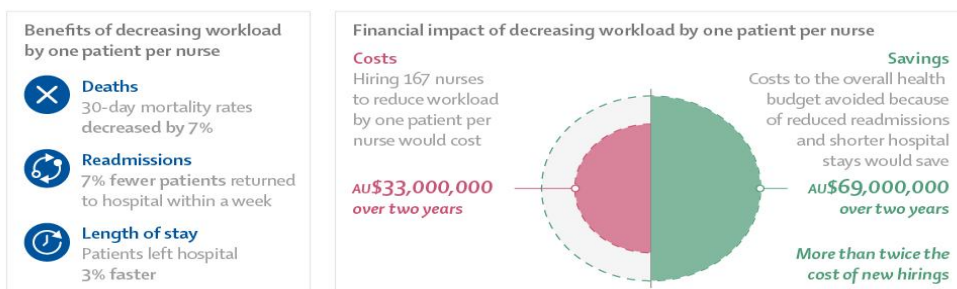
### **3.5.6 Visualizing Acute Care Data:**

For graphical representations and more detailed statistics on acute care settings, consider exploring the following resources:

- **HCUP Fast Stats:** Provides interactive graphs and tables on topics like trends in inpatient stays and emergency department visits.
- **CDC FastStats:** Offers data visualizations on emergency department visits, including the number of visits and percentages resulting in hospital admissions.
- **SCCM Critical Care Statistics:** Presents statistics on critical care medicine, including ICU costs and utilization trends.

## More nurses results in better healthcare and costs less

A study in Queensland, Australia, has shown that healthcare outcomes improve when nurses are required to care for fewer patients, and that investing in more nurses pays for itself twice over.



Read the full paper: McHugh MD, Aiken LH, Sloane DM, Windsor C, Douglas C, Yates P. Effects of nurse-to-patient ratio legislation on nurse staffing and patient mortality, readmissions, and length of stay: a prospective study in a panel of hospitals. *The Lancet* 2021; published online 11 May

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**Figure 4: More nurses results healthcare and costless**

Nurses play a pivotal role in improving healthcare outcomes and reducing overall healthcare costs. Numerous studies have shown that investing in nursing staff and their roles in patient care can lead to significant reductions in healthcare costs, improved patient outcomes, and increased efficiency within healthcare settings. Here are some key points showing how nurses help in achieving better healthcare results while reducing costs.

### 3.6 Reduced Hospital Readmissions:

Nurses contribute significantly to reducing hospital readmissions, a major driver of healthcare costs. Effective nursing interventions such as discharge planning, patient education, and follow-up care (particularly for chronic conditions like heart failure and diabetes) can significantly reduce the risk of patients being readmitted within a short period. Research indicates that hospitals with higher nurse staffing levels tend to have lower readmission rates.

**Example:** A study published in the *American Journal of Managed Care* found that increased nurse staffing was associated with reduced readmission rates for patients with heart failure. This leads to cost savings by preventing unnecessary readmissions and reducing the burden on healthcare resources.

### **3.6.1 Prevention of Hospital-Acquired Conditions (HACs):**

Nurses are essential in preventing hospital-acquired infections, pressure ulcers, and other preventable conditions that increase patient length of stay and treatment costs. Nurses' involvement in early detection and monitoring can reduce complications, thereby minimizing the need for more costly interventions and extended stays.

**Example:** The *Institute of Medicine* has emphasized that improving nurse staffing levels can reduce adverse events such as infections, which are costly to treat and prolong hospital stays. By providing more vigilant care, nurses reduce the need for expensive treatments and hospitalizations.

### **3.6.2 Improved Patient Outcomes:**

Well-staffed nursing teams lead to better patient outcomes, such as quicker recovery times, fewer complications, and higher satisfaction. Improved outcomes, in turn, reduce the need for costly interventions and re-hospitalizations.

**Example:** A study in the *Journal of Nursing Administration* found that hospitals with better nurse staffing had improved patient outcomes, including lower mortality rates and fewer complications. This directly correlates with reduced overall healthcare costs.

### **3.6.3 More Efficient Use of Resources:**

Nurses, particularly advanced practice nurses (such as nurse practitioners and clinical nurse specialists), can take on many roles traditionally performed by physicians, such as conducting assessments, providing treatment, and managing care for less complicated cases. This can free up physician time and reduce costs associated with unnecessary tests or consultations.

**Example:** Nurse practitioners have been shown to provide high-quality care in primary care settings, which helps reduce the burden on emergency departments and specialists, cutting healthcare costs by improving access to care and reducing unnecessary procedures.

### **3.6.4 Effective Chronic Disease Management:**

Nurses play a key role in the management of chronic diseases, including diabetes, hypertension, and chronic obstructive pulmonary disease (COPD). By engaging in patient education, regular monitoring, and coordination of care, nurses help patients manage their conditions, leading to better long-term outcomes and fewer acute exacerbations that result in costly emergency care.

**Example:** The *American Nurses Association* has highlighted that nurses' involvement in chronic disease management programs reduces emergency visits and hospital admissions, helping lower overall healthcare costs.

### **3.6.5 Patient Education and Empowerment:**

By educating patients about their conditions, medications, and lifestyle changes, nurses empower patients to manage their health more effectively. This reduces unnecessary healthcare visits, decreases the likelihood of complications, and ensures patients are better prepared to handle their health challenges.

**Example:** Studies have shown that patient education on medication adherence, dietary changes, and self-care leads to lower overall healthcare utilization and a reduction in costly interventions.

### **3.6.6 Nurse-Led Clinics and Primary Care:**

Nurse-led clinics, where nurses provide primary and preventive care, have been shown to reduce healthcare costs by offering more accessible and less expensive care options compared to traditional physician-led care.

**Example:** In the U.K., nurse-led clinics have demonstrated a reduction in healthcare spending while maintaining or improving care quality, particularly in managing minor ailments, chronic diseases, and preventive care.

### **3.6.7 Reducing Emergency Department Overcrowding:**

Nurses in urgent care settings and emergency departments can assess, triage, and treat less complex cases, ensuring that emergency services are used more efficiently. This reduces unnecessary emergency visits, which are expensive and often avoidable.

**Example:** Studies in *Nursing Economics* show that nurses involved in triage in emergency departments help reduce overcrowding and the unnecessary use of emergency services, leading to cost savings and more efficient patient flow.

Investing in nursing care and having adequate nursing staff in healthcare facilities leads to reduced healthcare costs, improved patient outcomes, and more efficient use of resources. Nurses' contributions directly impact reducing hospital readmissions, preventing adverse events, enhancing patient education, and managing chronic conditions effectively—all of which contribute to long-term savings in healthcare. Therefore, supporting nurses and optimizing their role in the healthcare system is a cost-effective strategy that leads to both better patient care and significant cost reductions in the healthcare system.

Teaching medical students and postgraduate trainees in internal medicine is a fundamental task of internists. They have to be familiar with advances in education, including problem-based learning as well as assessment and feedback. Internists need to serve as mentors and role models for students and physicians in training. They should also possess skills to deliver an effective presentation when teaching in a lecture format. Internists should demonstrate commitment to continuous professional development. The internist should always recognize personal errors and attempt to learn from them. He or she should become familiar with the use of information technology to access information and facilitate educational activities. The internist should identify areas for improvement and implement strategies, based on scientific evidence, to enhance patient care. AI algorithms can automate administrative tasks, prioritize patient needs and facilitate seamless communication in healthcare team (Stokes & Palmer 2020). This enables nurses to focus more on direct patient care and ensures the efficient and coordinated delivery of health care services.



In order to meet the health care needs of individual patients and society at large throughout Europe, it is important that these competencies become part of medical school and postgraduate training curricula, as well as of continuing professional development programs in all European countries. The EBIM Working Group hopes this paper will stimulate constructive discussion and thoughtful debate, and that it will be followed by a collaborative effort to develop and endorse a European consensus.

As current residents in internal medicine we are quite interested in the direction of accreditation for internal medicine programs. In fact, at a recent ACP-Council of Associates meeting in Philadelphia, PA, residency reform was discussed in great detail. The recent proposal from the RRC-IM to change residency program accreditation from a process-based evaluation to outcomes-based is a welcomed idea (1). From our perspective, there are several benefits to be realized by the proposed changes. Judging the clinical competence of residency program graduates is a clear, objective measure of whether the training program is doing its intended goal of providing the community with well-trained physicians. Using the existing six clinical competencies as a background for further accreditation allows programs to establish a base by which they can proceed under the new model.

A more active, continually updated quality improvement process will mimic what is happening in other areas of medicine. The changes proposed by the RRC-IM will allow flexibility for program directors to be innovative and creative with residency education and prevent stagnation of graduate medical education. With ongoing internal assessments, residency programs will be able to change with the demands of society and adapt to problems more quickly. Over the years, these ideas can be shared among programs as evidence shows which educational aspects are effective and which ones are not. Also, by combining the requirements of the RRC with other rigorous site visits, i.e. JCAHO, this new model will eliminate the numerous redundancies faced by residency programs and their hospitals.

While we agree with most of the aspects of the RRC's proposed model, there are areas that need to be more adequately addressed. If we are

going to continue to use clinical competencies as the basis for judging the effectiveness of training programs, then there needs to be validated clinical competency measures in place before the proposed accreditation system is started. Even by using current exceptional programs as the model, if there is no benchmark, what is it that is being measured? The RRC could propose that these "exceptional" training programs do more controlled studies to prove the effectiveness of the clinical competencies and provide a true quality by which other programs can follow.

The proposed internal evaluation coordinator has great potential to improve the training program more quickly and responsively than the current framework. However, even with proposed external salary support and/or ACGME certification, there may still be the appearance of a conflict-of-interest if a faculty member at an institution is primarily responsible for that institution's accreditation. There may be no perfect answer to this dilemma but perhaps one solution could be having the RRC allow a representative from one local hospital serve as the overseer for another hospital's residency development.

## **Results**

One hundred and twenty four articles were included that reported observational studies (n = 78), interventions (n = 34), tool development (n = 7), expert consensus (n = 2), quality improvement (n = 2), and reflection (n = 1). Most studies were conducted in developed countries and reported the perspective of patients (n = 33), nurses (n = 29), healthcare organisations (n = 7) or multiple perspectives (n = 50). Key words, key authors and organisations for patient-centred care were commonly recognised and provided a basis for the research. Fifty instruments measuring patient-centred care or its aspects were identified. Of the 34 interventions, most were implemented at the micro (clinical) level (n = 25) and appeared to improve care (n = 30). Four articles did not report outcomes. Analysis of the interventions identified three main types: i) staff-related, ii) patient and family-related, and iii) environment-related. Analysis of key findings identified five meta-narratives: i) facilitators of patient-centred care, ii) threats to patient-centred care, iii) outcomes of patient-centred care, iv) elements of patient-centred care, and v) expanding our understanding of patient-centred care.

## **Conclusion**

Patient-centred care has become recognised as a central component of health care quality and delivery, with organisational support and integration into health policy globally. The burgeoning body of literature for patient-centred care is testament to conceptual growth over the past decade and the shift to operationalising patient-centred care. This review highlighted that patient-centred interventions have been successfully implemented in acute care contexts with positive clinical outcomes. Interventions appeared to improve patient care and staff and health service performance, which is a shift from previously reported mixed outcomes. This shift may reflect better understanding and more effective integration of patient-centred frameworks into health care over time. The longevity of patient-centred interventions needs further exploration, and future research should consider implementing interventions at the meso and macro levels to help sustain patient-centred processes. In addition, health services should consider staff, patient and organisational factors that may facilitate or threaten patient-centred care when planning interventions. Organisations should create a patient-centred culture supported by policies and systems, and equip staff with the personal skills, resources, and workforce needed to deliver patient-centred care effectively. Future research for patient-centred care should include specialised care settings, multi-disciplinary groups, families, and carers, and explore patient-related factors that influence patient-centred care. It is recommended that conceptual frameworks and healthcare policy are regularly updated to reflect current literature on the topic.

## **References**

1. Bele, S., Chisholm, C., Lategan, C., Yakubets, K., Lorenzetti, D., Uwamahoro, M.-C., Popeski, N., Turin, T. C., Lang, E., & Rabi, D. (2025). Medical complexity in emergency and urgent care settings: A scoping review protocol. *BMJ Open*, 15(1), e086984. <https://doi.org/10.1136/bmjopen-2023-086984>
2. Brooke, J., & Ojo, O. (2023). Development of patient-centred care in acute hospital settings: A meta-synthesis. *International Journal of Nursing Studies*, 137, 104377.

3. González-Santos, J. M., & Bouza-Rodríguez, J. B. (2016). Acute Complex Care Model: An organizational approach for the medical management of acutely ill complex patients. *Journal of Evaluation in Clinical Practice*, 22(2), 240–248. <https://doi.org/10.1111/jep.12458>
4. Kuluski, K., Ho, J. W., Hans, P. K., & Nelson, M. L. (2017). Community care for people with complex care needs: Bridging the gap between health and social care. *International Journal of Integrated Care*, 17(4), 2. <https://doi.org/10.5334/ijic.2944>
5. Poitras, M.-E., Maltais, M.-E., Bestard-Denommé, L., & Stewart, M. (2024). Shared decision-making with patients with complex care needs: A scoping review. *BMC Primary Care*, 25, Article 390. <https://doi.org/10.1186/s12875-024-02633-9>
6. Rosen, A. K., Loveland, S., Anderson, J. J., & Hankin, C. S. (2013). Evaluating and improving patient safety in the Veterans Health Administration. *Journal of the American Medical Informatics Association*, 20(e1), e201–e206. <https://doi.org/10.1136/amiajnl-2012-001210>
7. World Health Organization. (2016). *Framework on integrated, people-centred health services*. [https://apps.who.int/gb/ebwha/pdf\\_files/WHA69/A69\\_39-en.pdf](https://apps.who.int/gb/ebwha/pdf_files/WHA69/A69_39-en.pdf)
8. Abbasgholizadeh-Rahimi, S., Granikov, V., & Pluye, P. (2020). Current works and future directions on application of machine learning in primary care. In *Proceedings of the 11th Augmented Human International Conference* (pp. 1–2).
9. AI for Good Foundation. (2015). *AI for Good Foundation*. AI for Good Foundation. Retrieved from <https://ai4good.org/>
10. Benjamin, R. (2019). *Race after technology: Abolitionist tools for the new Jim code*. *Social Forces*, 98(4), 1–3.
11. Brennan, P. F., & Bakken, S. (2015). Nursing needs big data and big data needs nursing. *Journal of nursing scholarship* 47(5), 477–484. <https://doi.org/10.1111/jnu.12159>