



# Integrated care and eHealth tools in the US and Europe: editorial response to “eHealth in integrated care programs for people with multimorbidity in Europe: insights from the ICARE4EU project”

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We are pleased to offer a discussion of integrated care and eHealth tools in the United States as it relates to Melchiorre *et al.*'s, mixed methods study examining the ICARE4EU project that incorporates eHealth tools into integrated care programs for older patients with multiple morbidities. The authors describe benefits and challenges to integrated care identified from 50 programs serving this population, and explain how eHealth tools have been utilized in these programs. Among the main goals of the ICARE4EU programs were: increasing the interdisciplinarity of the care they provide; improving patient engagement and care coordination; and reducing hospital readmissions. Most program managers responding to the survey felt that providing integrated care improved their management process, was more cost-effective, and improved patient quality of life. Programs reported using tools such as electronic medical records (EMRs), shared decision-making tools, electronic communication between patient and providers, self-management tools, decision support tools, and remote health monitoring devices.

To gain a deeper understanding of the integrated care programs they surveyed, the research team also conducted site visits to 6 programs throughout Europe. They describe specific elements of integrated programs that focused on: improving the management process; providing decision

support; addressing quality of life issues; and offering remote health monitoring services. They identify barriers to providing integrated care incorporating eHealth tools including: availability of funding for eHealth tools; interoperability of electronic tools; information technology (IT) infrastructure; IT skills of both patients and providers; and lack of a legislative framework to support these efforts.

An important component of this study is the use of multiple means to identify target programs for study such as consultation with country experts and surveys of programs. This approach allowed them to identify integrated care programs beyond relying on published studies, providing insight and a real world perspective from a range of programs addressing issues related to integrated care for elderly patients with multiple conditions.

The authors identify several elements essential for program success including: a defined common public health focus and priorities; legal and financial frameworks to support integrated programs and allow them to expand; interoperability of health record systems; education and training providers and patients to use IT tools and to provide a regulatory framework for mobile health tools as key elements that would facilitate providing integrated care to elderly patients with co-morbidities. In addition, of particular relevance to primary care, the authors suggest a

population health management approach to integrated care and incorporating decision support tools.

We would like to provide a discussion of similar programs and challenges in programs offered in the US. We note that the US health care system uses the term inter-professional care (IPC) to describe the type of integrated care found in the ICARE4EU program. IPC has been defined as two or more professionals from different disciplines collaborating to provide care for a patient (1-3). Further, there are important health care system differences between the US and European countries that contribute to the success of IPC programs. Many of these differences relate to how primary care physicians are viewed and the extent to which they serve as gatekeepers to specialist care, as well as how providers in various disciplines interact (4,5). US healthcare reform efforts are currently aimed at increasing IPC in the primary care setting. For example, the Patient-Centered Medical Home (PCMH) effort incorporates care from a range of professional disciplines including physicians, nurses, dietitians, behavioral health specialists and care coordinators (6,7). The PCMH model focuses on redesigning primary care practices and includes many of the elements of programs described in the ICARE4EU program: increased collaboration among professionals; better care coordination; and electronic visits (8). As with the programs described by Melchiorre *et al.*, the PCMH model shows promise for providing more IPC in the primary care setting, particularly for patients with multiple chronic conditions.

Despite these differences, the US and EU share a concern for treating the elderly population with multiple co-morbidities. Similar to experiences in the EU, the population of elderly patients with multiple health conditions is a serious concern for the health care industry in the US. In 2015, nearly 30% of patients over the age of 65 had heart disease, 18% had cancer and 7% had experienced a stroke (9). In addition, 46% had 2–3 chronic conditions with more than 15% reporting 4 or more chronic conditions (9). Patients over 65 years of age account for 36% of health care expenditures in the US (10). Thus, the US healthcare system is also seeking to address the needs of this population in a patient-centered and cost-effective manner.

In both the US and EU, both healthcare systems and researchers view engaging patients in their health care as one approach to improving patient-centeredness and cost-effectiveness. Indeed, in the US, patient engagement has been called the next “blockbuster drug” because of the

potential to empower patients, improve quality of life and increase efficiency of care (11). Similarly, Melchiorre *et al.*, note that over 70% of survey respondents in their study cite improving patient engagement in their care as a main objective of their program.

While there is consensus on the importance of patient engagement, there are challenges related to measuring the impact of patient engagement efforts. Researchers have called for improved measures that assess patient engagement more comprehensively than existing measures (12). Existing measures are not designed to detect an individual’s strengths and weaknesses related to their capacity to engage and therefore offer little guidance to health care providers and health systems in designing interventions that increase a patient’s capacity to engage (12). Further, available engagement measures do not consider the context in which engagement occurs. This critical gap limits our ability to assess the impact of programs such as those noted in the ICARE4EU on patient engagement and its relation to health outcomes.

Both US and EU healthcare systems also face similar challenges related to IPC and eHealth tools. For example, EMRs should facilitate IPC by allowing members of the care team to access shared medical records easily and from different locations. However, EMR adoption lags behind expectations (13). While large healthcare systems in the US have generally implemented EMRs, smaller systems and individual providers, particularly specialty providers in areas such as behavioral health, may be less likely to implement an EMR (14). This complicates the provision of IPC because access to records is not consistent across all members of the care team.

Beyond adoption of EMRs, Melchiorre *et al.*, note EMR interoperability as a challenge to IPC, a challenge that is also present in the US healthcare system (15-17). Friedman *et al.*, recognize the need for common standards for data collection and transmission, as well as greater legal authority to set and enforce such standards, as key elements for realizing the full potential of EMRs (16). Our research suggests patients wish for greater interoperability of both EMRs and their companion patient portals that allow patients to access portions of their EMR (17). Interoperability allows providers to easily share health records, which is a crucial component of IPC. It also allows patients access to their own information across providers, facilitating greater patient engagement in their care. For these reasons, we agree with Melchiorre *et al.*, that there is an need for increased efforts to address interoperability in

(health information technology) HIT tools to support IPC.

Melchiorre *et al.*, present a broad and diverse range of integrated care programs and suggest that greater incorporation of eHealth tools may improve these programs. We suggest that programs in the EU and US share many common challenges and could learn from common approaches to addressing these challenges. For example, given the focus on patient engagement as a means of addressing a variety of health outcomes (11), we suggest that developing measures that can assess engagement more comprehensively may improve our ability to design interventions that are more tailored to patients' needs. Elderly patients may have unique challenges with engaging in their healthcare and a more finely tuned measure could facilitate better identification of and support with these challenges. Similarly, integrated care represents a growing but still somewhat novel context for providing care to this population, and one that should be considered when examining patient engagement. In an integrated environment, patients may see multiple providers, each of whom can facilitate their engagement, yet we lack guidance for how best to implement programs to increase engagement across integrated care providers.

Further, the international need for HIT-focused solutions that improve interoperability of EMRs is clear. Sharing these solutions across countries could have significant to the benefits of all. Finally, training related to use of eHealth and HIT tools, specifically how to incorporate these into integrated/IPC practices, is needed to both increase adoption and to improve efficiency of the system.

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