

# Program of All-Inclusive Care for the Elderly (PACE) in Improving Medical Surgical and Mental Health Care: a Literature Review

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## ABSTRACT

Models of care services for the elderly in terms of medical surgical care and mental health need to be improved. Elderly with disabilities are at high risk of adverse health outcomes, and the best model of care has yet to be determined. A good holistic care model to empower every individual in society to improve the quality of care needs to be recommended. For example, comprehensive health care programs such as the Program of All-Inclusive Care for the Elderly (PACE) for adults and the elderly. The research objective was to determine the effectiveness of PACE in improving medical-surgical care and mental health. The search strategy for English-language studies relevant to the topic was carried out using the ScienceDirect database, limited from 2011 to 2021. The keywords used were "PACE", "Medical Surgical Treatment", "Mental Health", "elderly". Article full text reviewed to select studies that fit the criteria. The inclusion criteria in this review are: the nursing service program model, namely PACE. The search used the keywords above with the ScienceDirect database that matched the inclusion criteria for only 7 articles. The PACE service model improves services in Medical Surgical and Mental Health care, and implement a collaborative care model using a comprehensive interdisciplinary team.

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## I. INTRODUCTION

Models of care services for the elderly in terms of medical surgical care and mental health need to be improved (Sellers, 2011). Elderly with dementia (disabilities) are particularly at risk for adverse health

outcomes, and the best model of care has yet to be determined (Chen et al., 2020). A good holistic care model to empower every individual in society to improve the quality of care needs to be recommended (Chen et al., 2017; WHO, 2017). For example,

comprehensive health care programs such as the Program of All-Inclusive Care for the Elderly (PACE) for adults and the elderly (Mamo et al., 2018).

The results of research in the United States showed that there were 75 PACE service organizations with 1057 users of PACE participants at 69 PACE sites (Bankes et al., 2019). The results of research recommended by the University of Iowa that as many as 35 PACE service programs (28%) out of 124 programs were completed by 23 states (74%) from 31 countries (Oishi et al., 2019). The results of a study in Virginia showed that the percentage of using PACE services was in 120 nursing facilities (Sellers, 2011). The results of research in Taipei on the percentage of using PACE services were 100% (96 respondents) (Chen et al., 2020).

The reasons for the PACE care service program not being optimal include comprehensive and long-term care services that have not been properly integrated (Oishi et al., 2019); Utilization service health care in hospitals, emergency departments, and outpatient settings for the elderly is not optimal (Morton, Prichett, & McNabney, 2020). The impact of the non-maximum model of medical surgical and mental health care services is decreasing holistic approach to treatment such as eating, social activities, and

recreational therapy (Mamo et al., 2018); Loss of ability to maintain independent activities in daily life (Chen et al., 2020); Increased behavioral symptoms of dementia and psychological or neuropsychiatric symptoms such as care stress, physical injury, psychological fatigue, and risk of cardiovascular disease among family members, care-givers, and friends (Burke et al., 2013; Cheng, 2017; Nguyen et al., 2019); Substantially increases the risk of cognitive decline, physical disability, early institutionalization, and death for persons with disabilities (Burke et al., 2013; Cheng, 2017).

One effort to improve the PACE service model includes increasing social engagement and communication (Mamo et al., 2018), empowering patients consistently while receiving medical and social services (Sellers, 2011); Promote integrated and coordinated care models with policy makers to support health care (Oishi et al., 2019).

## 2. METHODS

The type of literature study is literature review. The search strategy for English-language studies relevant to the topic was carried out using the ScienceDirect database, limited from 2011 to 2021. The keywords used were “PACE”,

“Medical Surgical Treatment”, “Mental Health”, “elderly”. Article full text reviewed to select studies that fit the criteria. The inclusion criteria in this review are: the nursing service program model, namely PACE. The search used the keywords above with the ScienceDirect database that matched the inclusion criteria for only 7 articles. Articles used as samples are then identified and presented in table 1.

### 3. RESULTS

The research reviewed in this article used various methods, namely 1 article retrospective cohort, 1 article case-control study, 1 article of phenomenological study, 1 article of perspective cohort, 2 articles of online survey, and 1 article of case study

Table 1. Articles used as samples

No	Author and Year	Title	Design	Results
1	Bankes, D.L., Amin, N.S., Bardolia, C., Awadalla, M.S., Knowlton, C.H., & Bain, K.T. 2019	Medication-related problems encountered in the Program of All-Inclusive Care for the Elderly: An observational study	Retrospective cohort	Collaborative care models using interdisciplinary teams are a cornerstone of PACE especially those related to drug safety such as drug interactions
2	Chen, L.Y., Hsu, T.J., Ke, L.J., Tsai, H.T., Lee, W.T., Peng, L.N., Lin, M.H., & Chen, L.K., 2020	Care for Older Adults with Dementia: PACE Day Care or Residential Dementia Care Units?	case-control study	PACE services can assist persons with disabilities in the hospital, facilitate maintenance of physical independence, and improve cognitive performance and mood status.
3	Mamo, S.K., Mayhew, S.J., McNabney, M.K., Rund, J., & Lin, F.R., 2018	Age-related hearing loss and communication at a PACE Day Health Center	Phenomenological studies	The PACE program can provide a good understanding of caregiver perceptions in communicating with patients and overcoming communication difficulties.
4	Morton, C., Prichett, L., & McNabney, M. 2020	Opioid Prescriptions and Health Care Utilization at End of Life in a Program of All-Inclusive Care for the Elderly	Perspective cohort	Opioids as a component of end-of-life therapy contribute to the overall picture of the quality of end-of-life care provided through PACE in managed health care systems.

5	Oishi, M.M., Momany, E.T., Cacchione, P.Z., Collins, R.J., Gluch, J.I., Cowen, H.J., Damiano, P.C., & Marchini, L. 2019	Setting the PACE for frail older adults in the Community. An underused opportunity for furthering medical-dental integration	Online survey	PACE is a coordinated comprehensive interdisciplinary care model and long-term care model that can advance medical integration by using local resources to accommodate the oral health care needs of the elderly.
6	Oishi, M.M., Momany, E.T., Collins, R.J., Cacchione, P.Z., Cowen, H.J., Damiano, P.C., & Marchini, L. 2021	Dental Care in Programs of All-Inclusive Care for the Elderly: Organizational Structures and Protocols	Online survey	Long-term service and support organizations such as PACE can use and develop minimal standards to ensure dental care is part of an innovative long-term service and support model, potentially supporting positive oral health and general health outcomes.
7	Sellers, V.R. 2011	The Nursing Facility and PACE: Friends not Foes	Case study	Nursing facilities and the PACE program can improve the quality of life of the elderly by providing services that are consistent with treatment preferences that suit the medical needs of the elderly.

#### 4. DISCUSSIONS

##### PACE in Improving Medical Surgical and Mental Health Care

Collaborative care models using interdisciplinary teams are a cornerstone of PACE especially those related to drug safety such as drug interactions (Bankes et al., 2019). PACE services such as primary care, special medical referrals, pharmacy, home care, social work, physical therapy, and other services within the PACE service aim for optimal care (Bouwmeester, 2012). The research literature shows that interdisciplinary teams such as pharmacists can help optimize medication therapy and improve outcomes through

collaboration with nursing practice (Isetts et al., 2016; Hwang, Gums & Gums, 2017) that focus on drug use (Covington, McCarrell & Hoerster, 2016) and use of inhalers (Bouwmeester, Kraft & Bungay, 2015). The results of other studies indicate that the role of pharmacists includes promoting safe prescription and dispensing habits, improving the quality of drug reviews (Bouwmeester, 2012), providing prescription and over-the-counter drugs (Bouwmeester, Kraft & Bungay, 2015). Clinical pharmacists conduct periodic medication safety reviews such as focusing on applying pharmacodynamic, pharmacokinetic,

pharmacogenomics, and chrono-pharmacological principles for medication safety and medication adherence and guidelines, conducting evidence-based evaluations of simultaneous multidrug interactions, and clinical pharmacists have access to laboratory data and medical records in the PACE electronic medical record (Knowlton, 2015; Bain, Knowlton & Turgeon, 2017; Doan et al., 2013).

PACE services can assist persons with disabilities in hospitals, facilitate the maintenance of physical independence, and improve cognitive performance and mood status (Chen et al., 2020). The results of a study that people with disabilities usually prefer to receive care in a familiar environment, which encourages more social relationships, better physical functioning, and a better quality of life with a balanced quality of care and places of care (Ellen et al., 2017; Maayan et al., 2014). The PACE program is a comprehensive care model aimed at helping seniors who qualify for residential care who are skilled at maintaining a certain level of independence and functioning in their own homes (Falvey et al., 2019). With the broad integration of interdisciplinary care services, the PACE model provides comprehensive care assistance to meet the

complex needs of the elderly (Falvey et al., 2019).

PACE has been shown to improve functional status and quality of life and reduce elderly hospitalizations (Chen, 2019; Falvey et al., 2019). The results show that the elderly have a higher disease burden, more common cerebrovascular disease, and more severe neuropsychiatric symptoms, but PACE services substantially reduce hospitalizations (Chen et al., 2020). Active PACE utilization also reduced psychiatric inpatient utilization from 129.4 days/1,000 people to 27.1 days/1,000 people. With good coordinating and interdisciplinary team services, the utilization of acute care is reduced, thus helping the elderly with various complex care needs maintain their independence (Fretwell et al., 2015).

The PACE program can provide a good understanding of care giver perceptions in communicating with patients and overcoming the difficulties of communication disorders (Mamo et al., 2018). Through observation, scenarios can be cataloged which will help create training to improve communication. Perceptually, care givers provide insight to understand training topics that can increase motivation and communication (Mamo et al., 2017).

Opioids as a component of end-of-life therapy contribute to the overall picture of the quality of end-of-life care provided through PACE in managed health care systems (Morton et al., 2020). The results show that opioids have the potential to be linked to the ability of the elderly nearing the end of life to remain more comfortable at home. Opioids are also used as a method of pain control in patient care (Weiss et al., 2019).

PACE is a coordinated comprehensive interdisciplinary care model and long-term care model that can advance medical integration by using local resources to accommodate the oral health care needs of the elderly (Oishi et al., 2019). The PACE program integrates Medicaid long-term care and oral health care services with Medicare primary and acute care services (Chavez & Lederman, 2016). PACE ensures continuity of care across community-based and institutional long-term care settings by providing comprehensive and coordinated primary, acute, and long-term care to debilitated patients (Hirth, Baskins & Dever-Bumba, 2009). The PACE program provides dental care services as a positive step and an opportunity to incorporate oral health care into a comprehensive medical care model. PACE assists programs to expand medical-

dental integration and service delivery that reflect national attention to the importance of team-based care to improve general and oral health care. This includes the provision of interprofessional training and education to medical and nursing staff (Institute of Medicine, 2012).

Long-term service and support organizations such as PACE can use and develop minimal standards to ensure dental care is part of an innovative long-term service and support model, potentially supporting positive oral health and general health outcomes (Oishi et al., 2021). PACE developed performance measures of oral health care related to values and overall health (Damiano et al., 2019). Includes steps: all participants receive: 1) dental examination by a dentist during registration; 2) annual periodic oral assessment; 3) yearly oral cancer check-up. Additional measures include diabetics or patients at risk of aspiration pneumonia ensuring regular professional oral health care. Other quality measures include monitoring the number of emergency dental services provided and ensuring dental treatment of acute pain or inflammation within 8 days or within 35 days for chronic oral disease conditions (Katz et al., 2010).



Nursing facilities and the PACE program can improve the quality of life of the elderly by providing services that are consistent with treatment preferences that suit the medical needs of the elderly (Sellers et al., 2011). PACE aims to empower patients to stay at home as long as it is medically and socially safe; Services are performed in nursing facilities; Establish a process for transitioning care from the care facility to the home.

## 5. CONCLUSION

The PACE service model improves services in Medical Surgical and Mental Health care, and implement a collaborative care model using a comprehensive interdisciplinary team.

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