Program of All-inclusive Care for the Elderly (PACE) versus other programs: A scoping review of health outcomes

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BACKGROUND

- The proportion of United States adults aged ≥ 65 is expected to reach 95 million by 2060.[1]
- Social Security and Medicare expenses will increase from a combined 8.7% of GDP in 2019 to 11.8% by 2050.[2]
- PACE delivers comprehensive medical and social care to nursing home eligible older adults.[3]
- However, little is known about how PACE outcomes compare to similar caregiving programs.

OBJECTIVES

- To compare health outcomes of participants enrolled in PACE to older adults enrolled in similar programs.

METHODS

Search Strategy & Study Selection

- The following were searched: Medline PubMed, Scopus, Embase, Ovid Medline/Ovid Embase, Cochrane Library, CINAHL, PsycInfo, Business Source Ultimate, ABI and reference lists.

Inclusion

- Published from 1/1/1997 – 3/12/2021, in the US, with one PACE group and a comparison group that reported economic, clinical, or humanistic outcome(s).
- Two authors screened titles/abstracts and extracted data from full-text.

Risk of Bias

- Assessed using Risk of Bias in Non-Randomized Studies – of Interventions (ROBINS-I).

Data Charting

- Study characteristics and outcomes were summarized and compared.

RESULTS

Figure 1: Study Selection

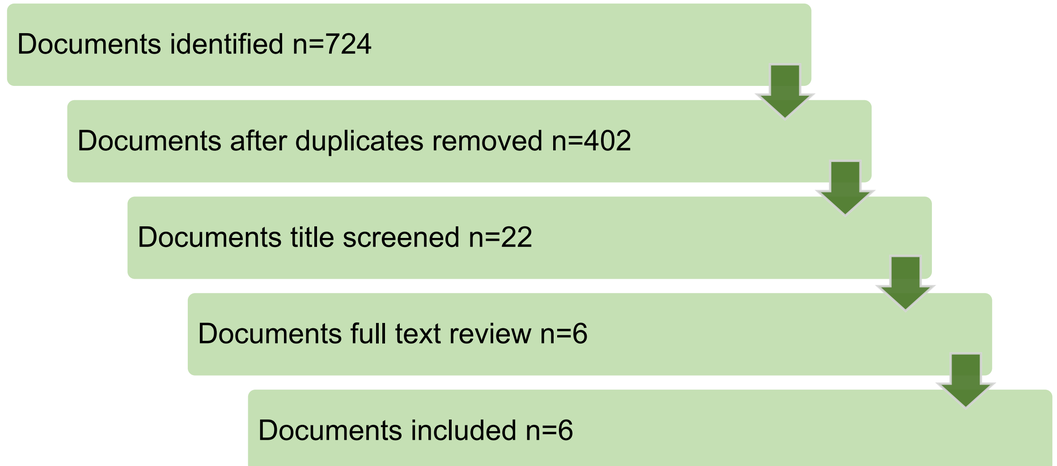

Table 1: Characteristics of Included Studies

Authors, year	Study design	Study duration (days)	PACE	Comparison		PACE patient age years, mean ± SD or %	Comparison patient age years, mean ± SD or %
			N	N	Comparison		
Kane[4] 2002	Cross-sectional	730	322	304	Wisconsin Partnership Program (WPP)	80 ± NR	77 ± NR
Nadash[5] 2004	Retrospective Cohort	365	1382	1267	Medicaid-only managed long-term care	79± NR	79± NR
Nadash[6] 2013	Retrospective Cohort	540	1535	1540	VNS CHOICE program (VCP)	≥65 ± NR	≥65 ± NR
Weaver[7] 2008	Prospective Cohort	1095	85	181	VA as a sole provider	76 (range; 56.1-93.2)	75 (range; 55.6–101.3)
				102	VA & PACE partnership with PACE		77 (range; 55.2–94.6)
Wieland[8] 2010	Prospective Cohort	1825	554	468	Nursing Home	77.2 ± 0.42	74.8 ± 0.51
				1018	Aged and disabled waiver program		74.5 ± 0.32
Wieland[9] 2013	Retrospective Cohort	4015	948	1357	Nursing Home	55 – 64 (10.6%) 65 – 74 (27.0%) 75 – 84 (38.6%) ≥85 (23.8%)	55 – 64 (18.7%) 65 – 74 (20.3%) 75 – 84 (38.3%) ≥85 (22.7%)
				1683	Aged and disabled waiver program	55 – 64 (10.6%) 65 – 74 (27.0%) 75 – 84 (38.6%) ≥85 (23.8%)	55 – 64 (18.8%) 65 – 74 (27.6%) 75 – 84 (34.6%) ≥85 (19.0%)

PACE=Program of All-inclusive Care for the Elderly; VA=Veteran's Affairs. NR=not reported; SD=Standard deviation; VNS=Visiting Nurse Service

Table 2: Selected Study Outcomes

Authors, year	Outcomes	PACE	Comparison 1	Comparison 2	p or CI
Kane[4] 2002		**PACE**	**WPP**		
	Geriatric Depression Score >5, %	15	18		NS
Nadash[5] 2004		**PACE**	**MMLTC**		
	Mean hospital length of stay, days	5.9	9.5		<0.0001
Nadash[6] 2013		**PACE**	**VCP**		
	Mean hospital Length of stay, days	5.8	9.7		<0.0001
	Risk of death, hazard ratio	-	0.55		0.26-1.22
Weaver[7] 2008		**PACE**	**VA**	**VA + PACE**	
	Inpatient admissions, %	35	49	41	NR
	Adult day healthcare use, %	100	54	100	NR
	Deaths, %	34	28	28	NR
Wieland[8] 2010		**PACE**	**Nursing Home**	**Waiver Program**	
	5-year median survival, years	4.2	2.3	3.5	0.015
Wieland[9] 2013		**PACE**	**Nursing Home**	**Waiver Program**	
	Average Medicaid attrition adjusted 1-year payment (Fiscal Year 2005 dollars)	$36,620 (CI= $35,662, $37,580)	$77,945	$4,177	NR

PACE=Program of All-inclusive Care for the Elderly; WPP=Wisconsin Partnership Program; MMLTC=Medicaid-only managed long-term care; VA=Veteran's Affairs; NR=not reported; VCP=Visiting Nurse Service Choice Program; NS=not significant; CI=confidence interval.

CONCLUSION & FUTURE WORK

- PACE participants had lower rates of hospital use with shorter lengths of stay over 12 months.
- Additional comparative studies are needed.

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