



Community 5-year Management Rate For Dementia Patients In Republic Of Korea

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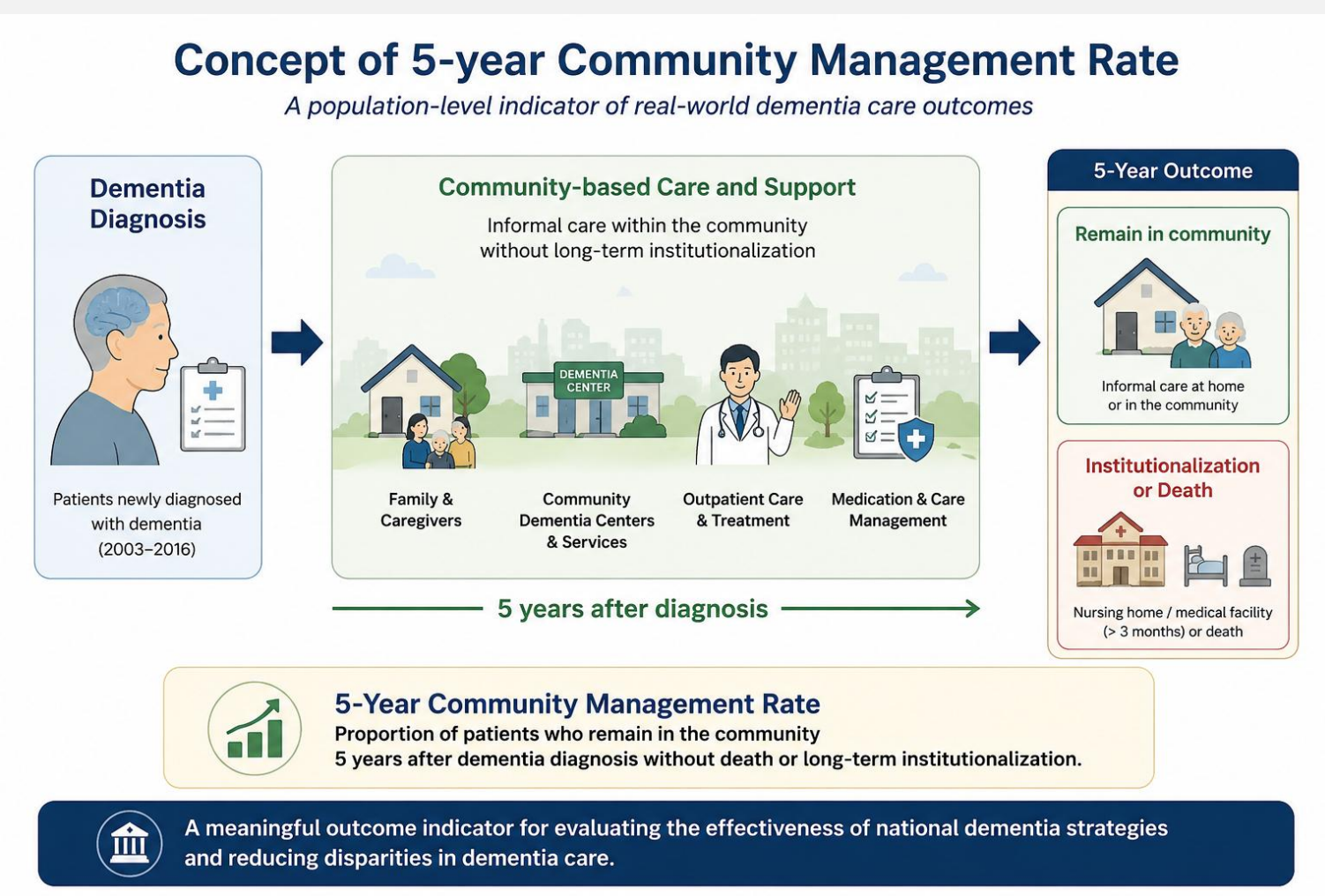


Abstract

- **Background:** The community 5-year management rate refers to the proportion of dementia patients who continue to receive informal care within their community five years after diagnosis without longterm institutionalization. This study aimed to examine national trends in this rate over time and assess whether disparities in dementia care outcomes have changed according to demographic, socioeconomic, and clinical characteristics.
- **Methods:** We utilized a customized research database from the Korean National Health Insurance Services from 2003 to 2023. Each year, we calculated the community 5-year management rate for patients newly diagnosed with dementia. Subgroup analyses were conducted by age, sex, income level, residential area (metropolitan vs. non-metropolitan), Charlson Comorbidity Index, and the department in which dementia was initially diagnosed (neurology or psychiatry vs. other departments).
- **Results:** A total of 824,805 patients were analyzed in the current study. By extending the observation period to include patients diagnosed through 2018, this study confirmed a continued narrowing of disparities in the 5-year community management rate by sex, residence, and income level. Additionally, patients diagnosed by neurology or psychiatry specialists consistently showed higher management rates than those diagnosed in non-specialist departments, with this gap widening over time.
- **Conclusion:** Community management rate appears to reflect various social and personal factors. While improvements were observed in reducing disparities related to sex, income, and region, continued disparities by comorbidity and diagnostic department suggest areas for further policy attention. The community's 5-year management rate may serve as a valuable outcome measure for evaluating the real-world effectiveness of national dementia strategies.

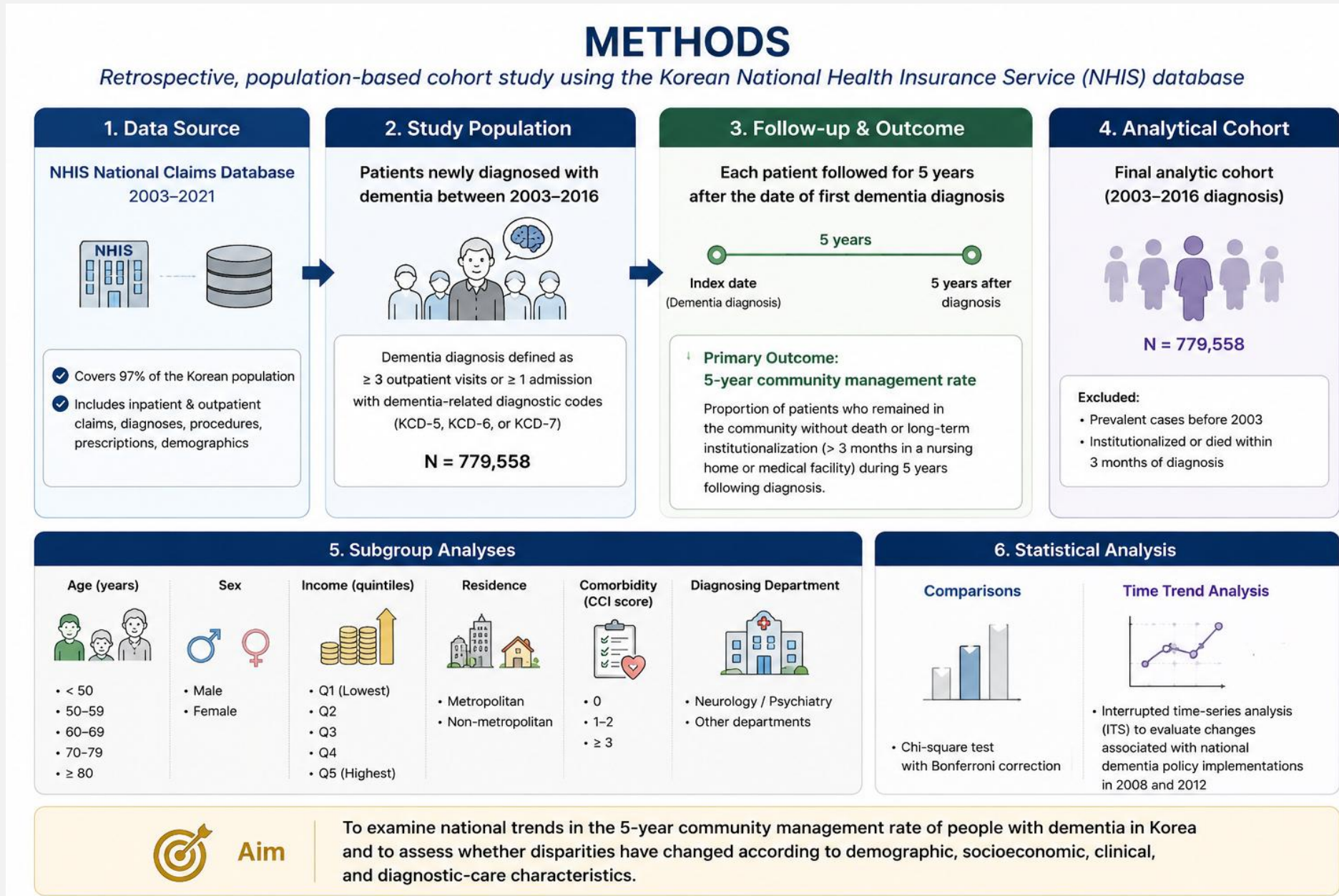
Background

- Dementia poses a growing public health burden, and national dementia strategies increasingly aim to support people with dementia to remain in their communities for as long as possible. However, conventional population-level indicators, such as incidence and prevalence, do not adequately capture the real-world effectiveness of dementia care systems.The 5-year community management rate, defined as the proportion of people with dementia who remain under community-based care without long-term institutionalization after diagnosis, may serve as a meaningful outcome indicator for evaluating national dementia policies. This study examined national trends in the 5-year community management rate among people with dementia in Korea and assessed whether disparities changed according to demographic, socioeconomic, clinical, and diagnostic-care characteristics.

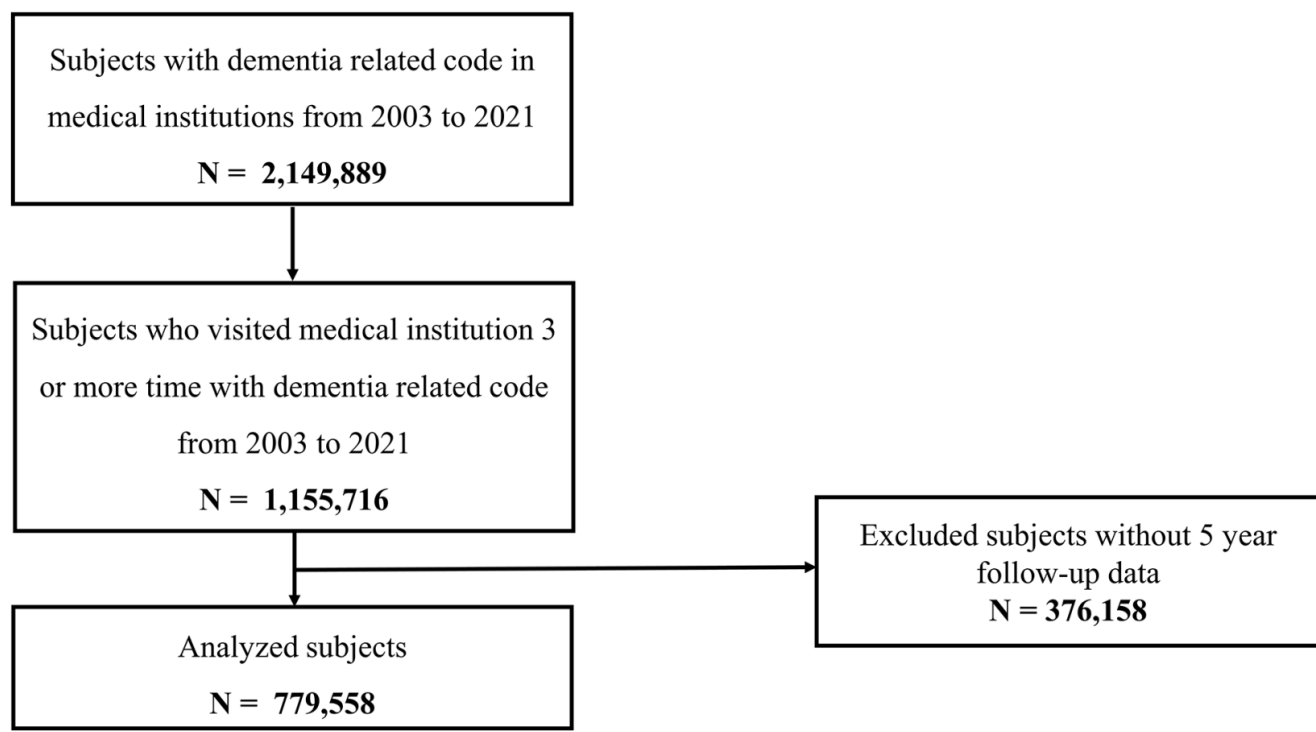


Methods

- We conducted a retrospective, population-based cohort study using de-identified customized data from the Korean National Health Insurance Service database from 2003 to 2021. Patients newly diagnosed with dementia between 2003 and 2016 were identified using Korean Classification of Diseases codes. To improve diagnostic validity, dementia was defined as three or more outpatient visits or hospital admissions associated with dementia-related diagnostic codes.The primary outcome was the annual 5-year community management rate, defined as the proportion of patients who remained in the community 5 years after dementia diagnosis without death or long-term institutionalization, including admission to a nursing home or medical facility for more than 3 months. Subgroup analyses were performed by age, sex, income level, residential region, Charlson Comorbidity Index, and diagnosing department. Group differences were assessed using chi-square tests with Bonferroni correction. Interrupted time-series analysis was performed to evaluate changes associated with major national dementia policy implementations in 2008 and 2012.



Results



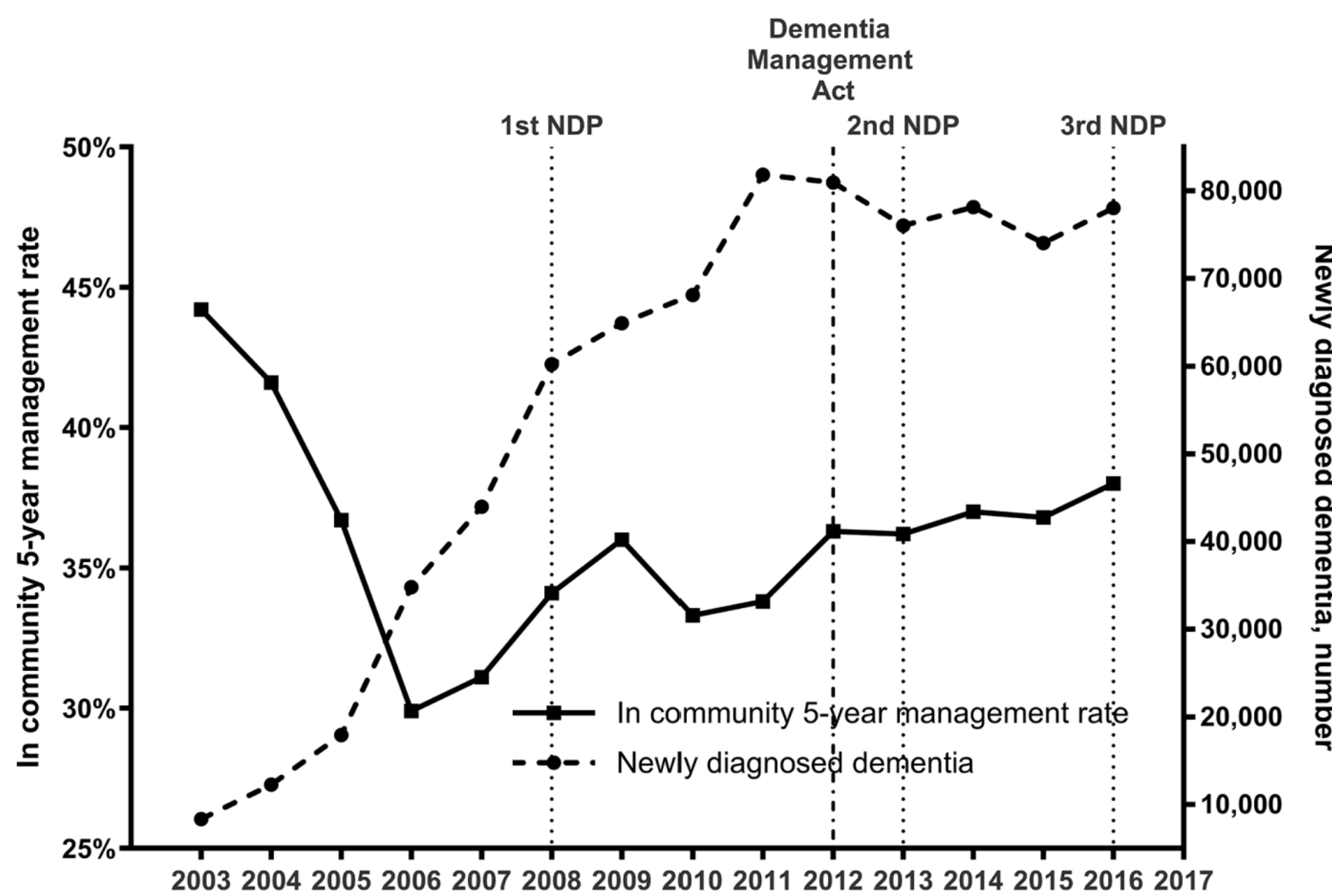
Flow chart of analyzed dementia patients from the NHIS

	Overall (n=779,558)	2003 (n=6,333)	2004 (n=12,269)	2005 (n=17,916)	2006 (n=34,783)	2007 (n=43,947)	2008 (n=60,229)	2009 (n=64,888)	2010 (n=68,116)	2011 (n=80,831)	2012 (n=80,938)	2013 (n=76,045)	2014 (n=78,136)	2015 (n=74,045)	2016 (n=78,034)
Demographics															
Age, years	75.6±10.4	72.6±10.3	73.4±9.8	74.6±9.7	75.0±10.1	75.3±10.2	75.2±10.3	75.1±10.3	75.1±10.2	75.9±10.3	75.8±10.5	75.7±10.5	75.8±10.5	76.14±10.5	76.26±10.6
Sex, female	498,549 (64.0)	5,059 (60.7)	7,488 (61.0)	11,216 (62.6)	22,898 (65.8)	28,760 (65.4)	39,372 (65.4)	41,647 (64.2)	44,039 (64.7)	53,210 (65.0)	51,779 (63.7)	48,445 (63.7)	49,206 (63.0)	46,517 (62.6)	48,883 (62.6)
Income, quintile															
<40%	181,240 (23.2)	2,028 (24.3)	3,051 (24.9)	4,308 (17.6)	6,132 (17.6)	8,564 (19.5)	12,296 (20.4)	13,667 (21.1)	16,330 (24.7)	20,230 (25.3)	20,491 (25.3)	18,834 (24.8)	18,502 (23.7)	17,987 (24.3)	18,820 (24.1)
40-60%	67,790 (8.7)	1,032 (11.3)	1,491 (12.4)	2,558 (12.2)	4,614 (13.3)	6,463 (14.3)	7,394 (11.3)	7,862 (11.1)	9,000 (11.3)	9,016 (11.1)	8,596 (11.1)	8,596 (11.1)	9,157 (11.7)	9,157 (11.7)	9,157 (11.7)
>60%	373,764 (47.9)	5,173 (62.1)	7,562 (61.6)	10,453 (63.5)	12,944 (63.8)	20,077 (66.4)	27,595 (45.8)	30,169 (46.5)	31,011 (44.7)	38,217 (55.5)	38,740 (54.2)	36,666 (48.2)	36,179 (50.1)	37,064 (50.1)	38,914 (49.9)
Others*	136,764 (17.5)	101 (1.2)	166 (1.4)	600 (3.3)	12,710 (36.5)	10,696 (24.3)	13,881 (23.0)	13,116 (21.1)	13,704 (19.3)	13,116 (16.3)	12,688 (15.7)	11,953 (15.7)	11,307 (14.5)	10,301 (13.9)	11,143 (14.3)
Residence															
Metropolitan	205,329 (26.3)	3,195 (38.5)	4,473 (36.5)	6,495 (28.2)	10,796 (31.0)	14,759 (33.6)	22,068 (36.6)	24,033 (37.7)	25,608 (37.6)	32,053 (39.8)	32,054 (39.2)	29,795 (39.2)	30,750 (39.4)	29,608 (40.0)	32,100 (41.1)
Non-metropolitan	343,968 (43.9)	5,138 (61.6)	7,796 (63.5)	11,423 (63.5)	23,987 (69.0)	29,188 (66.4)	38,161 (63.4)	40,855 (63.0)	48,778 (70.8)	48,884 (60.4)	46,250 (58.0)	47,389 (60.8)	46,250 (60.8)	44,437 (60.1)	45,934 (58.9)
CCI, median (IQR)	3 (2, 5)	3 (1, 5)	3 (1, 5)	3 (1, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)	3 (2, 5)

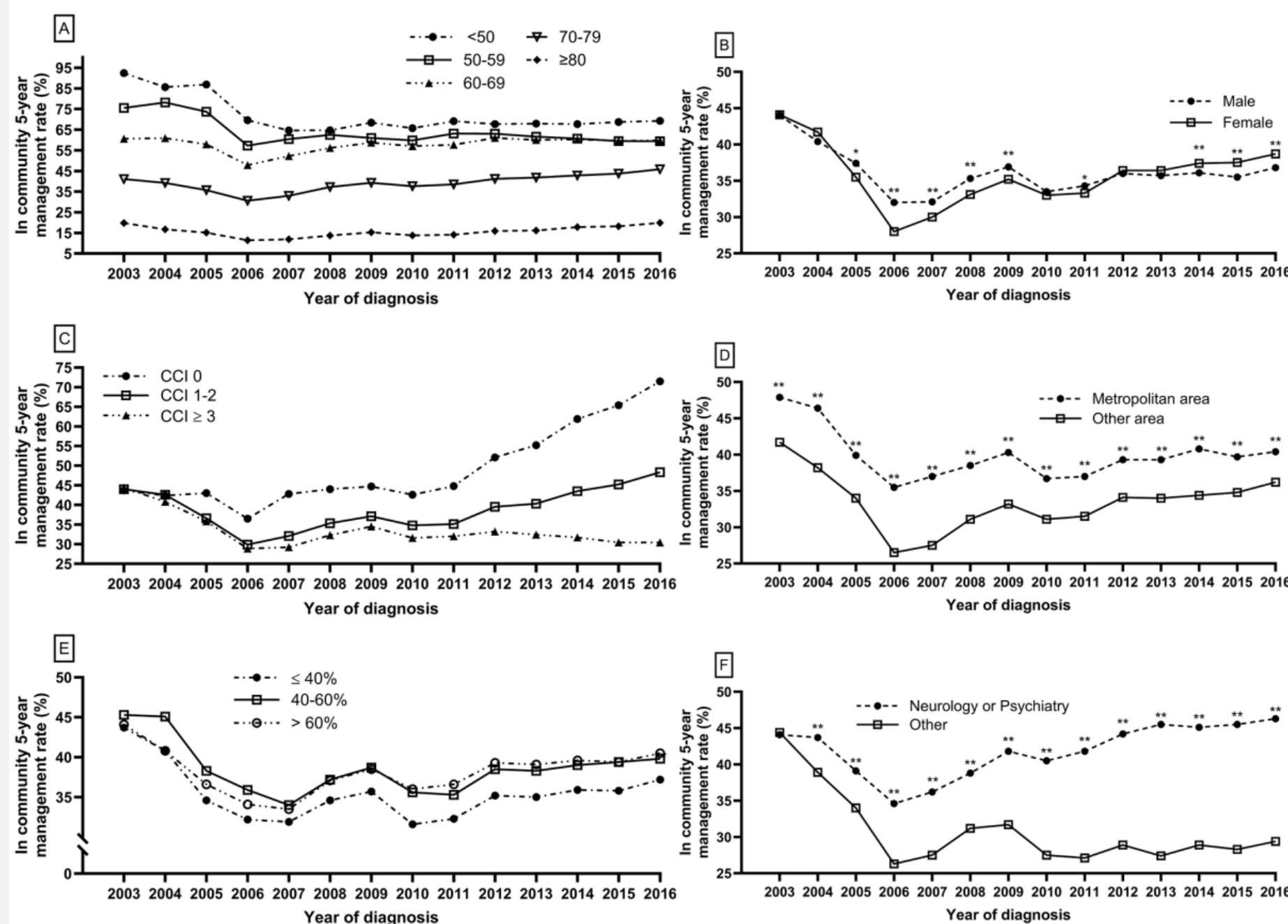
Data are presented as mean±SD, number (%), otherwise indicated.
*No income data.
CCI, Charlson Comorbidity Index.

Demographic characteristics and comorbidities of subjects

Results



Five-year community management rate and number newly diagnosed patients with dementia from 2003 to 2016.



In-community 5-year management rate by subgroup. Rates were analyzed according to age (A), sex (B), CCI (C), residence (D), income (E), and diagnosing department (F).

Metropolitan areas include Seoul, Incheon, and Gyeonggi-do.
*P<0.05, **P<0.01 compared with the lowest group.
All groups in (A) and all groups in (E) after 2004, showed significant differences compared with the lowest group.

Conclusion

- The 5-year community management rate may serve as a real-world policy indicator reflecting sustained community living after dementia diagnosis. While disparities by region, income, and sex have narrowed over time, patients with greater comorbidity burden and those diagnosed outside neurology or psychiatry remain at risk for poorer community-based outcomes. Future dementia strategies should incorporate this indicator to monitor equity, identify vulnerable groups, and strengthen specialist-linked community care pathways.