Distribution of prescriptions from medical institutions to pharmacies in Japan An analysis of health insurance claims database



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[Introduction]

(Results)

- The healthcare insurance system in Japan allows patients unrestricted access to medical institutions and prescription pharmacies.
- The system has led to the concentration of pharmacies near medical institutions.

Objectives

- To describe the pattern of patient visits to medical institutions and pharmacies
- To quantify the distribution of prescriptions

Numbers

- Patients: 413,366 (Mean age 64 years, 44% male)
- 4,319,199 Prescriptions:
- Medical institutions: 1,116
- Pharmacies: 823
- Pairs of medical institution and pharmacy: 21,115

(1) Patient-level analysis

Numbers of medical institutions and pharmacies visited by each patient in 1 year



[Methods]

- Data :
 - Health insurance claims data from 18 of 25 municipalities in Tochigi Prefecture, Japan
 - Prescription record, April 2017 March 2018
 - Identified the prescribing institutions and dispensing pharmacies
- Analysis :
 - (1) Patient-level
 - Numbers of medical institutions and pharmacies visited by each patient in 1 year
 - (2) Prescriptions from each medical institution
 - Gini coefficient, Herfindahl-Hirschman Index to quantify the concentration to pharmacies
 - (3) Prescriptions from each medical institution with address data available

(2) Prescriptions from each medical institution

- Gini coefficient
 - Median 0.80 IQR [0.42, 0.92]
- Herfindahl-Hirschman Index
 - Median 9,000 IQR [4,850, 9,747]
- (3) Prescriptions from each medical institution with address data

(887 institutions, 3,647,045 prescriptions)

- Dispensed from pharmacies in the same block: 1,803,931 prescriptions (49.5%)
- Dispensed from pharmacies within 100m:
- Proportion dispensed from pharmacies in the same block and those within a 100m-distance





- The number of pharmacies visited by patients increased in accordance with the number of medical institutions.
- Pharmacies located near medical institutions held a near-monopoly on prescriptions.

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None.

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