Unmet need among older adults: National Survey of the Japanese Elderly

**Purpose**
- Estimate the prevalence of unmet need among older adults
- Assess determinants and health consequences of unmet need

**Literature review**
**Unmet need:**

*Purpose of review*
To understand how to measure unmet need for health care and long-term care, and determinants and consequences of unmet need.

*Search strategy*
- Searched the related literature in PubMed using the keywords of *unmet need and forgone care*.

*What have been found so far*
- In many studies, unmet need is defined as a self-reported experience of forgone/unmet/delayed care needs during a given period.
- As the determinants of unmet need, demographic (e.g. age and sex/gender) and socioeconomic factors (e.g. education and income) are identified.
- Some studies assess health consequences of unmet need, suggesting that unmet need is associated with subsequent deteriorated health outcomes.

*Next steps*
- Continue to search and review relevant studies on the definitions, determinants, and consequences of unmet need for health care and long-term care.

**Methods**

**Data**
Data for this study come from the National Survey of the Japanese Elderly (NSJE)

The project name is the Japanese Aging and Health Dynamics Study (JAHEAD).
ages of respondents newly extracted in subsequent waves varied, and details are given on the project web page (1).

In waves 8 and 9 (2012 and 2017), a questionnaire on unmet health care is included in the survey. Therefore, we analyse these two waves to assess the prevalence, determinants, and consequences of unmet need.

**Unmet need**

The definition of unmet need used in this study is self-assessed unmet need (SUN), which is similar to a previous study (2). The survey asks if respondents, even though they needed it, reduced medicines or did not see doctors during the past three months, with four response options (i.e. 1. Very often, 2. Sometimes, 3. Rarely / None, and 4. Did not need to see a doctor / take medicines). Unmet need is dichotomised and take one when respondents reported that they had to forgo care very often or sometimes, and zero if otherwise. Those who did not need to see a doctor and take medicines are excluded from the analyses.

Although the survey does not include a direct question on unmet need for long-term care (LTC), we will consider defining it by an utilisation-based approach, using several questionnaires including LTC certification, LTC service utilisation, and respondents’ health status.

**Empirical strategy**

**Prevalence**

To illustrate how many respondents undergo unmet need, we first calculate the prevalence of unmet health care need in each wave 8 and 9.

[Weights (i.e. cross-sectional and longitudinal weights) for the prevalence estimate to be considered]

Furthermore, respondents newly added in wave 8 were asked about their attitudes toward health care services, which may be related to reasons why they forwent care. We report the number of respondents who reported dissatisfaction with each item among individuals undergoing unmet care.

**Determinants of unmet need**

We assess the determinants of those experiencing unmet need by estimating the following equation:

\[
E(y_{it} | X_{it}) = \Pr (y_{it} = 1 | X_{it}) = \alpha X_{it} + \beta H_{it} + u_i + \varepsilon_{it}
\]
where $y_{it}$ denotes the unmet need status of respondent $i$, $X_{it}$ is a vector of the predictors comprising demographic and socioeconomic variables of respondents, $H_{it}$ denote health status, $u_i$ indicates individual-fixed-effects, and $\varepsilon_{it}$ is a stochastic disturbance. Here, we adopted a linear probability model to evaluate the determinants of unmet need.

**Consequence**

We evaluate if unmet need in wave 8 is associated with health outcomes in the subsequent wave by multivariate regression. However, deteriorated health outcomes in the subsequent wave may be a consequence of worse health in the earlier wave(s). Therefore, we plan to use propensity score method to adjust imbalance of observed characteristics between those undergoing unmet need and those not experiencing it.

Propensity score for respondent $i$ ($e_{it}$) is estimated as the probability of experiencing unmet need, conditional on his or her characteristics and health status.

$$e_{it} = p(Y_{it} = 1|X_{it}, H_{it})$$

**Results**

We present descriptive tables for unmet need and attitudes toward health care services.
**Prevalence**

Table 1. Unmet need among older adults

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Self-assessed unmet need</td>
<td>48 (4.6%)</td>
<td>41 (6.1%)</td>
</tr>
<tr>
<td>N</td>
<td>2,102</td>
<td>1,292</td>
</tr>
</tbody>
</table>

Note: Exclude those without care need and reporting 'do not know'; Include both continuous and new added samples.

Table 2. Attitudes toward health care services among respondents reporting unmet need

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>OOP is expensive (n)</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>Diagnosis or treatment is suspicious (n)</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Too many medicines are prescribed (n)</td>
<td>19</td>
<td>8</td>
</tr>
<tr>
<td>Health care institution is far (n)</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Waiting time is long (n)</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>N</td>
<td>48</td>
<td>41</td>
</tr>
</tbody>
</table>

Note: Include the new added sample only; Multiple answers were allowed.
References