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# Health Equity Assessment and Response Tool (HEART) developed by JAGES



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Health Equity Assessment and Response Tool

- **Necessity of HEART**
- **Developing process**
- **Overview of JAGES HEART**
  - **Use case and usefulness**
  - **Remaining challenges**



Committee on Social Determinants of Health

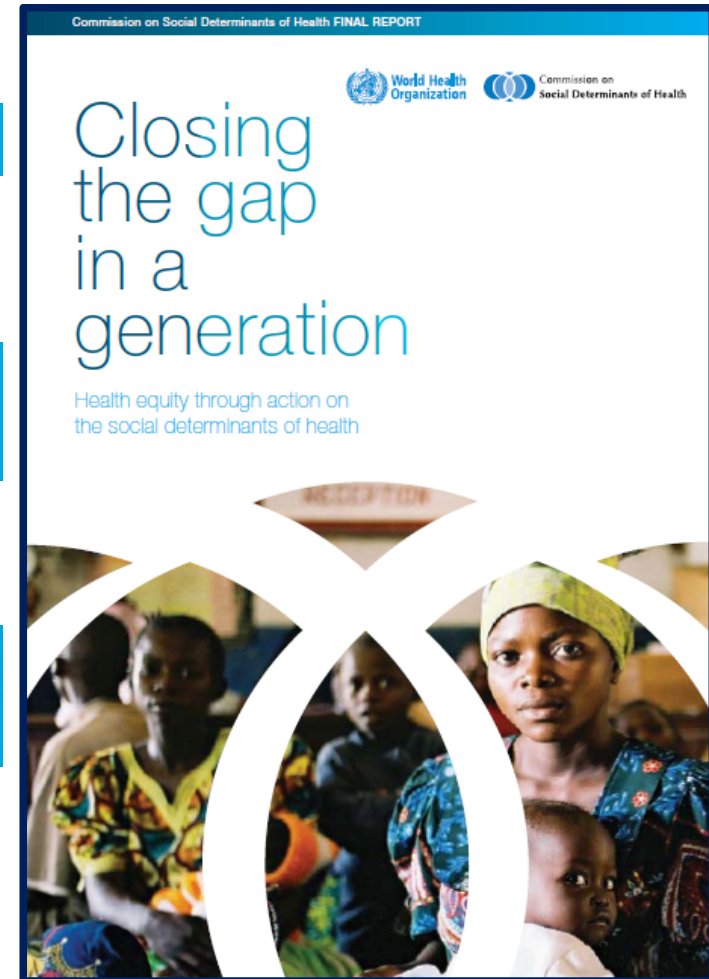
# Recommendations of CSDH

(WHO 2008)

1 Improve Daily Living Conditions

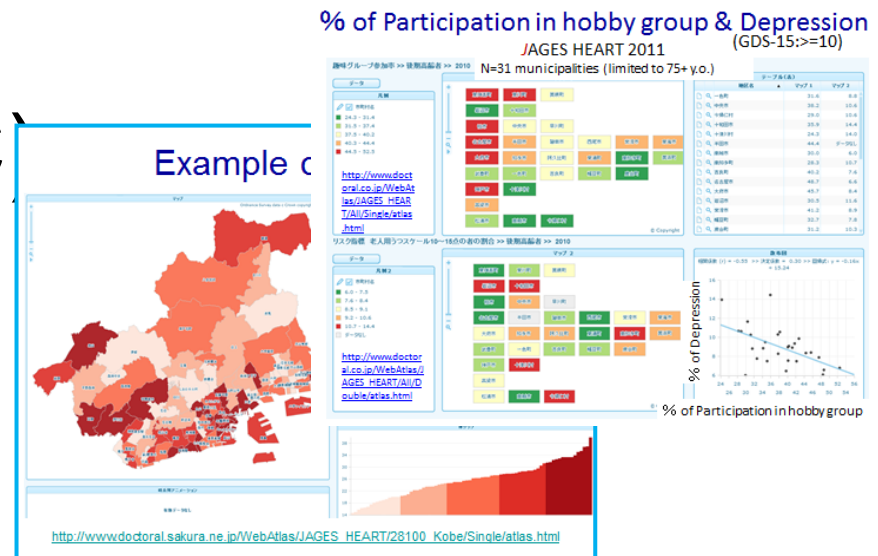
2 Tackle the Inequitable Distribution of Power, Money, and Resources

3 Measure and Understand the Problem and Assess the Impact of Action



# Background & Purpose

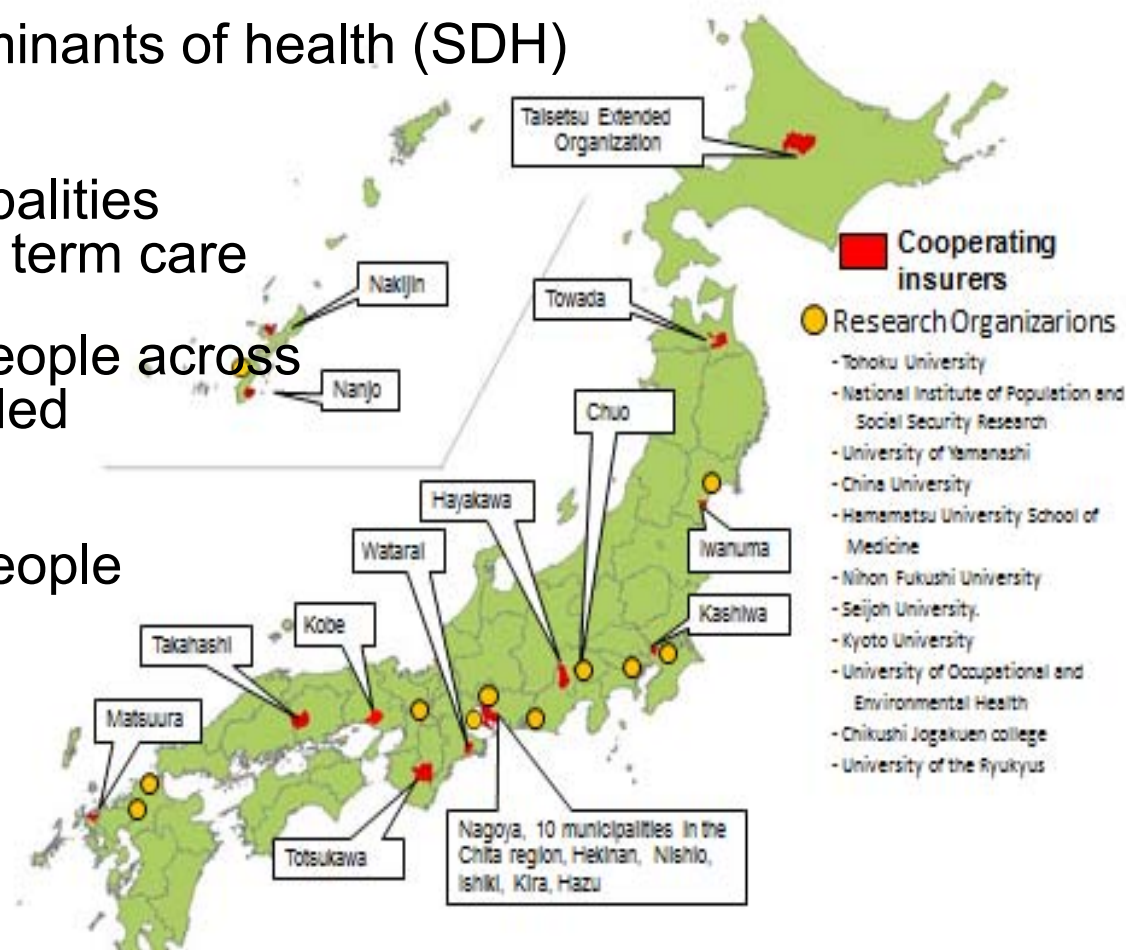
- Scientific evidence accumulated
  - Health Inequality by Social Determinants of Health
  - We need measurement and assessment systems which induce responses
- We developed a prototype of measurement (benchmark) system for Age Friendly Cities /Communities (AFC) policy collaborated with WHO Kobe Center (WKC).





# Japan Gerontological Evaluation Study (JAGES)

- One of the few population-based gerontological surveys in Japan
- Focused on social determinants of health (SDH) and social environment
- Collaborated with municipalities as insurers of public long term care
- In 2010- 112,000 older people across 31 municipalities responded (response rate: 66.3%)
- In 2013- 138,000 older people responded. (RR: 70.3%)
- In 2016- about 200,000 in 39 municipalities responded. (RR: 70%)

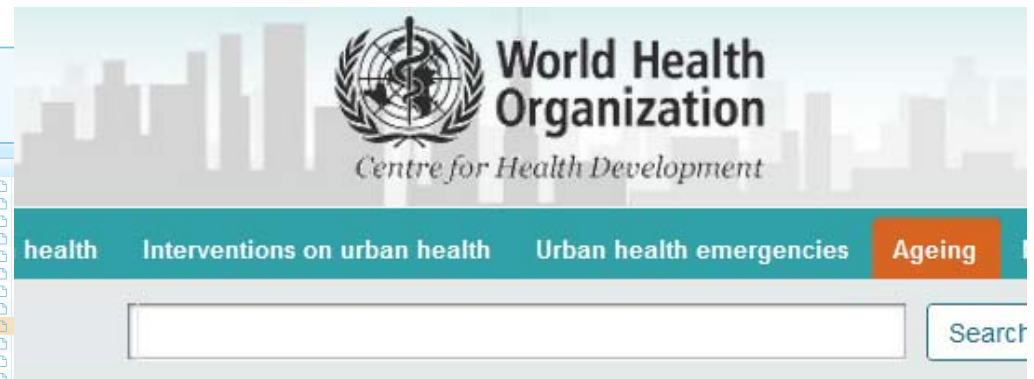
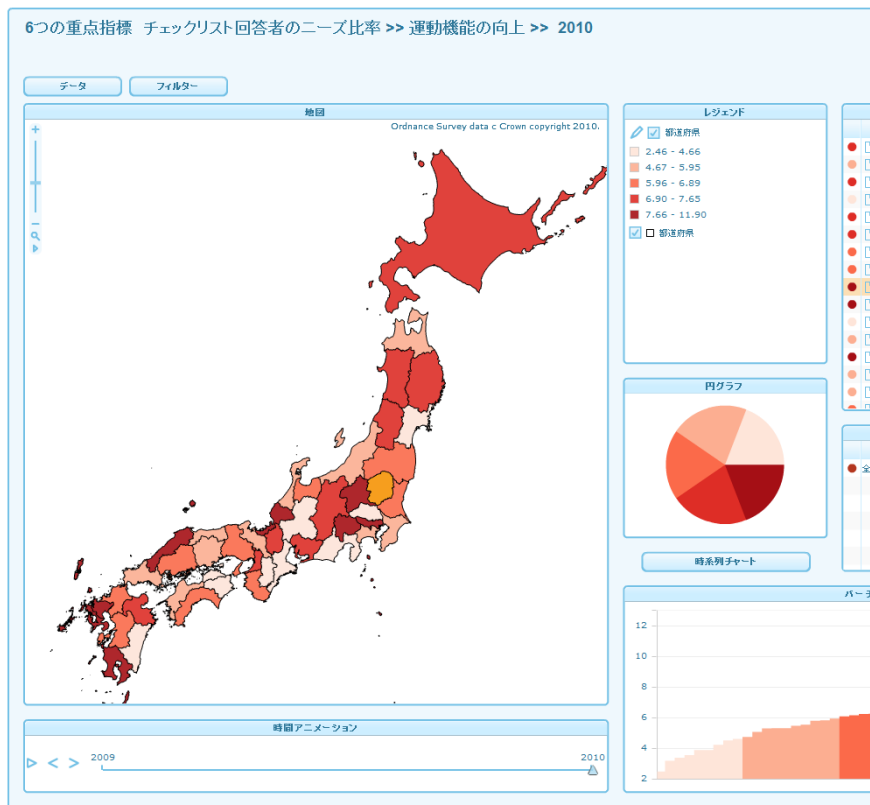


# Collaboration between WKC + JAGES

Urban Health Equity Assessment and  
Response Tool (Urban HEART)



JAGES: Japan Gerontological  
Evaluation Study



## J-AGES HEART

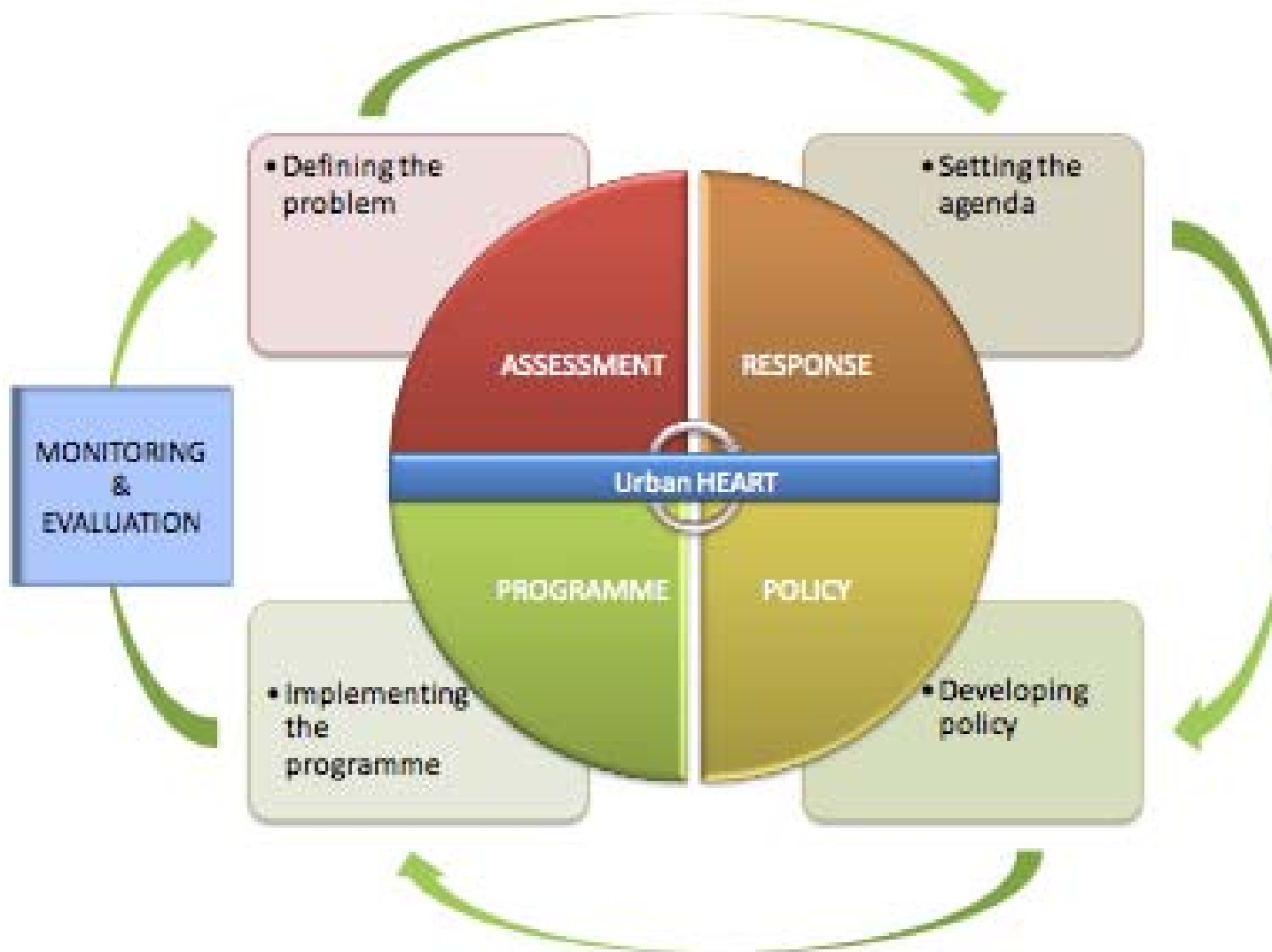
Since 2011, the WHO Kobe Centre (WKC) has been collaborating with the Centre for Well-being and Society of Nihon Fukushi University in Nagoya, Japan, to improve metrics for evidence-based policy-making on ageing in Japan.

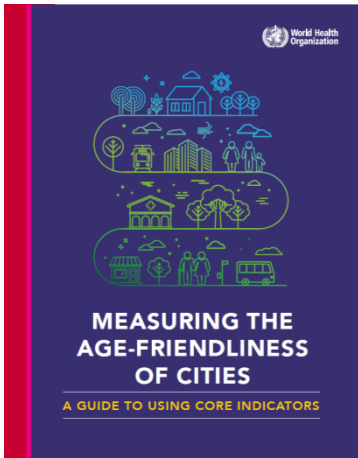
The Centre for Well-being and Society has received funding from the Ministry of Health, Labour and Welfare, Japan, to develop a benchmark system to evaluate the long-term care insurance policy which has been in effect since 2000. WKC is providing technical assistance to this effort, especially to develop a tool for policy makers in Japan to assess and respond to health inequities among the older population which would be harmonized with WHO's Urban HEART .

<http://www.doctoral.sakura.ne.jp/WebAtlas/>

[http://www.who.int/kobe\\_centre/ageing/j\\_ages\\_heart/en/](http://www.who.int/kobe_centre/ageing/j_ages_heart/en/)

# Management Cycle





# WHO Monitoring Framework & Core Indicators for AFC

**Accessible**  
Physical Environment

- Neighbourhood walkability
- Accessibility of public spaces and buildings
- Accessibility of public transportation vehicles
- Accessibility of public transportation stops
- Affordability of housing

**Inclusive Social Environment**

- Positive social attitude toward older people
- Engagement in volunteer activity
- Engagement in paid employment
- Engagement in socio-cultural activity
- Participation in local decision-making
- Availability of information
- Availability of health & social services
- Economic Security

**Impact on Well-being**

- **Quality of life**

**Equity Measures**

- Difference between two reference groups
- Difference between population average and highest attainable level of outcome



# JAGES-HEART 2014

うつ予防 >> 前期高齢者 >> 2013 % of depression (GDS>=5)

厚生労働科学研究補助金(H25-長寿-一般-003)研究班  
JAGES HEART 2014

Limited to 65-74 y.o.

One block represents rank of one municipality



% of depression: 14.9 ~ 34.5%

市町村 ID	値	実数
A22	0.266	
A23	0.214	
A24	0.202	
A25	0.188	
A26	0.211	
A27	0.345	
A28	0.220	
A29	0.234	
A30	0.149	
A31	0.205	
A32	0.201	
A33	0.187	
A34	0.246	
A35	0.207	
A36	0.186	
A37	0.255	
A38	0.203	

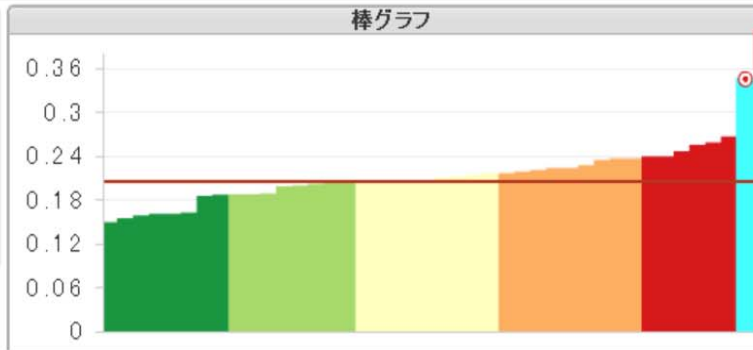
- 評価項目リスト
- ▶ 運動機能低下
  - ▶ 低栄養
  - ▶ 口腔機能の低下
  - ▶ 閉じこもり
  - ▶ 認知機能の低下
  - ▶ 虚弱
  - ▼ うつ予防
    - ▼ 前期高齢者
      - ▶ 2013
      - ▶ 後期高齢者
      - ▶ 高齢者全体
    - ▶ IADL
    - ▶ 知的能動性
    - ▶ 社会的役割
    - ▶ ボランティア参加

- フィルターリスト
- ▶ 高齢化率
  - ▶ 人口密度(人/km2)
  - ▶ 人口集中地区人口比率
  - [フィルターの削除]

記述統計

合計: 8.639  
 市町村の平均: 0.211  
 中央値: 0.207  
 最小値: 0.149  
 最大値: 0.345  
 下位四分位値:

記述統計/脚注  
 棒グラフ/時...



比較地区

比較地区	値
合計	0.2...

SHP\_300

- 0.149 - 0
- 0.188 - 0
- 0.206 - 0
- 0.217 - 0
- 0.237 - 0

【市町村間ベンチマーク】

# Participant rate of volunteer

© 厚生労働科学研究補助金(H25-長寿-一般-003)研究班

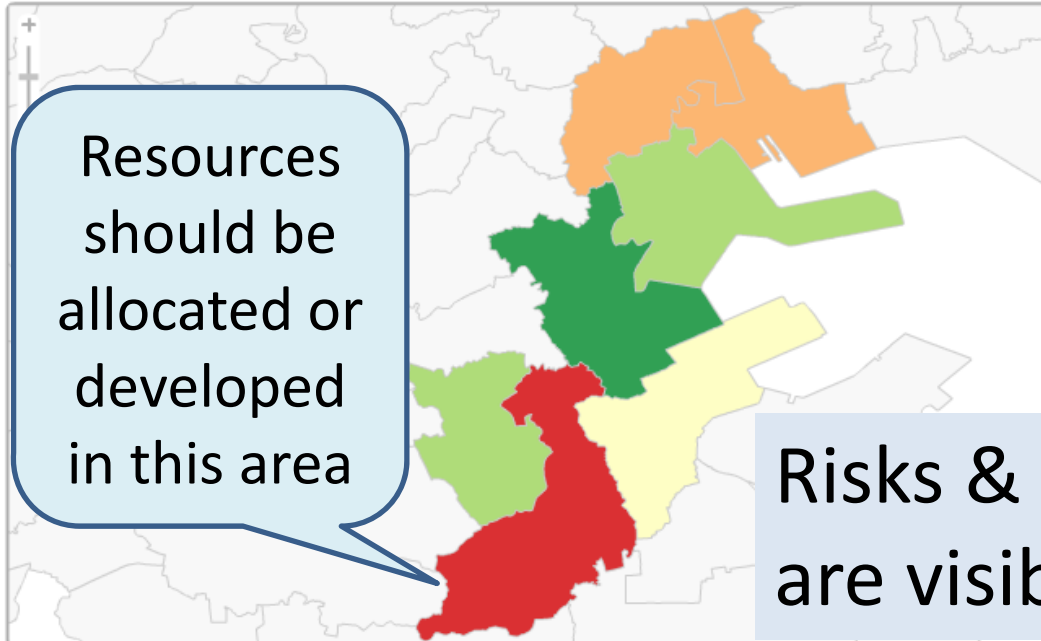
JAGES HEART 2014

ボランティア参加割合 >> 高齢者全体 >> 2013 >> フィルター:

区別 >> 磯子区

評価項目リスト

- 社会的役割低下割合
- ボランティア参加割合
  - 前期高齢者
    - 2013
  - 後期高齢者
    - 2013
  - 高齢者全体
    - 2013
- スポーツの会参加割合
  - 前期高齢者
    - 2013



市町村 ID	値	実教
根岸...	0.040	
滝頭...	0.070	
磯子...	0.104	
屏風...	0.151	
新杉...	0.080	
洋光...	0.106	
上笹...	0.039	

Resources should be allocated or developed in this area

Risks & Resources are visible

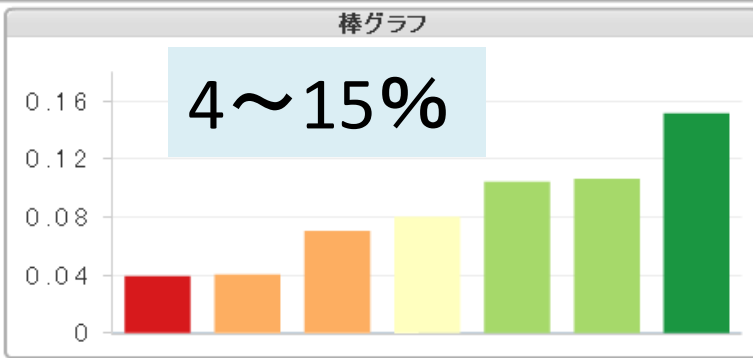
フィルターリスト

- 瀬谷区
- 磯子区
- 神奈川区
- 緑区
- 西区
- 都筑区
- 金沢区
- 青葉区

記述統計

合計: 0.590  
 市町村の平均: 0.084  
 中央値: 0.080  
 最小値: 0.039  
 最大値: 0.151  
 下位四分位値:

記述統計 / ...  
 棒グラフ / ...



JAGES2

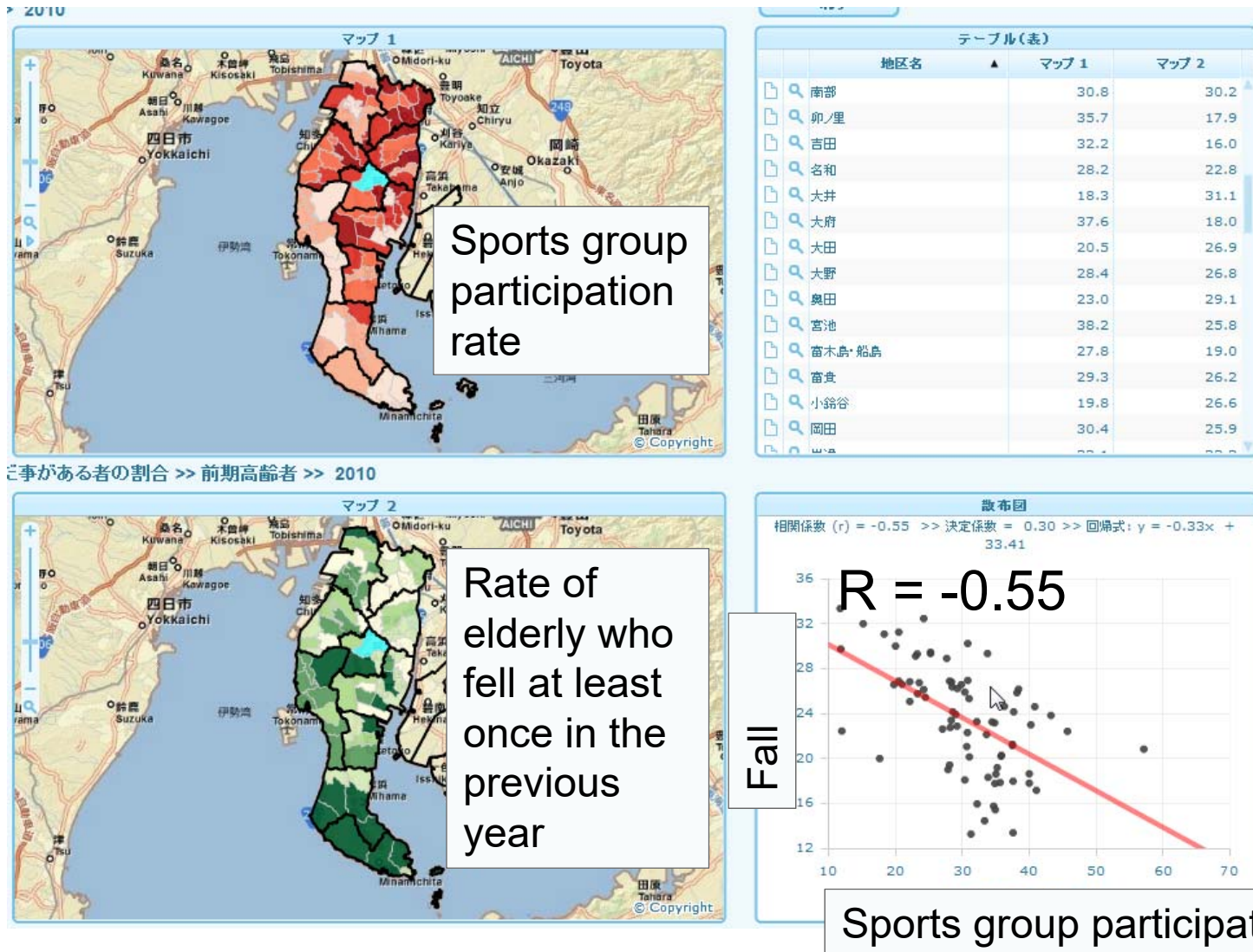
比較地区

値

- 0.039 -
- 0.041 -
- 0.073 -
- 0.100 -
- 0.151

【市町村間ベンチマーク】

# School districts with higher sports-group participation rates = lower rates of fall among aged 65–74

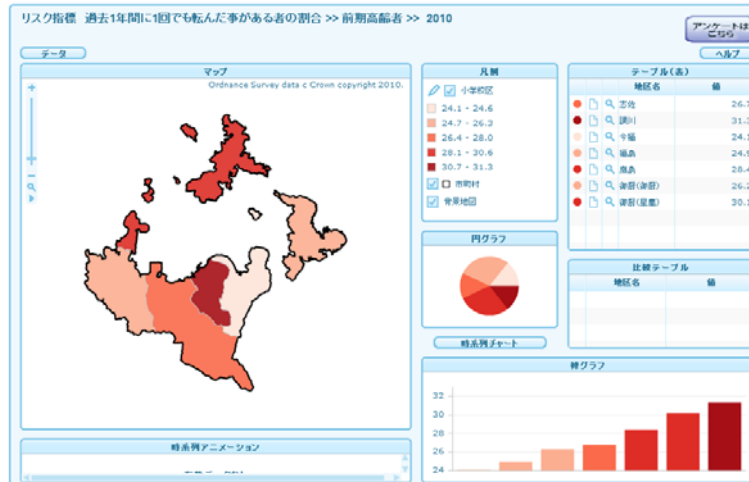


**Can we facilitate social participation and it reduces the incidence of functional decline?**

**We need intervention trials**

# How to use the benchmark system

**Visualizing status**



**Sharing the results**  
Community meeting

**Setting the agenda**

Poor health and difficulty of shopping are detected in area A

**Developing program**  
Fostering volunteers

**Implementing the program**



Lunch club for older people living alone



Needs of shopping are simultaneously filled by mobile shop invited

Taketoyo town project since 2007

# Enjoyable Social Programs



← Ping-Pong

Game →



Just chatting is very popular!

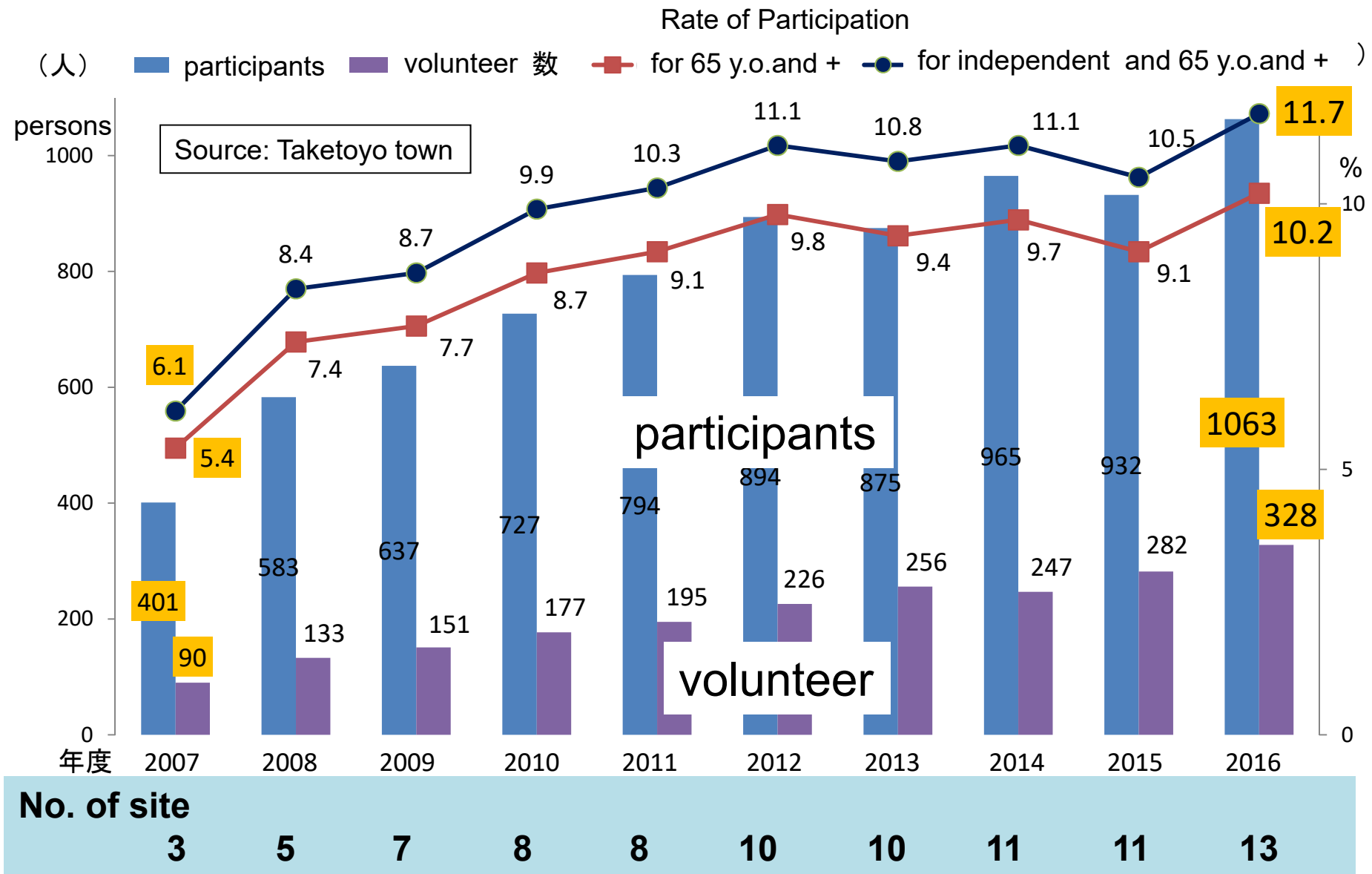
# Various programs

Making  
a Short Poem→  
led by volunteers



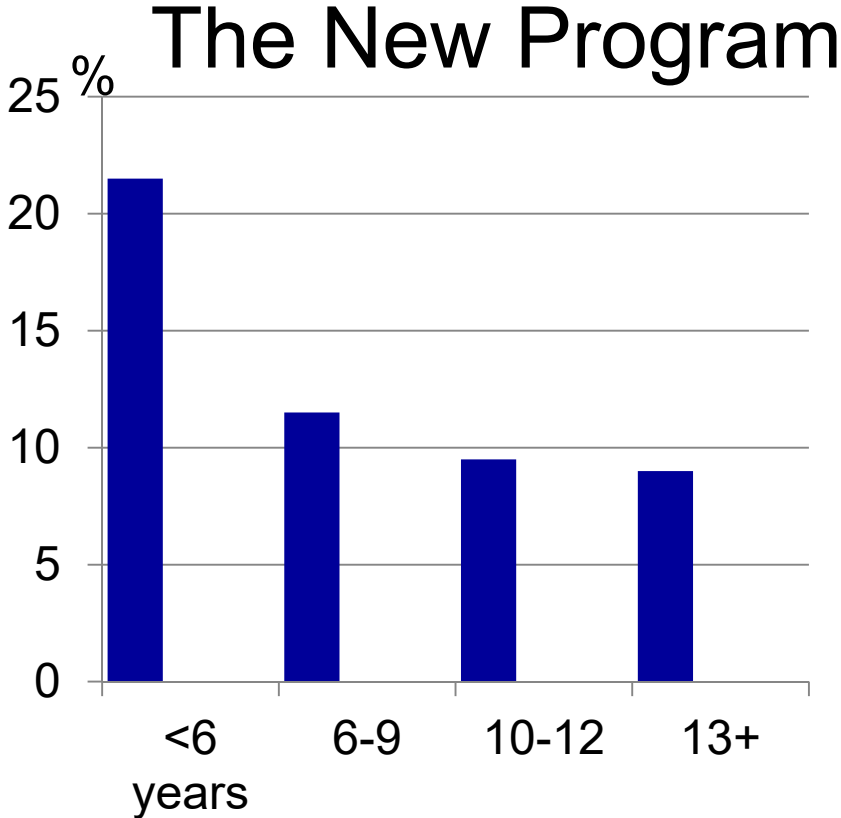
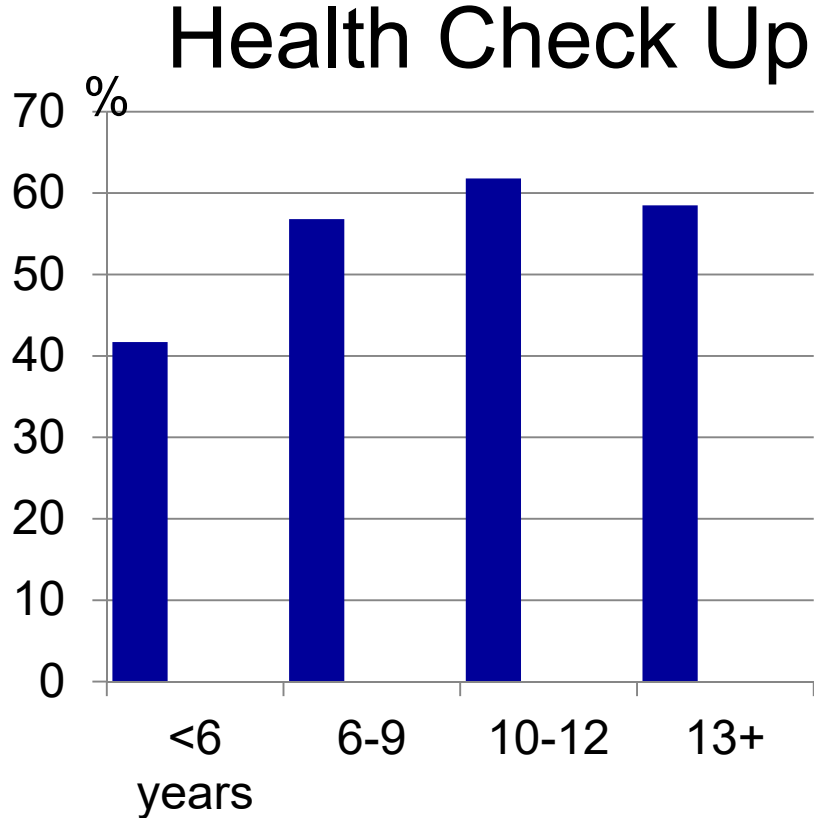
Physical Exercise  
instructed by volunteers

# Trend of Number & rate of Participants





# Participants Rate by Education



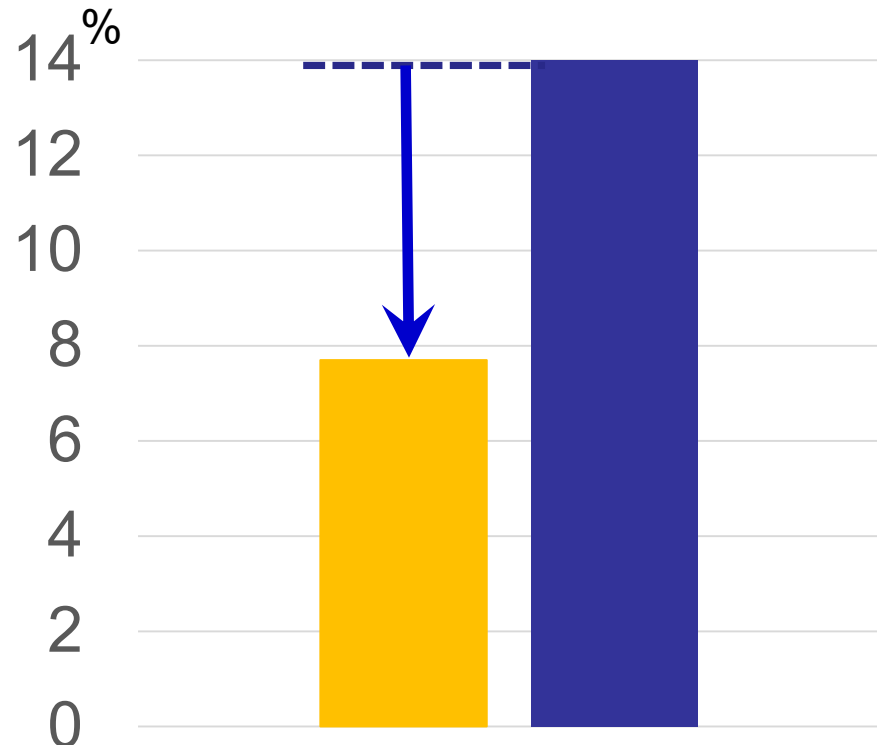
Educational Attainment

The program reduced inequalities in social participation

# Participants keep functions

Taketoyo project, 2014

% of persons function declined



■ Participants ■ Not Participants  
N = 2178 312

Comparison between  
Participants and Non-  
Participants in  
Taketoyo Project

6.3% point reduction  
during 5 years  
followed up

Hikichi, H., Kondo, N., Kondo, K., et. All: Effect of community intervention program promoting social interactions on functional disability prevention for older adults: propensity score matching and instrumental variable analyses, JAGES Taketoyo study.

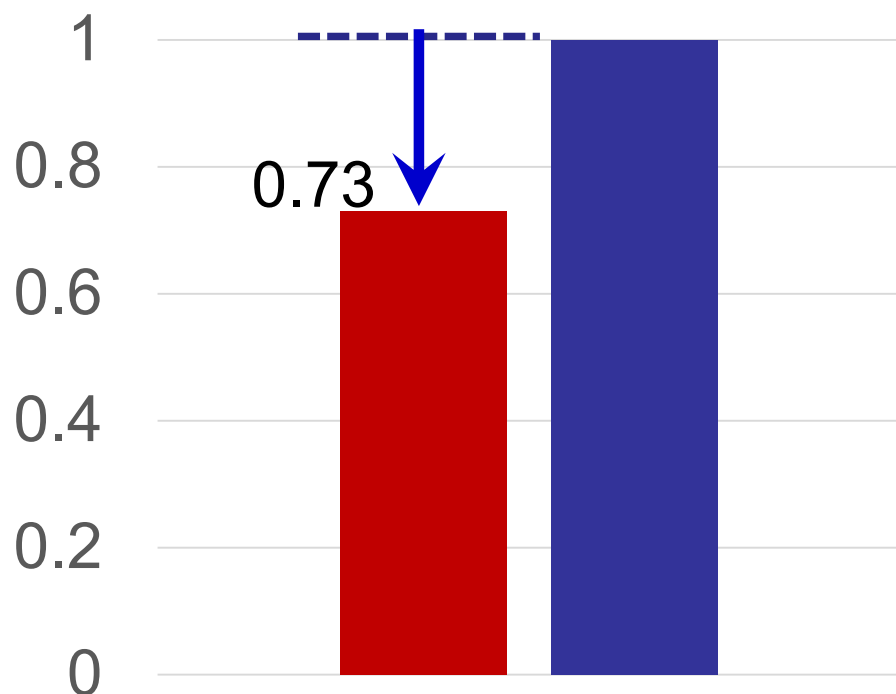
**Journal of Epidemiology and Community Health**  
doi: 10.1136/jech-2014-205345

# Incidence of dementia reduced

OR of Incidence of dementia

Takeoyo project

Odds ratio



■ Participants N = 152  
■ Not Participants N = 1885

7 years follow up  
Dementia rank  $\geq 1$

Hikichi, H., Kondo, K., Takeda, T., and Kawachi, I.: Social interaction and cognitive decline: Results of 7-years community intervention. *Alzheimer's & Dementia: Translational Research & Clinical Interventions* 3 (1): 23-32, 2017.

# JAGES HEART

Using comparative statistics, it supports;

1. to make the health inequalities more easily visible
2. to support setting priorities and targets for local policies
3. to analyze possible factors relating to policy targets such as participation in sports clubs for fall prevention
4. to monitor changes in time and effects of intervention.

# Conclusions

- JAGES HEART is useful to find the determinant of healthy aging communities.
  - social participation seems to be a good for prevention of fall, depression, and functional decline, etc.
  - It provides response tools tackling health inequalities.
- Remaining challenges are
  - To validate indicators
  - To collect more good practices
  - To increase number of municipalities/countries which use these kind of HEART systems