



Online Medical Care at Community Centers

～For after the corona era～



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▷ Motive for Research

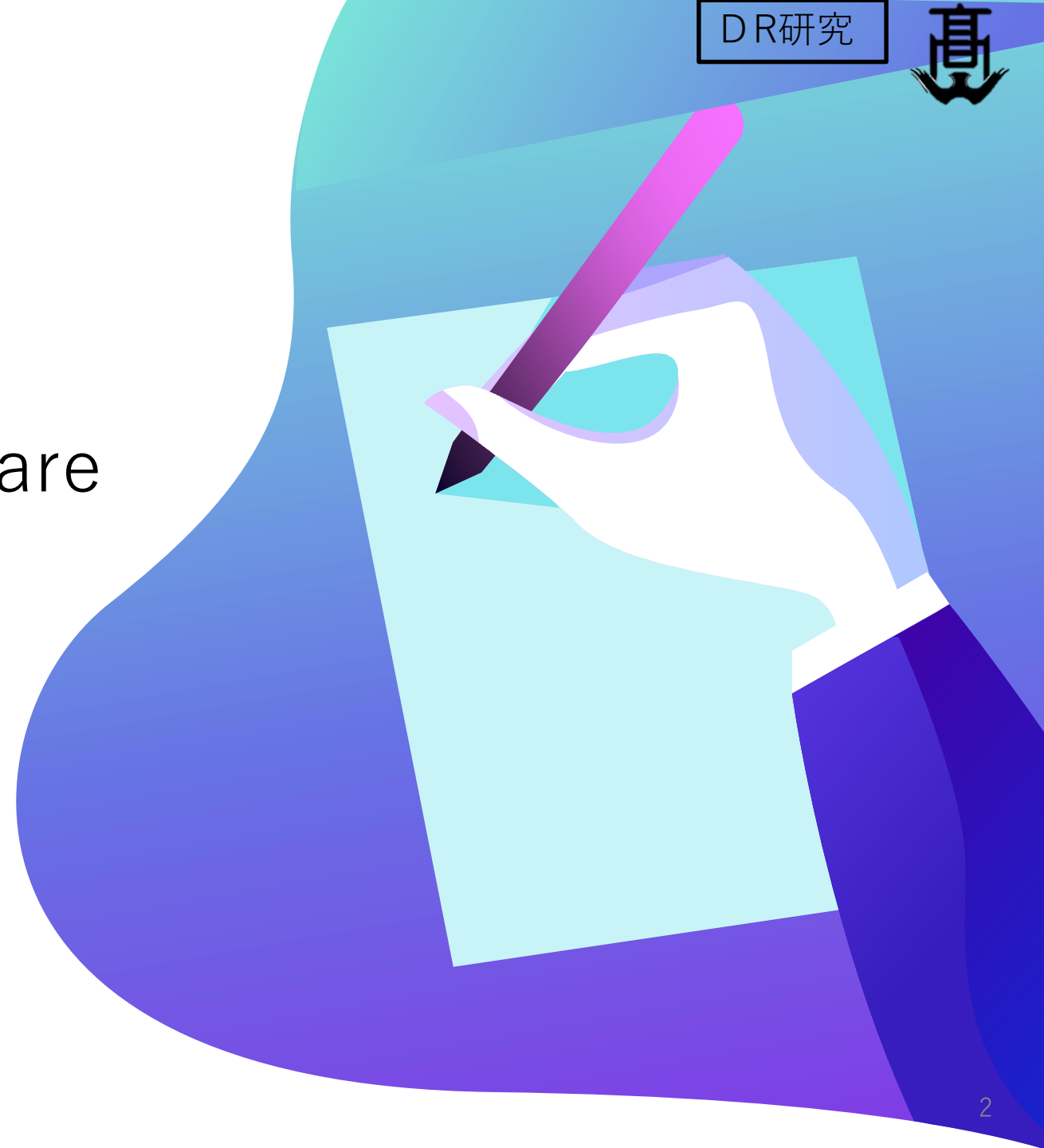
▷ Present Condition of
Online Medical Care

▷ ① Questionnaire

▷ ② Mapping

▷ ③ Trial

▷ Future Prospect





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▷ Motive for Research

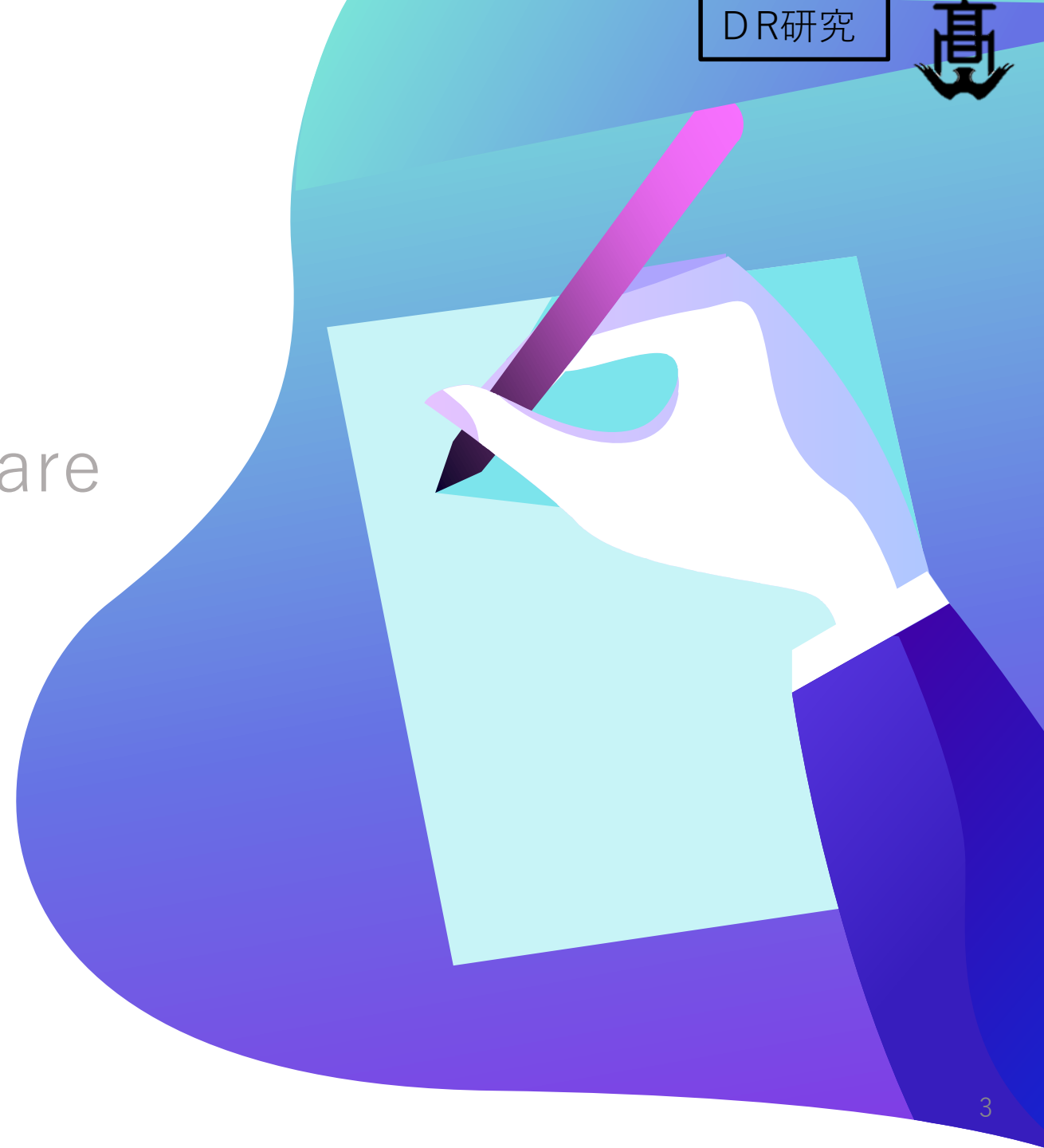
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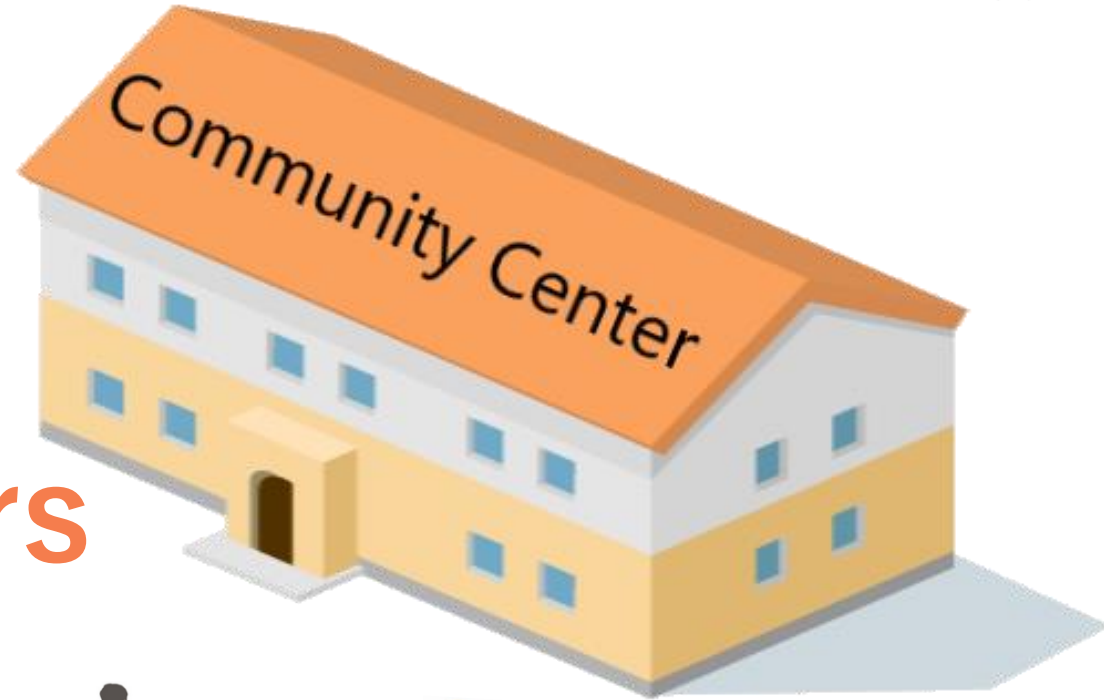


○ Motive for Research

- Covid-19 Pandemic
- Difficulty in going to hospitals
- Popularize of **online medical care** at home
- Difficulty in using computers
- Need for support in using computers



Introduce online medical care to community centers





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○ Present Condition of Online Medical Care

In area with many **elderly people** and **hypertensive** patients ...



hospitals : try to popularize online medical care



patients : don't use online medical care

however

online medical care at
community centers
familiar to **elderly people**



Further **spread** of
online medical care



○Present Condition of Online Medical Care

Interview with five doctors



Dr. Sawada

Dr. Sorachi (chairman of Hyogo Medical Association, Sorachi Internal Medicine)

Dr. Sawada(Sawada Internal Medicine, Respiratory Clinic)

Dr. Nishimura(Shosha Nishimura Internal Medicine)

Dr. Tamaki(Mr.)(Tamaki Family Clinic)

Dr. Tamaki(Ms.)(Tamaki Family Clinic)



Merits of Online Medical Care



Doctor

- Medical care for patients with difficulty in getting to hospital
- No worries about secondary infection
- User-friendly apps. (curon, CLINICS, etc)

Patient

- No need to go to a hospital
- Almost the same medical fee
- No waiting time
- Drug guidance online



Demerits to **Doctors** and a Possible Solution

Demerits

- Small number of patients in spite of high system maintenance cost
- Narrow range of application : mostly for chronic diseases

Solution

- Increase in online medical care by using community centers

profitable



Demerits to **Patient** and a Possible Solution

Demerits

- Difficulty in using computers for elderly patients
- More difficulty in communicating with doctors than face-to-face medical care

Solution

- Taking online medical care at community centers while learning how to use computers



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○Hypothesis

- People with lifestyle-related diseases
- People who are hesitant to use the Internet
- Elderly people
- People who have a long waiting time at hospitals
- People who live closer to community centers

want to try online
medical care at
community centers

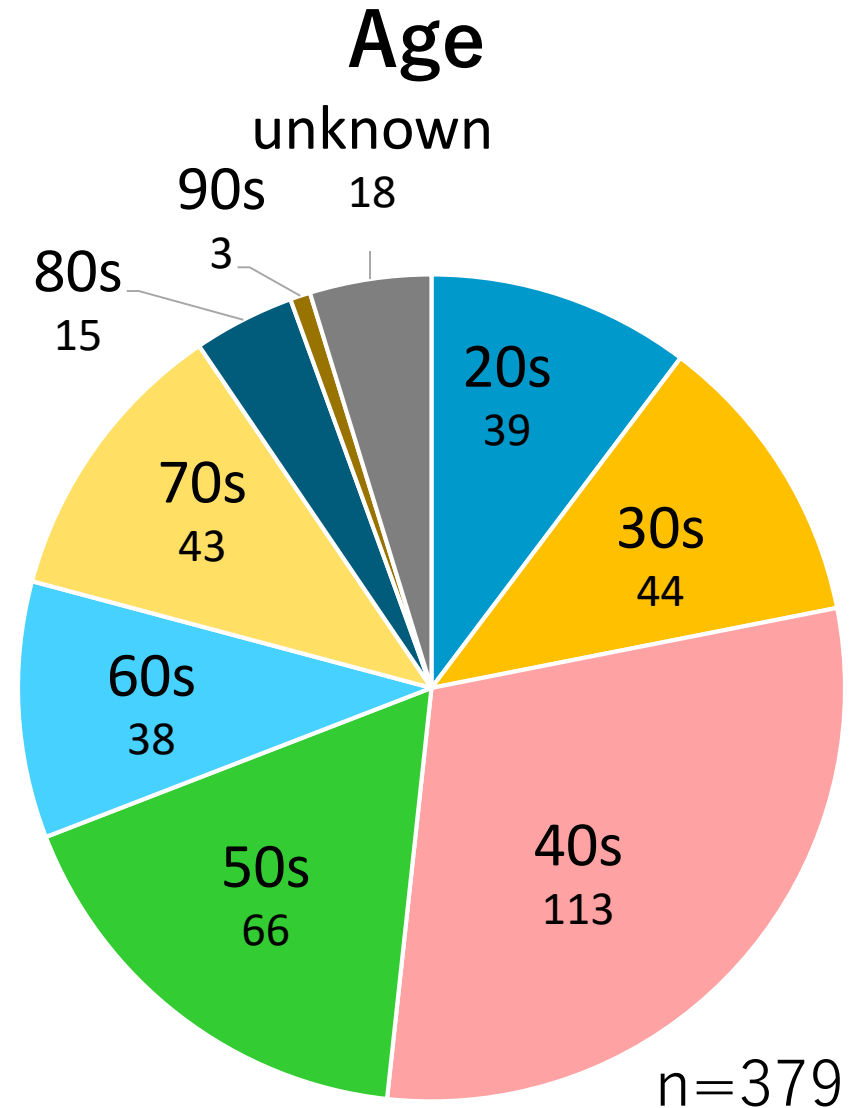


Questionnaire



① Questionnaire

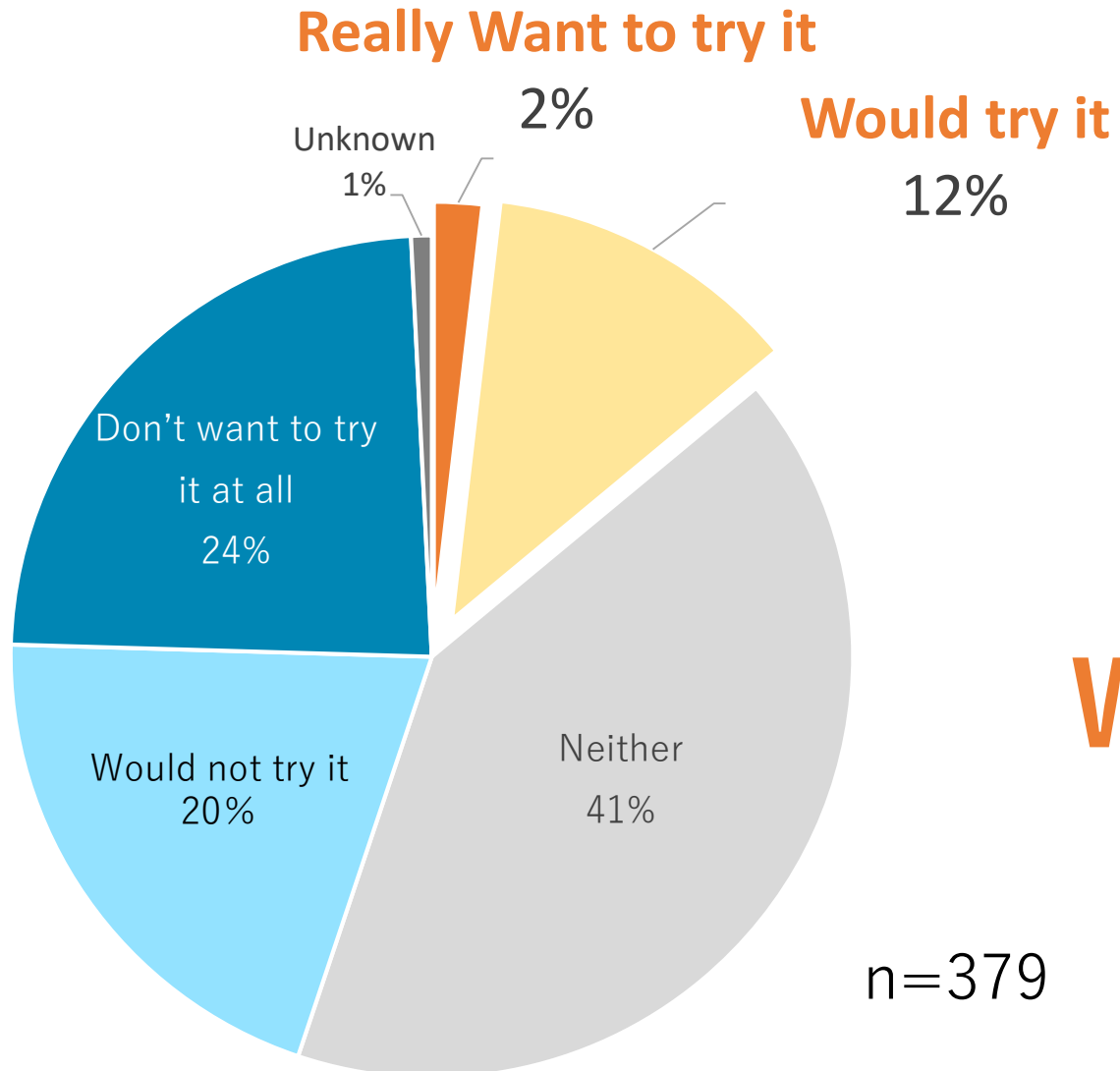
Respondents : 379 People
over 20 years old
Period : R3.7/28~8/20
Medium : Paper and the Internet





①-Results

Q. Do you want to try online medical care at community centers?



Who wants to try online medical care at community centers?



Online medical care at community centers ×
lifestyle-related diseases

p-value(chi-square test) : **34%**



**No Significant
Difference**

Consideration

- This is because we didn't consider individual differences in patients' condition.

Online medical care at community centers ×
Internet resistance

p-value(chi-square test) : **6.6 %**

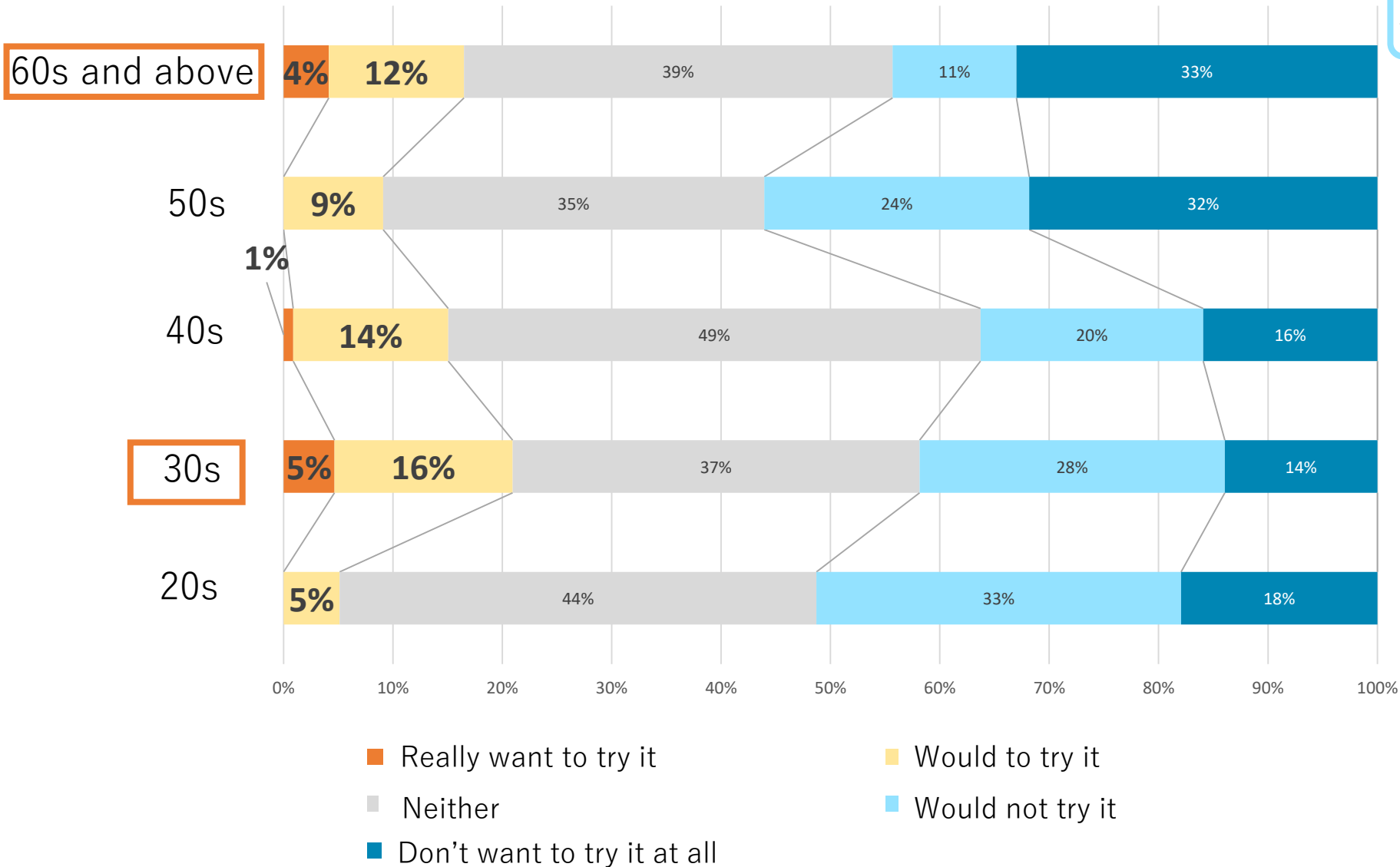


**No Significant
Difference**

Consideration

- People who are **good** at the Internet
→ can use online medical care without learning at community centers.
- People who are **poor** at the Internet
→ Sense of resistance to online medical care itself.

Online medical care at community centers × Age



Significant Difference

p-value(chi-square test)
:1.2%

Results

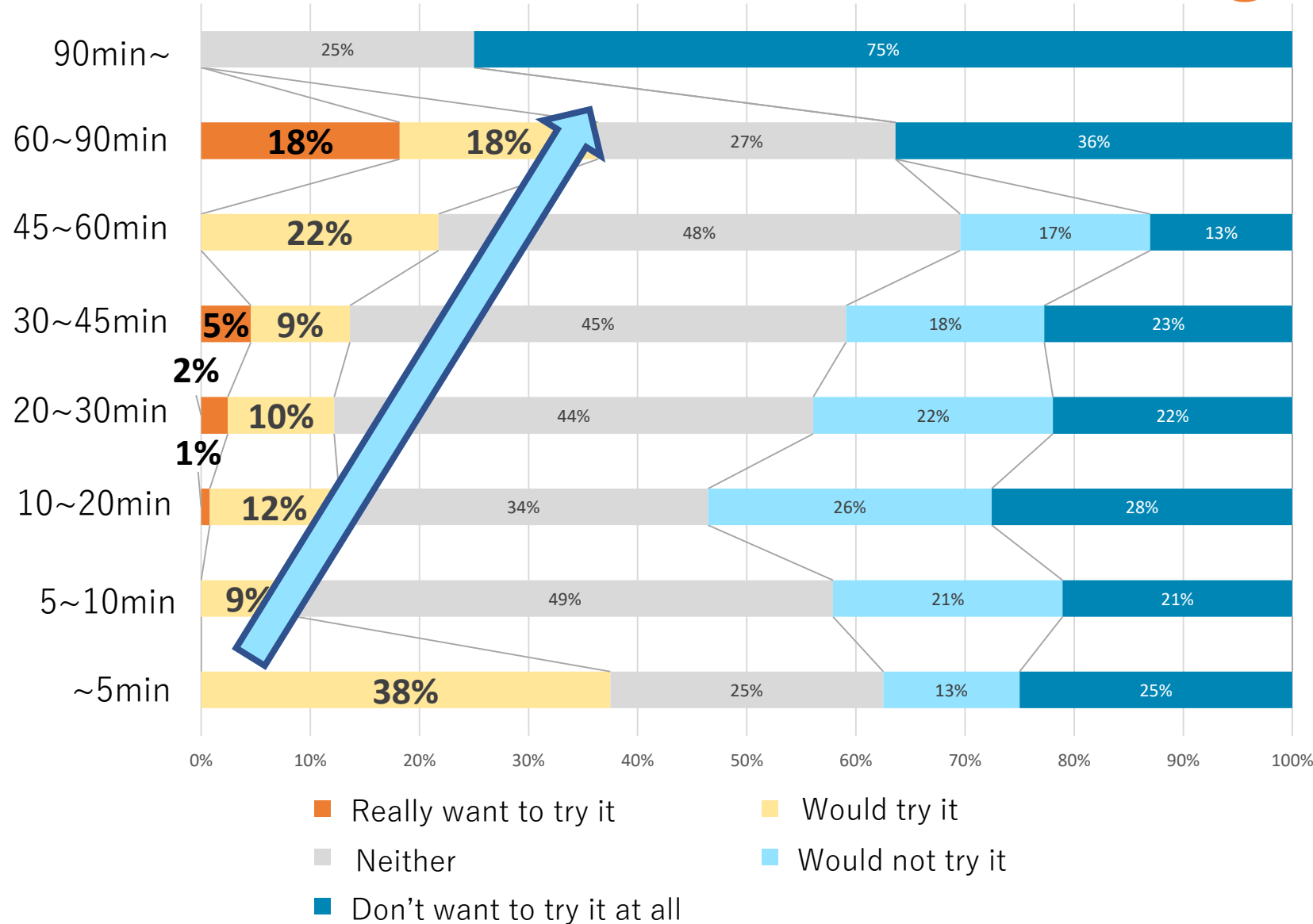
30s and 60s and above
want to try it.



Consideration

Child-raising age &
elderly people
→Difficulty in going to
hospital

Online medical care at community centers × **Waiting time at hospitals**



Significant Difference

p-value(chi-square test)
:2.2%

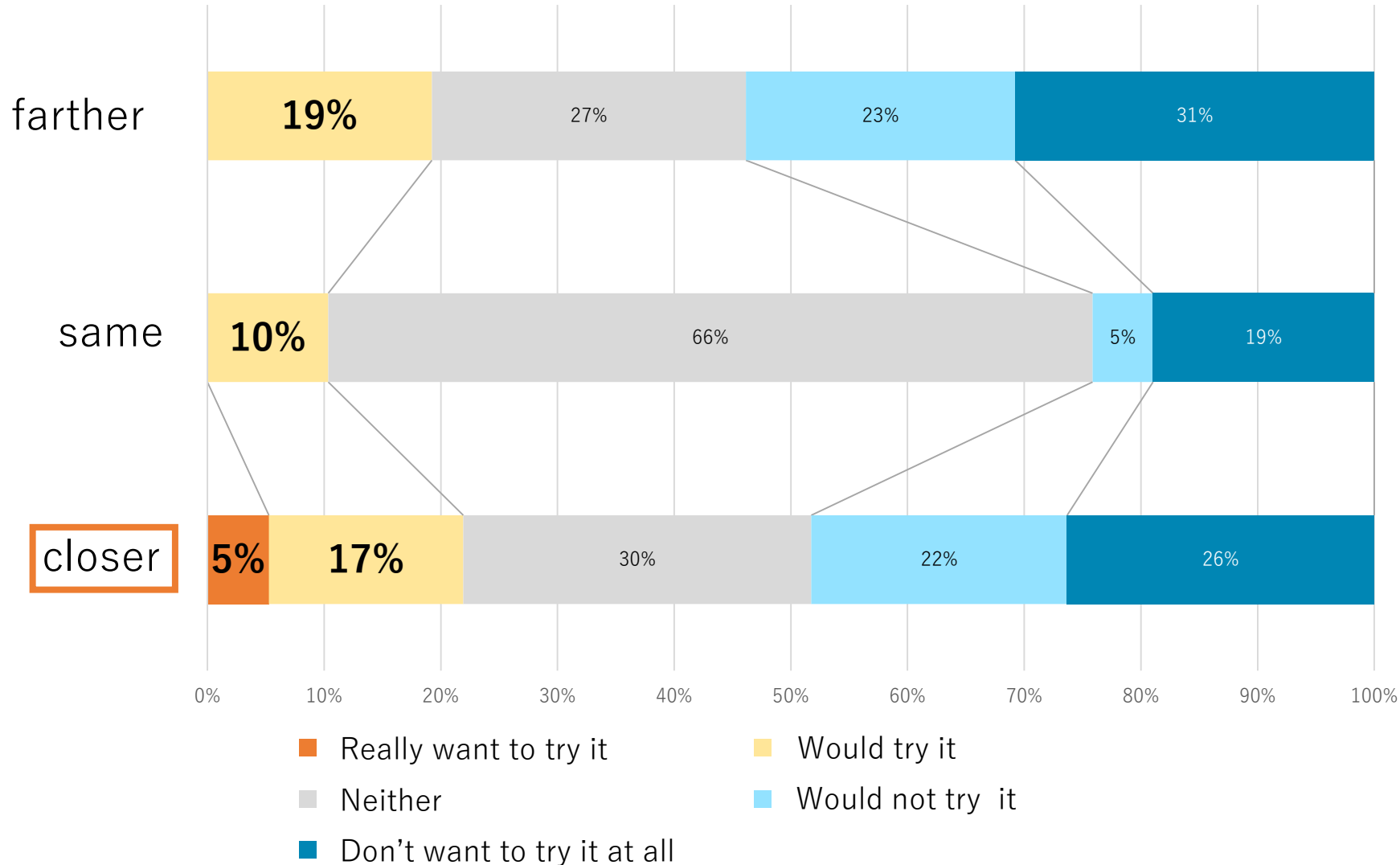
Results
The longer waiting time they have at hospitals, the more people want to try online medical care at community centers

Consideration
This is because people can eliminate a long waiting time when people take online medical care



Online medical care at community centers ×

Distance to community centers compared with hospitals



Significant Difference

p-value(chi-square test)
: 0.014%

Results

Many people who live closer to community centers want to try online medical care at community centers.

Consideration

People who live closer to community centers can go easily.

Determine the community centers where we conduct the experiment by mapping



①-Conclusion

- Child-raising age & Elderly people
- People who have a long waiting time at hospitals
- People who live closer to community centers

should be provided with online medical care at community centers.



Let's do a trial !!



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② Mapping to Determine Potential Community Centers in Himeji



mapping with

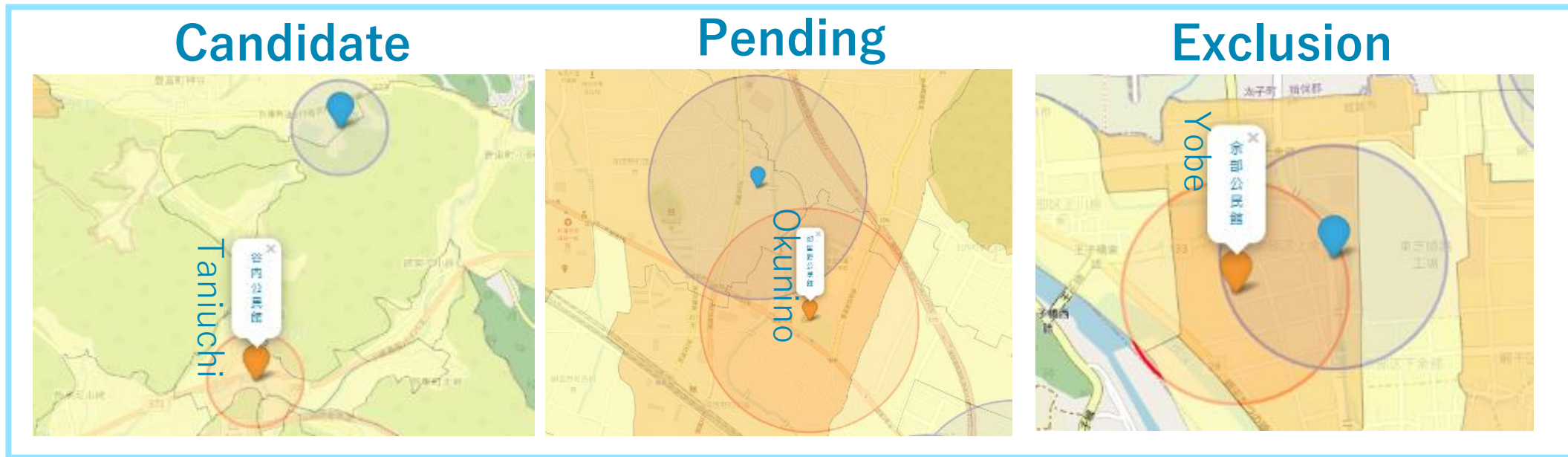
- Community centers
- Internal medicines clinics
- Number of elderly people
- Administrative boundaries



② Determine Potential Community Centers

Conditions

① The circle with a radius of 400m* from a community center (Orange pin) doesn't overlap those from clinics (Blue pin) on the map.

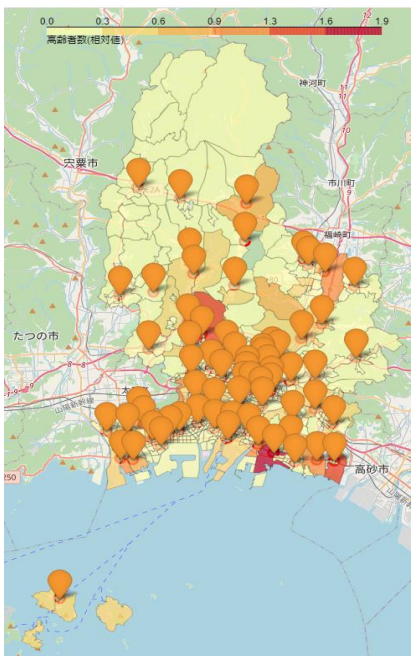


② Many elderly people live around it.
(Cluster to 3 groups by K-means clustering)

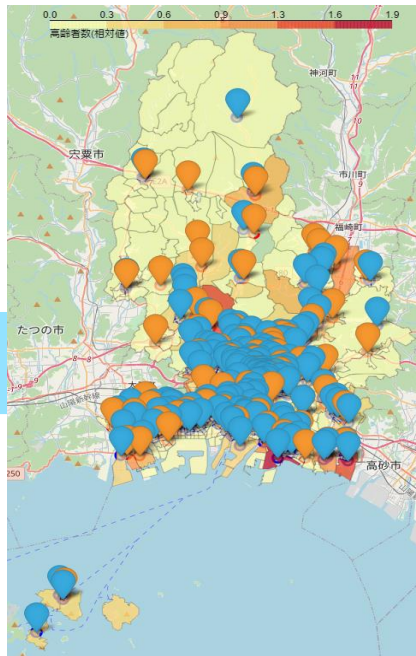
*the walking distance for elderly people https://www.jstage.jst.go.jp/article/journalip1984/14/0/14_0_687/_pdf



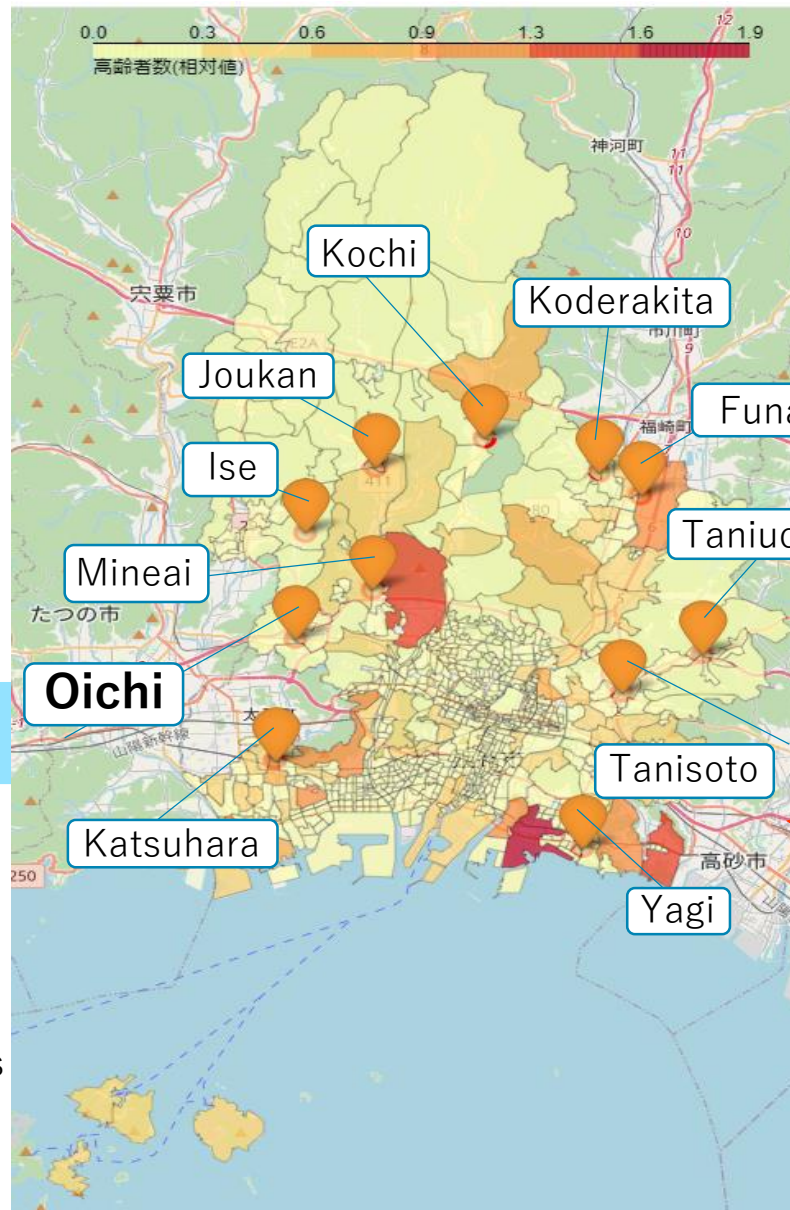
②-Results



68 community centers (Orange pin) are too many.



Narrow down the candidates considering the distribution of clinics (Blue pin).



11 potential community centers!!





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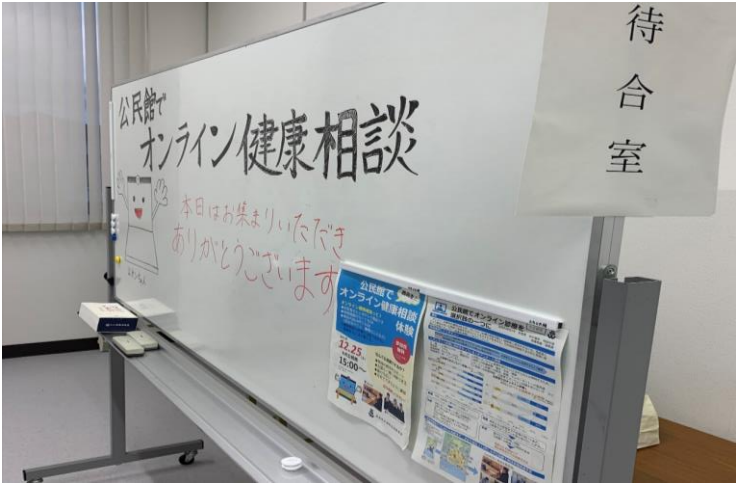
▷ ② Mapping

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③ Trial at Oichi Community Center on Dec.25th



公民館で オンライン健康相談 体験

西高生と

オンライン健康相談って？

- お医者さんとのテレビ電話です
- 情報機器がなくてもOK
- 相談内容は何でもOK (食生活のこと、睡眠のことなど)

※健康相談は診療ではありません。保険証などは不要です。

参加費 無料
どなたでも参加できます。

2021年 **12.25** (土) 太市公民館 **15:00**～

なんで公民館でなの？

- 機械の使用をサポート
- 友達と一緒に体験できる
- 家から近い
- 自宅のできるように練習

ぜひお越しください！

▼体験の様子

▲私たちがお待ちしております。

マスコットキャラクター 公オンちゃん

兵庫県立姫路西高等学校

Check list

- ✓ How to lead people
 - ✓ How to use PC
 - ✓ Subjects' reaction (Questionnaire)
- ◀ Trial on December 25th





③-Results

Trial may caused **more interest** in **online medical care**





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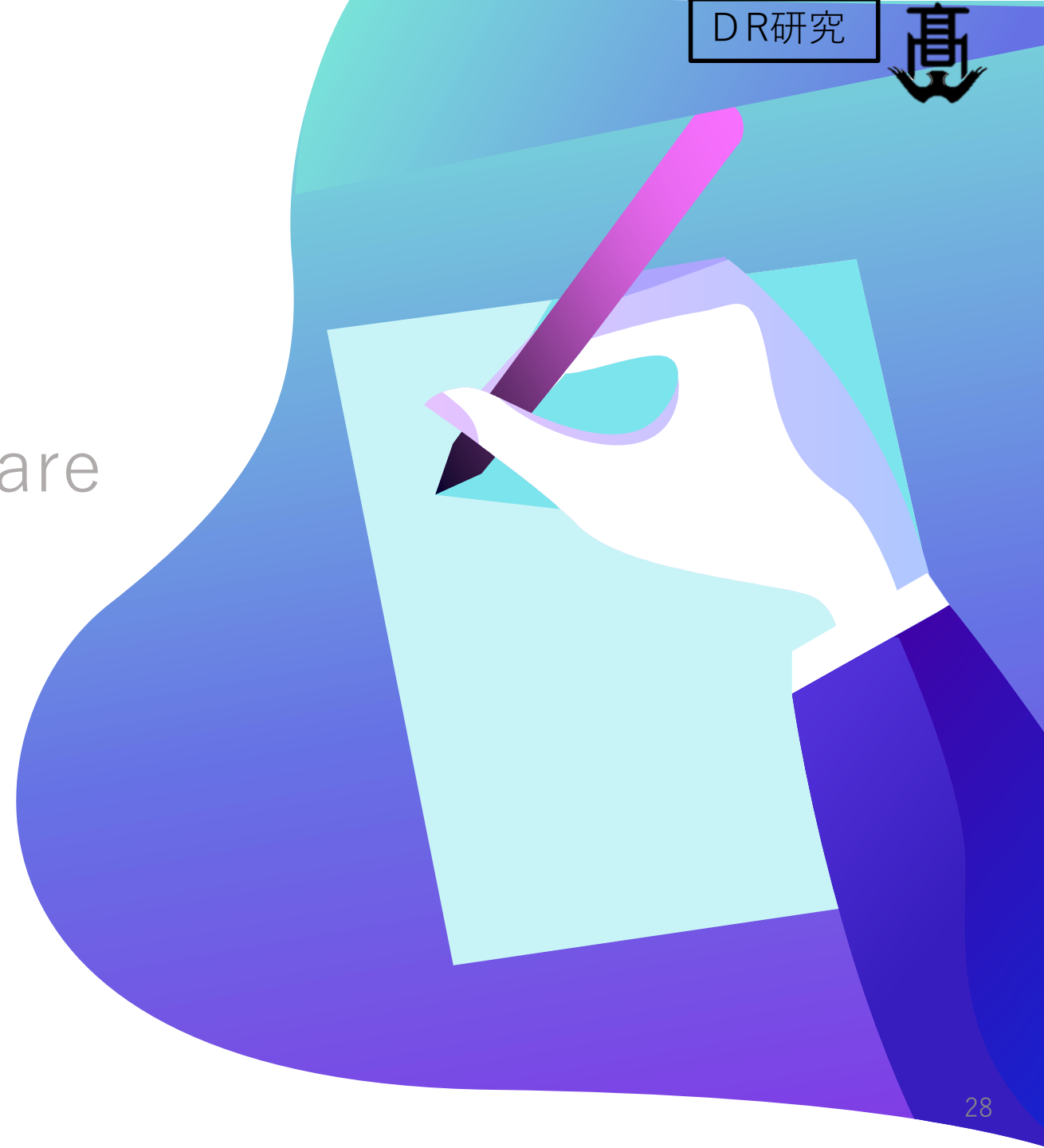
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○Future Prospect

Problems With The Trial

- Difficulty in explaining how to use computers
- Difficulty in using earphones
- Long waiting time etc...



Future Tasks

- Play an explanatory video in the waiting room
- Change to headphones
- Visualize waiting time using apps



Bibliography

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- Boundary data
<https://www.e-stat.go.jp/gis/statmap-search?page=1&type=2&aggregateUnitForBoundary=A&toukeiCode=00200521&toukeiYear=2015&serveyId=A002005212015&prefCode=28&coordsys=1&format=shape>
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- Aging rate https://www8.cao.go.jp/kourei/whitepaper/w-2019/html/zenbun/s1_1_4.html

Thanks to Ms. Kan(Rejouji) Mr. Ishikawa, Mr. Saito(astellas)
Dr. Sorachi, Dr. Sawada, Dr.Nishimura, Dr.Tamaki(Mr,Mrs) !!



Thank you for listening!!



(Supplement) Present condition of online medical care

Little use of online medical care by elderly people



Hospital with
online medical care

Aging rate

Correlation
coefficient
0.360

Hypertensive*

Correlation
coefficient
0.370

Weak positive correlation



Total number of patients
in online medical care

Aging rate

Correlation
coefficient
-0.389*

Hypertensive*

Correlation
coefficient
-0.326*

Weak negative correlation



※The rate of hypertensive patients

* Except the outliers(Shimane & Osaka Pref.)