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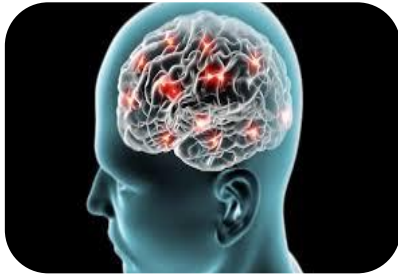


OVERVIEW; HEALTH DATA OPPORTUNITIES

Benefits of effective health data management

- More effective prevention
- Faster diagnosis
- More tailored therapeutic response
- Better clinical outcomes
- Improved quality of life
- Tackling wasteful spending on health





Prevention and
early risk
detection



New therapies
and diagnostics



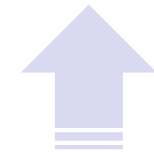
Personalised
Medicine



New health and
care models



Data-driven innovation



*High-performance
computing*

Advanced Data-

Artificial Intelligence Analytics

Cloud computing Wearables Internet of Things (IoT)

mHealth

Telehealth



DIGITAL SINGLE MARKET PRIORITIES ON HEALTH; PUBLIC CONSULTATION RESULTS



Digital Transformation of health and care (3 priorities)

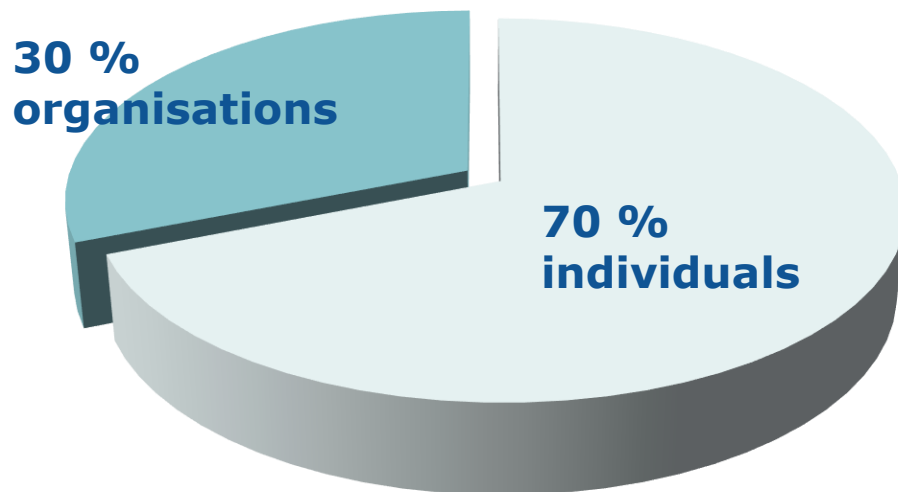
- *Citizen's secure access to and use of health data*
- *Data infrastructure to advance research and personalised medicine*
- *Citizen empowerment and patient-centred care*

KEY ENABLING CONDITIONS
TRUST & SECURITY

Open Public Consultation

Transformation of Health and Care in the Digital Single Market

1464 responses from **35** countries



Europe's future digital health and care strategy

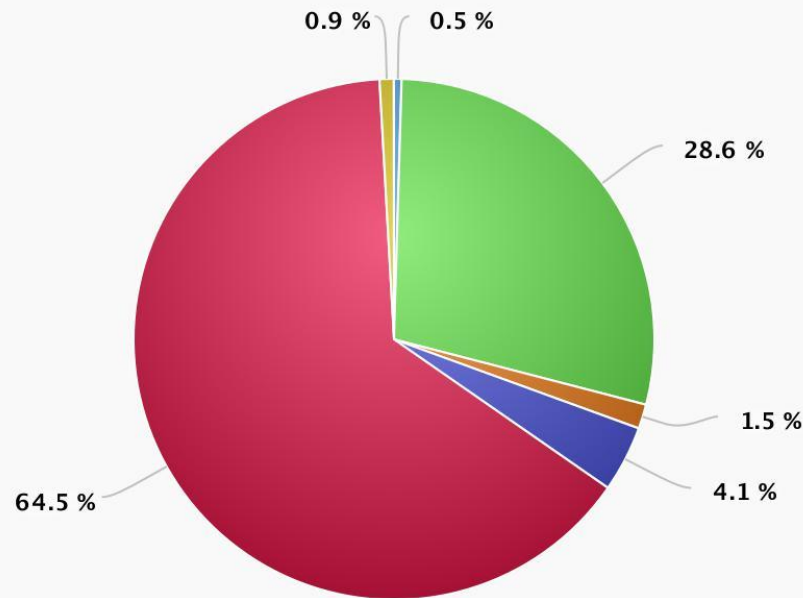
- *Better access to your health data, everywhere in the EU*
- *Connecting health data*
- *Digitised patient-centred care*



 [#DigitalHealth](#)
[#EUHaveYourSay](#)

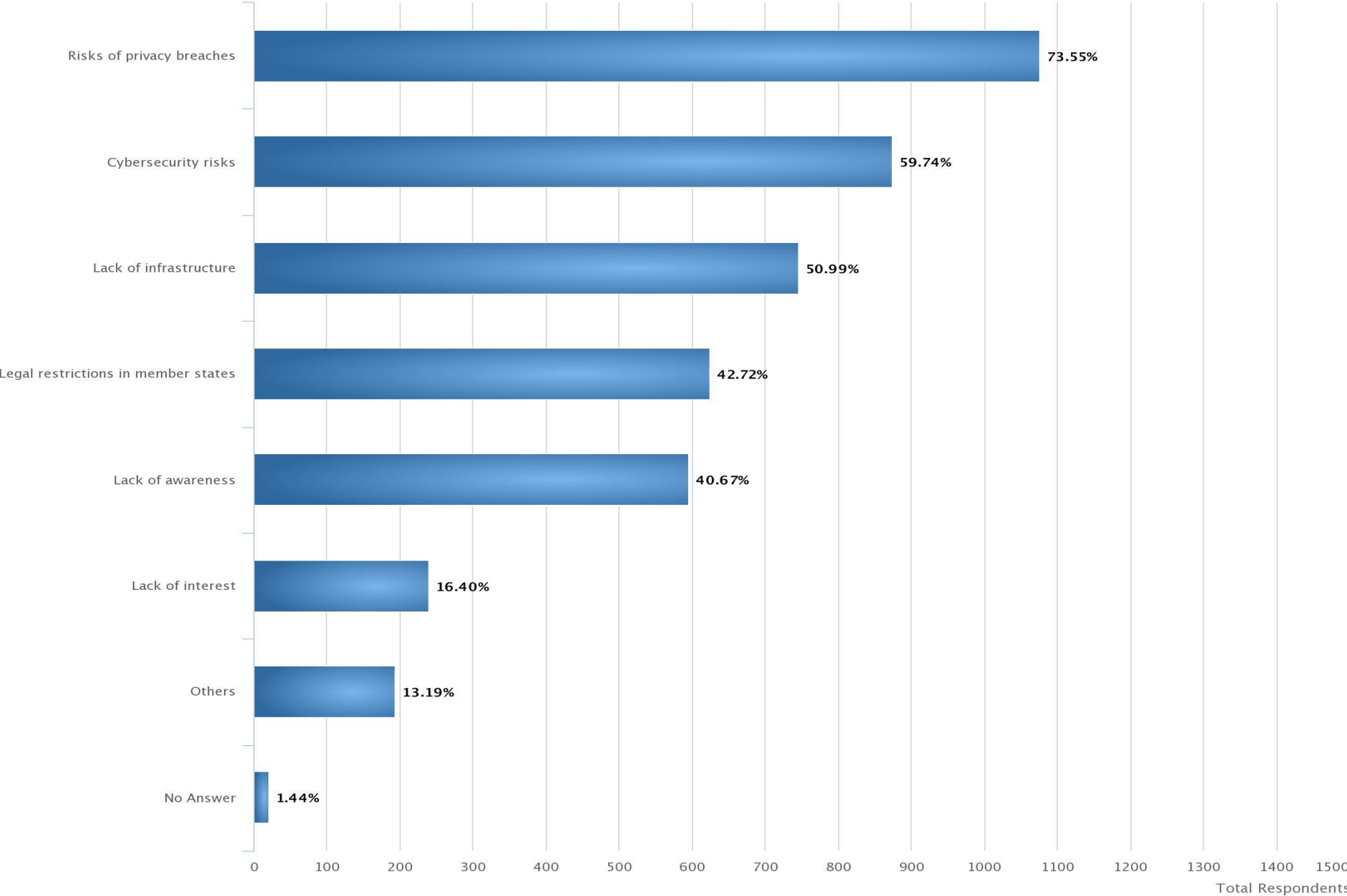
>90% strongly agree or agree citizens should be able to manage their own health data

Regarding the statement "Citizens should be able to manage their own health data", do you...



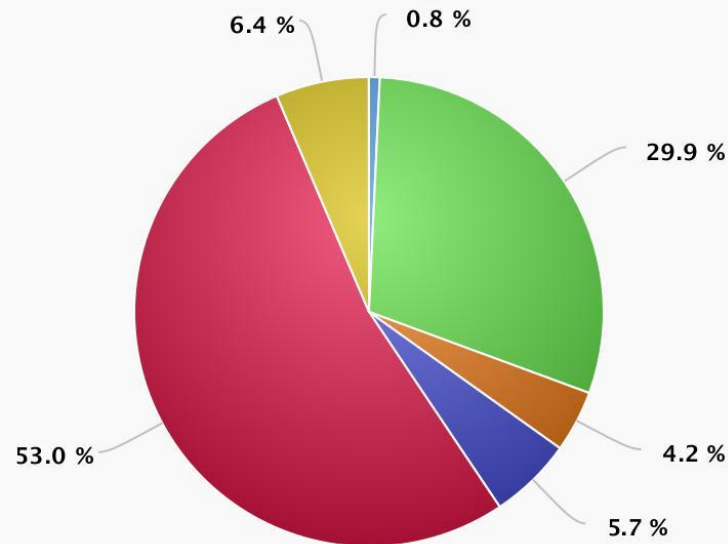
■ No Answer (7) ■ Agree (418) ■ Disagree (22)
■ Neither agree nor disagree (60) ■ Strongly agree (943) ■ Strongly disagree (13)

What are the major barriers to electronic access to health data?



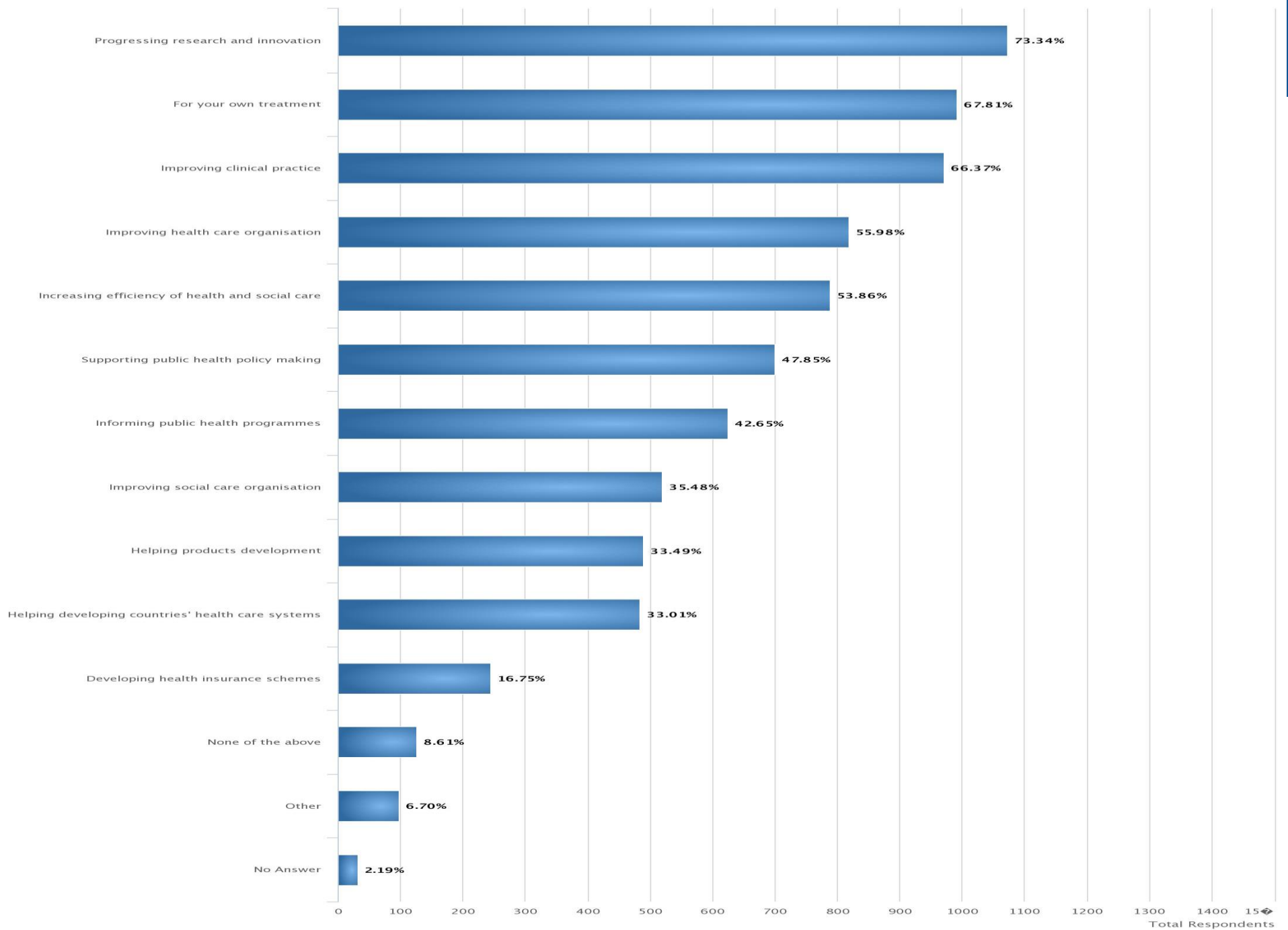
> 80% agree or strongly agree that sharing data can be beneficial

Regarding the statement "Sharing of health data could be beneficial to improve treatment, diagnosis and prevention of diseases across the EU", do you?



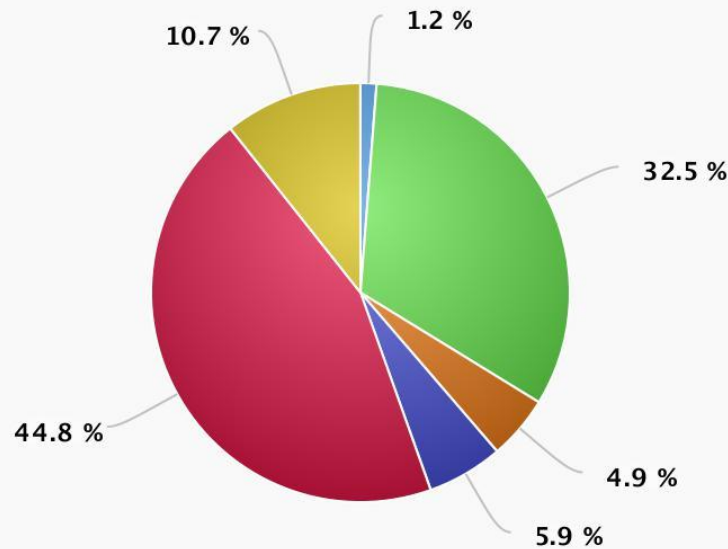
No Answer (11) Agree (437) Disagree (62)
Neither agree nor disagree (84) Strongly agree (775) Strongly disagree (94)

For which purpose would you agree to make your health data available provided this is in compliance with data protection legislation? (Choose as many as you wish)



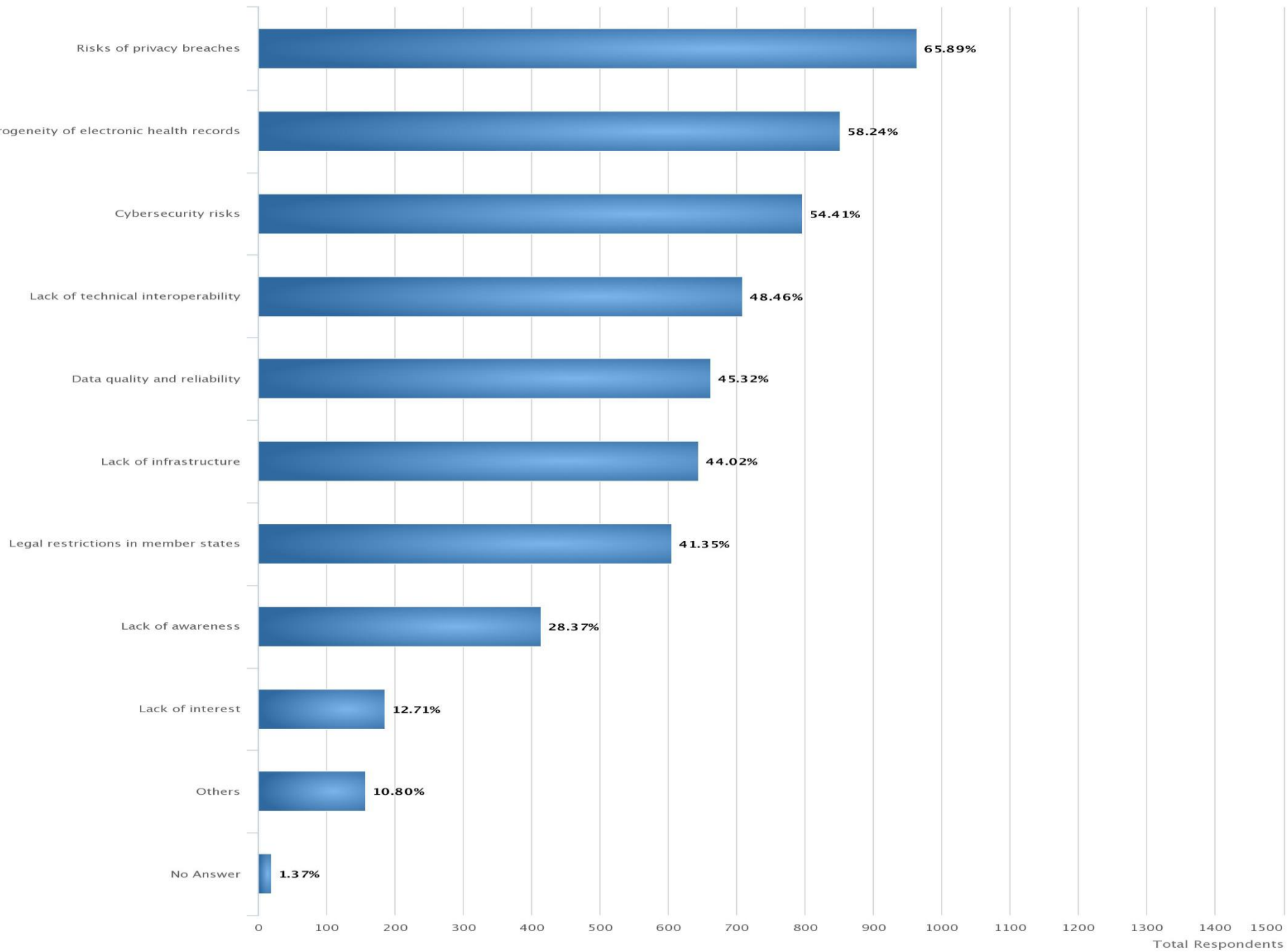
Positive view on data for research

Would you agree with the principle that personal health data should be made available for further research, on a case-by-case basis, in a secure way, and in compliance with data protection legislation?

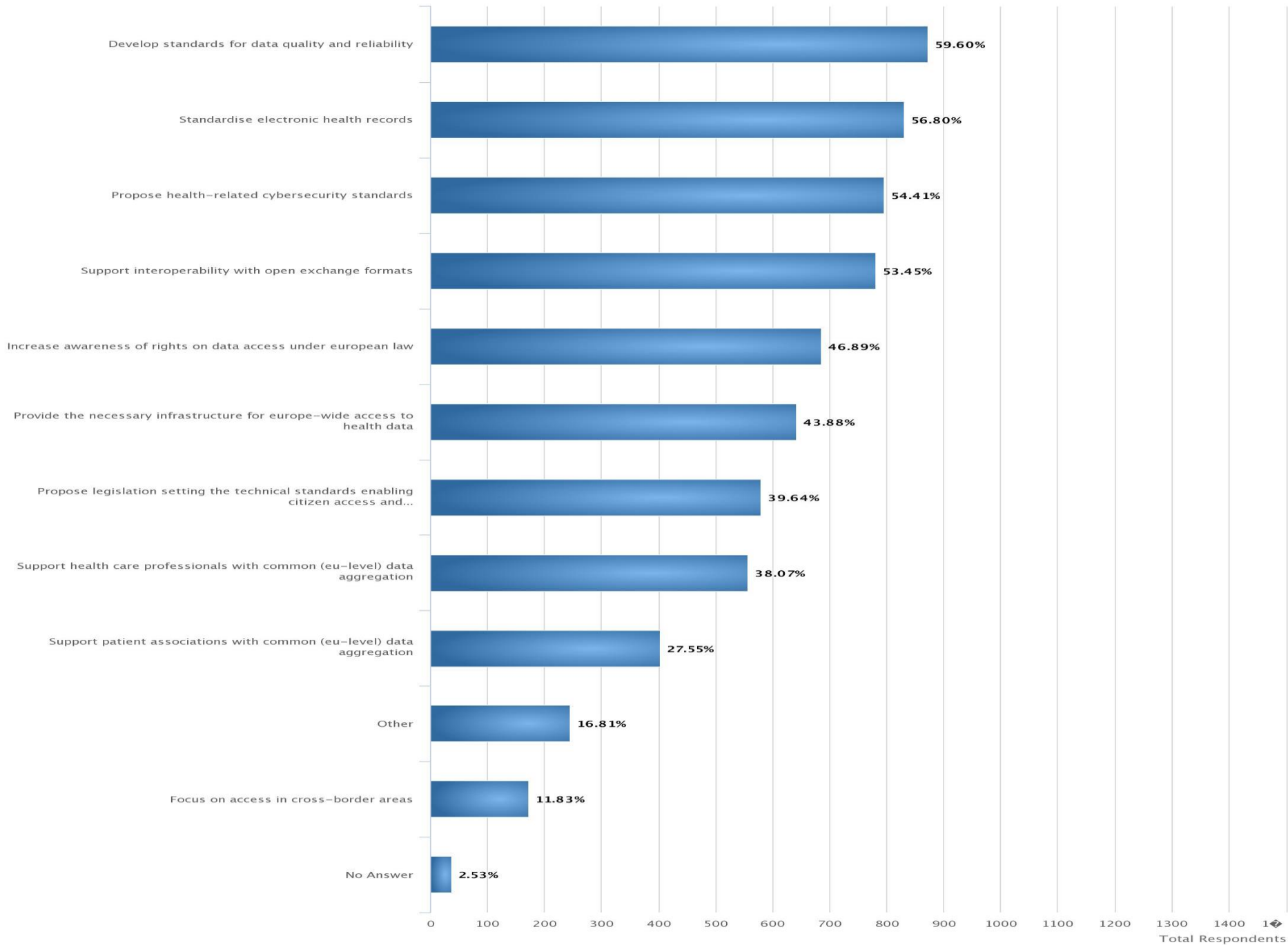


■ No Answer (18) ■ Agree (476) ■ Disagree (72)
■ Neither agree nor disagree (86) ■ Strongly agree (655) ■ Strongly disagree (156)

What are the major barriers to electronic sharing of health data?

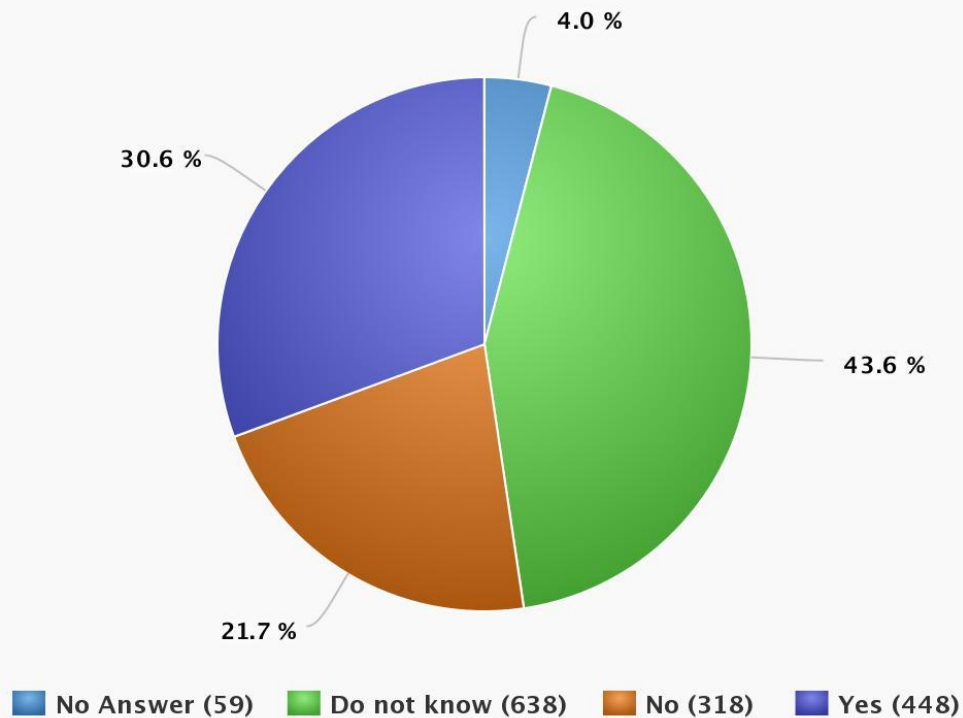


What should the EU do to overcome barriers to access and sharing of data? The EU should:



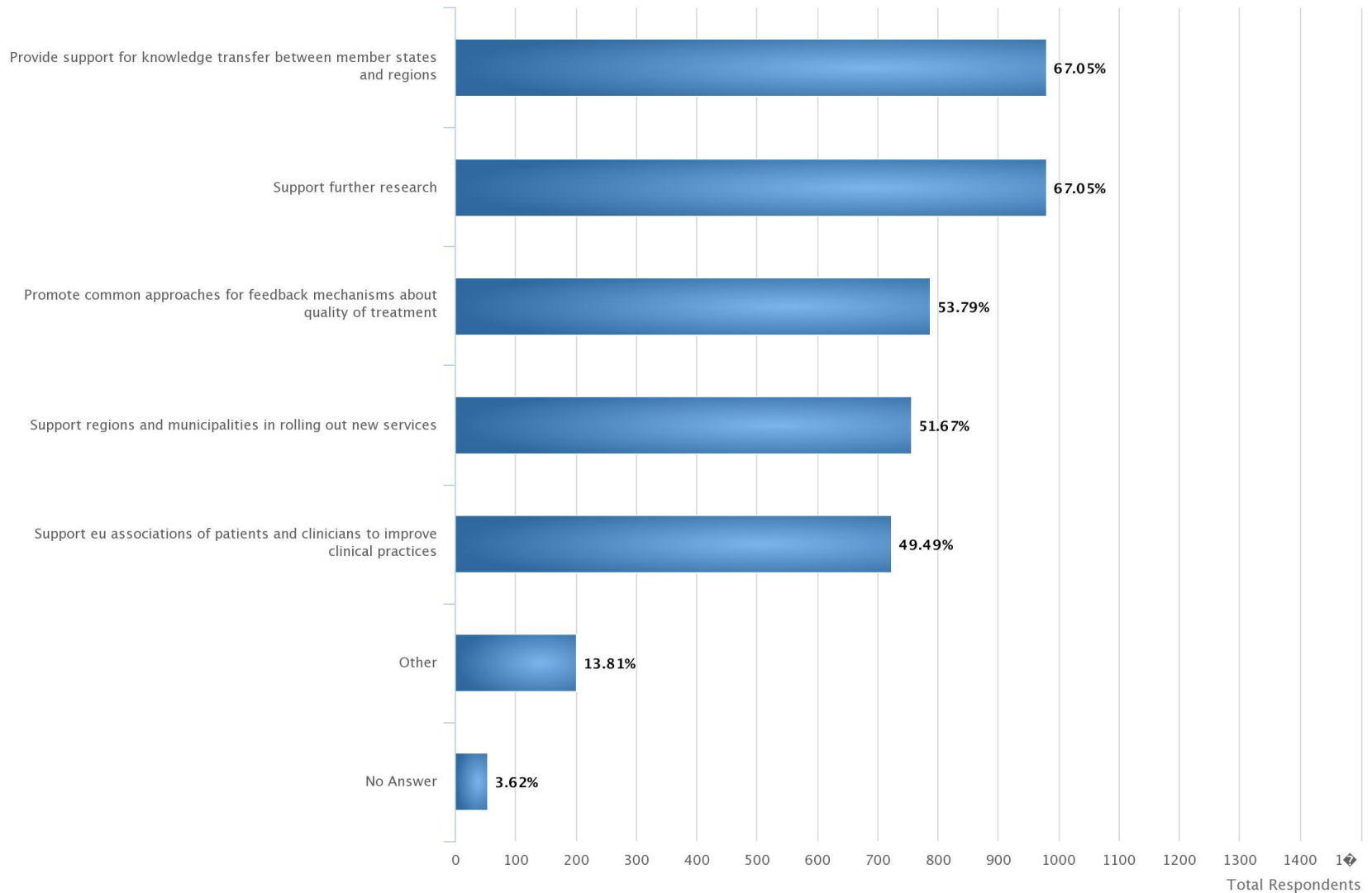
30% encounter barriers to big data

Do you / Does your organisation encounter barriers to using big data analytics for personalised medicine?





What should the EU do to support the goals of disease prevention, better treatment and giving citizens the means to take informed decisions on health issues (by means of digital innovation)?





PUBLIC POLICY CHALLENGES; EU ADDED VALUE



Challenges for

- Access
- Share
- Use

Key issues; enabling conditions

- Ownership; accessibility
- Privacy
- Identification, safety
- Liability
- Intellectual property

Pooling resources



Data infrastructure to advance research, disease prevention and personalised health and care

- Highly complex with the different layers of the AI-powered advanced robots: data layer (collection and processing), software layer (embedded or not), applications layer encompassing different apps, sensors and actuators, data services...
- Legal challenges
 - * assigning liability, product compliance, safety and insurance-related aspects
 - * GDPR: broad consent, further processing, anonymised data, Free-Flow of Data

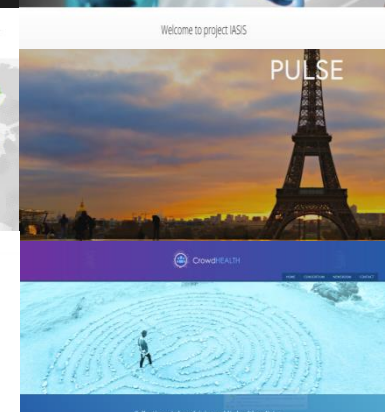
Data infrastructure to advance research, disease prevention and personalised health and care

Focus on Big Data and AI

- Big Data in clinical practice
- Big Data for research
- AI applied to advanced data analytics:
 - * early risk detection of health threats (cancer, cognitive impairments based on deep big data mining and pattern recognition)
 - * finding personalised treatments for patients by applying AI in diagnosis and prognosis stages

Big Data for public health policy making SC1-PM-18-2016, RIA

- Turning large amounts of data into actionable information to authorities for planning public health activities and implementation of an approach "health in all policies"
- 6 projects funded:
- MIDAS - www.midasproject.eu
- PULSE - www.pulseproject.info
- BigO - <https://bigoprogram.eu/>
- EVOTION - www.h2020evotion.eu
- CrowdHEALTH - www.crowdhealth.eu
- IASIS - <http://project-iasis.eu/>



Feedback and interaction between patients and healthcare providers for prevention, citizen empowerment, patient-centred care

- mHealth
- Patient feedback
- Integrated Care

