



# The level of digital competencies of medical and healthcare professionals

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# Digital technologies as a stressor

- Healthcare staff often operate within an increasingly complex environment with significant organisational and personal pressures of resource constraints, workloads, and time.
- Issues of resources (organisational and personal) versus demands and complexity of care delivery are likely to increase in the health and allied care sectors within the European Union in the coming decades due to sudden unexpected health events arising from climate change and global political and social instabilities - examples of these are the 'surge demands' on services from the COVID-19 pandemic, the current refugee surge arising from the war in Ukraine (Wells, 2022; Grandinetti et al., 2022).
- An added stressor is the increased use of digital based technologies in health service's organisations and personnel such as electronic health records (EHRs), artificial intelligence, machine learning and robotics to deliver direct treatment and care and use of mHealth, for example remote consultations for clinical assessment (Hazariika, 2021; Vehko et al., 2019).



# The greatest vulnerability is the human element

Health and allied care services are now considered critical digital infrastructure operators within the EU (EU, 2016).

This digital reliance increases the 'attack surface' vulnerability to disruption by external threats or internal electronic failures.

Cyber attacks are successful because members of the health workforce are often over worked in resource constrained environments (Nifakos et al., 2022), combined with the failure of organisations to promote and reinforce a culture of cyber security amongst staff by providing opportunities to acquire and maintain cyber security practices and skills (Wells, 2022).

# Problem

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A recent report by the European Observatory on Health Systems and Policies (Fahy and Williams, 2021) noted that, “The greatest barriers to adoption of digital health tools were not primarily technical in nature, but instead lay in successfully facilitating the required individual, organizational and system changes”.

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There is no comprehensive European ‘map’ of digital skills levels in the European workforce

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The pace of training of the health care workforce is not keeping up with the rapid and extensive adoption of digital technologies.

# DDS-MAP

- The Dynamic Digital Resilience for Medical and Allied Professions in Health Services
- 15 European partners in a consortium consisting of HEIs (Medical, Nursing, Education and Digital Technology), NGOs, health authorities and health insurers from across the EU
- to develop new training provision for health care professionals in the acquisition and mastery of new and emerging digital technologies and how to manage their associated challenges in the delivery of services.
- DDS-MAP will embed health care professionals' awareness, knowledge and self-reflection about their engagement and use of digital technologies in both their learning and professional practice.





**DDS-MAP**

Dynamic Digital Skills for Agility and Resilience

#EU4HEALTH  
#HEALTHEUION



Co-funded by  
the European Union



**HAVE YOUR SAY**

To complete the survey please visit:  
[DDSMAP.EASPD.EU/SURVEY](https://DDSMAP.EASPD.EU/SURVEY)

OR  
Scan the QR code



Share your thoughts and experiences in our survey and help shape the development of training modules on digital competency, healthcare implementation, current and emerging healthcare issues, and wellbeing.





## Q6 - In the last two weeks, how often have you used any of the technologies belo...

817 Responses

Field	Min	Max	Mean	Standard Deviation	Variance	Responses	Sum
Videoconferencing software	1.00	7.00	5.13	1.90	3.61	770	3950.00
Digital prescription software	1.00	7.00	5.43	2.17	4.70	664	3605.00
Clinical decision support system	1.00	7.00	6.02	1.56	2.44	661	3979.00
Data analysis software	1.00	7.00	5.70	1.70	2.88	731	4167.00
Electronic Health Records	1.00	7.00	3.71	2.50	6.25	737	2732.00

## Q7 - In the last two weeks, how often have you used any of the communication dev...

821 Responses



Field	Min	Max	Mean	Standard Deviation	Variance	Responses	Sum
Desktop computer/laptop	1.00	7.00	1.50	1.35	1.83	819	1231.00
Smartphone (i.e. phone that connects to the internet)	1.00	7.00	2.82	2.33	5.42	775	2183.00
Mobile tablet (e.g. iPad)	1.00	7.00	5.52	2.14	4.59	704	3884.00





## Q8 - In the last two weeks, how often have you used any of the clinical care tec...

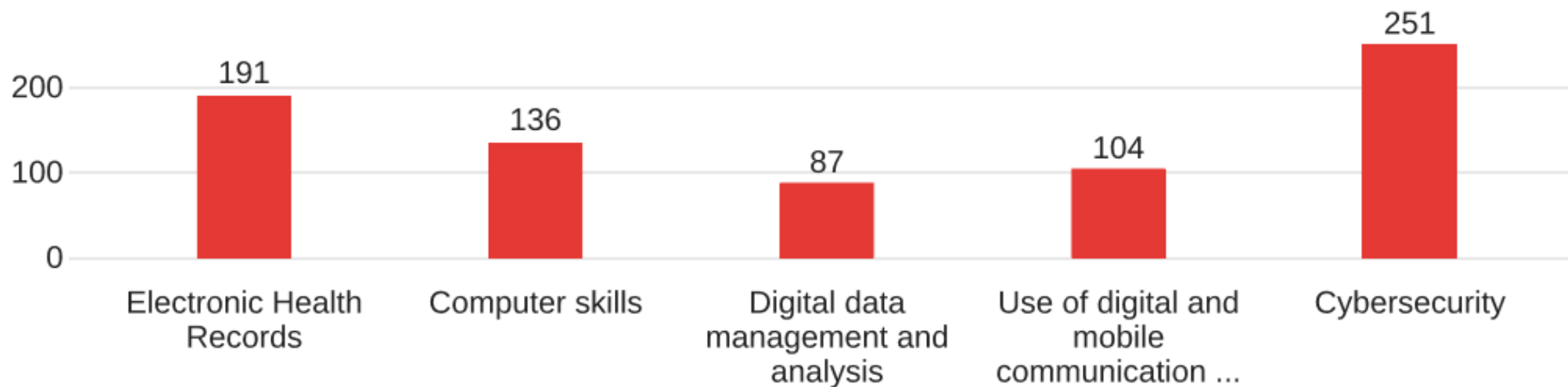
686 Responses

Field	Min	Max	Mean	Standard Deviation	Variance	Responses	Sum
Sensors and wearable devices for diagnostics and/or patient monitoring	1.00	7.00	5.00	2.33	5.41	664	3321.00
Robotics	1.00	7.00	6.67	1.03	1.06	607	4051.00
Automated medicine dispensers	1.00	7.00	6.40	1.49	2.23	569	3644.00



## Q9 - Have you had training in any of the following topics in the last 12 months (please tick all that apply to you)

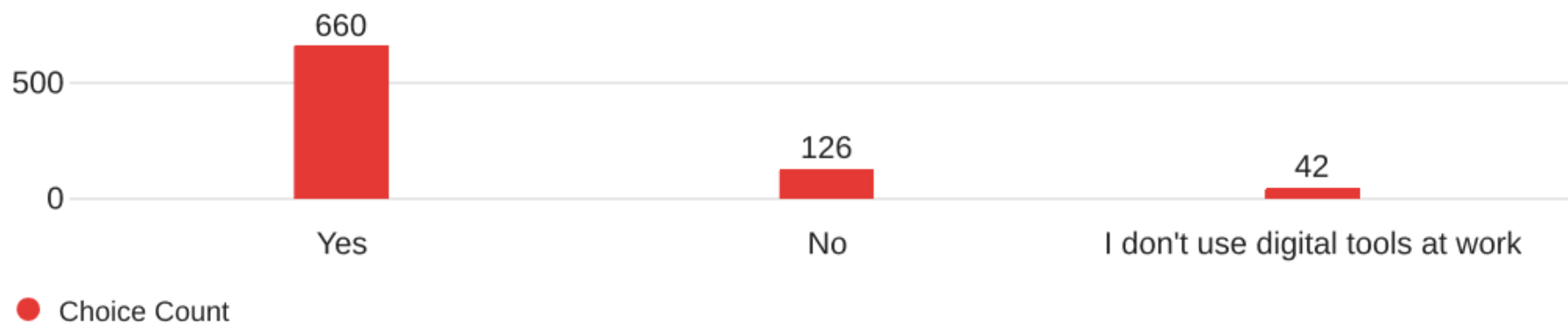
447 Responses





## Q11 - Do you feel confident in using digital tools at work?

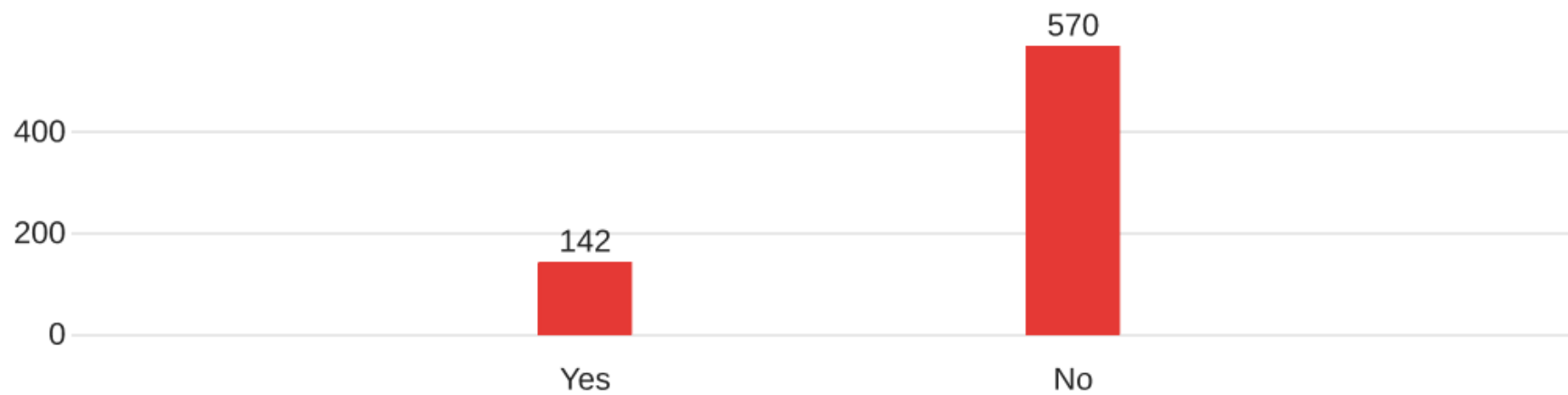
828 Responses





## Q12 - Do you feel anxious when using electronic patient information systems at work?

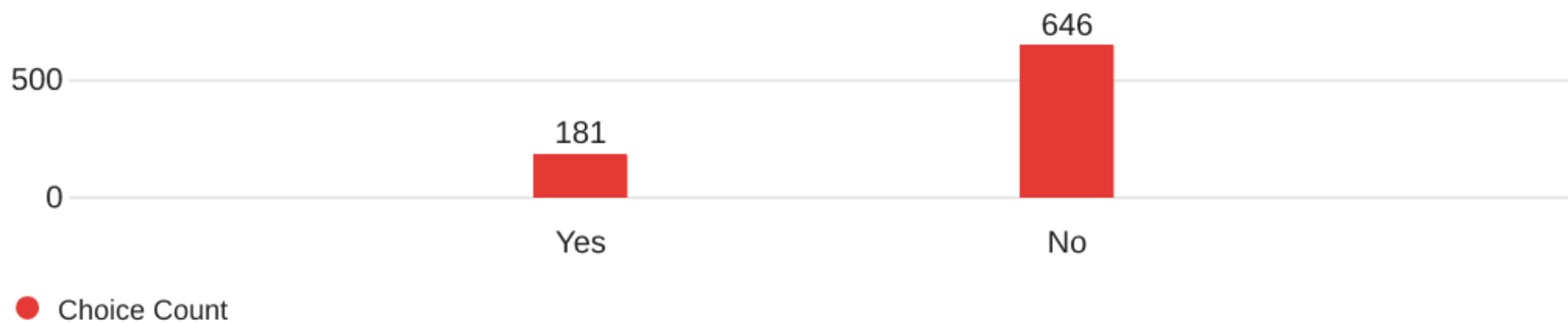
712 Responses





## Q13 - Have you ever experienced a cyber attack at work?

827 Responses





## Q15 - Do you feel confident in your cybersecurity practice at work?

830 Responses

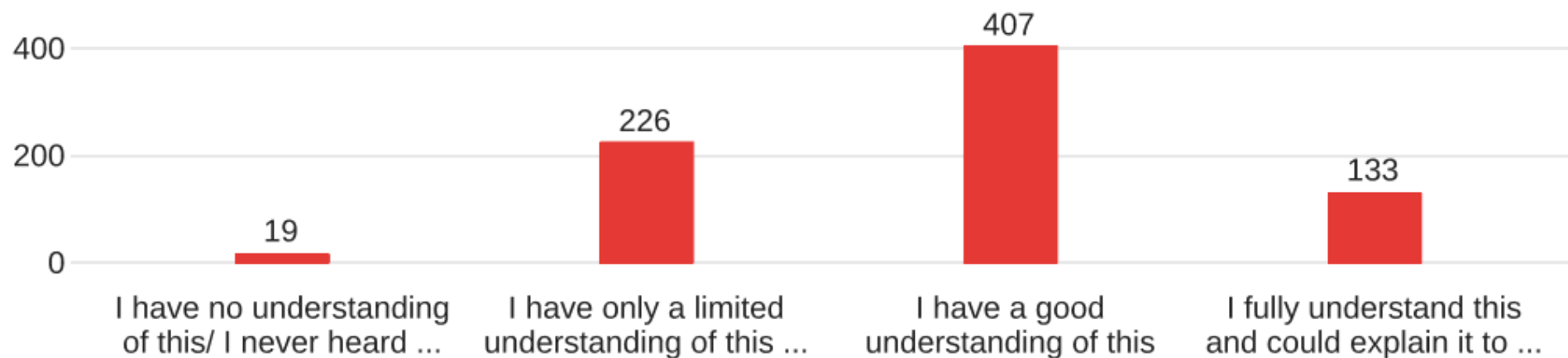


● Choice Count



Q16 - I understand the benefits and also the safety risks when using Internet-connected devices or systems (e.g. smart watches, smart home devices).

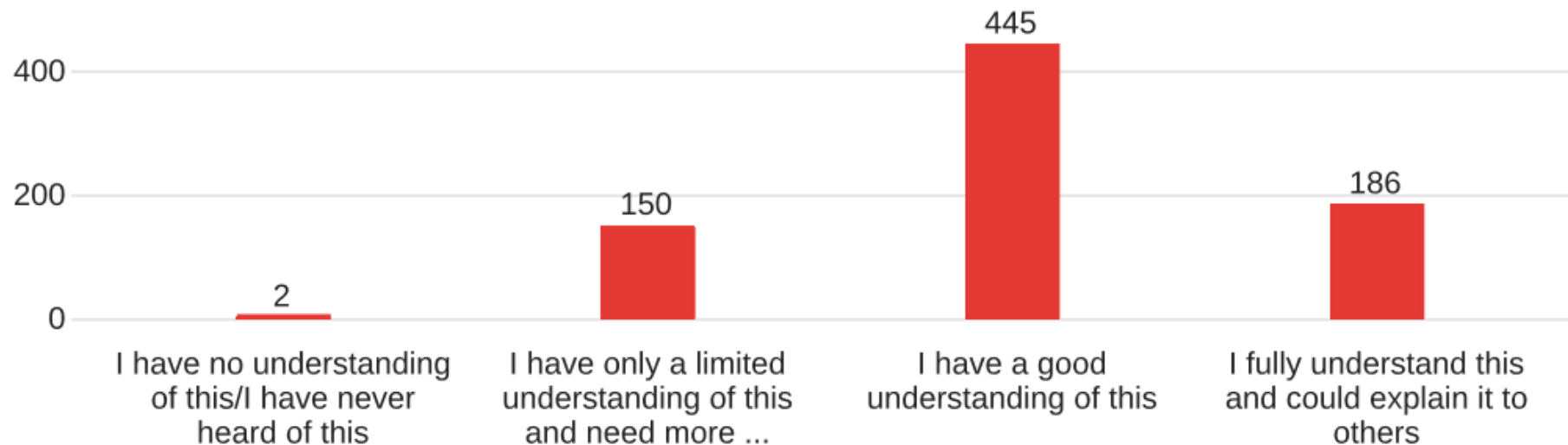
785 Responses





Q17 - I understand the importance of keeping the operating system, antivirus and other software up-to-date in order to prevent security issues.

783 Responses

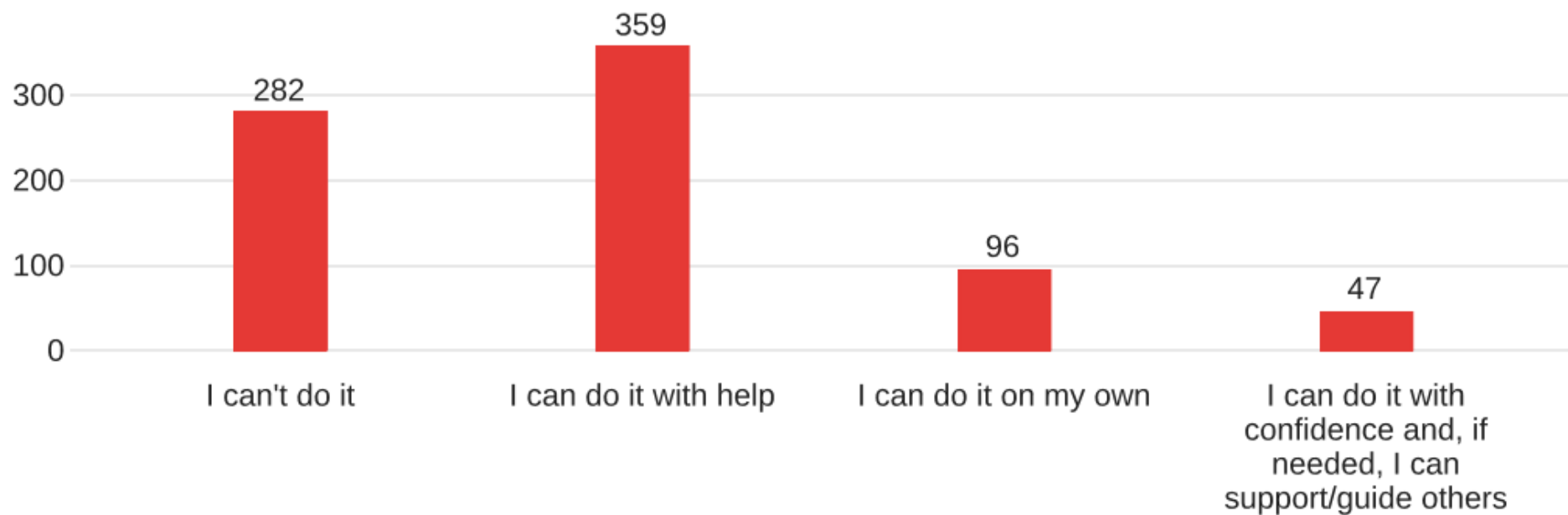






## Q19 - I know how to configure the settings of a firewall on different devices.

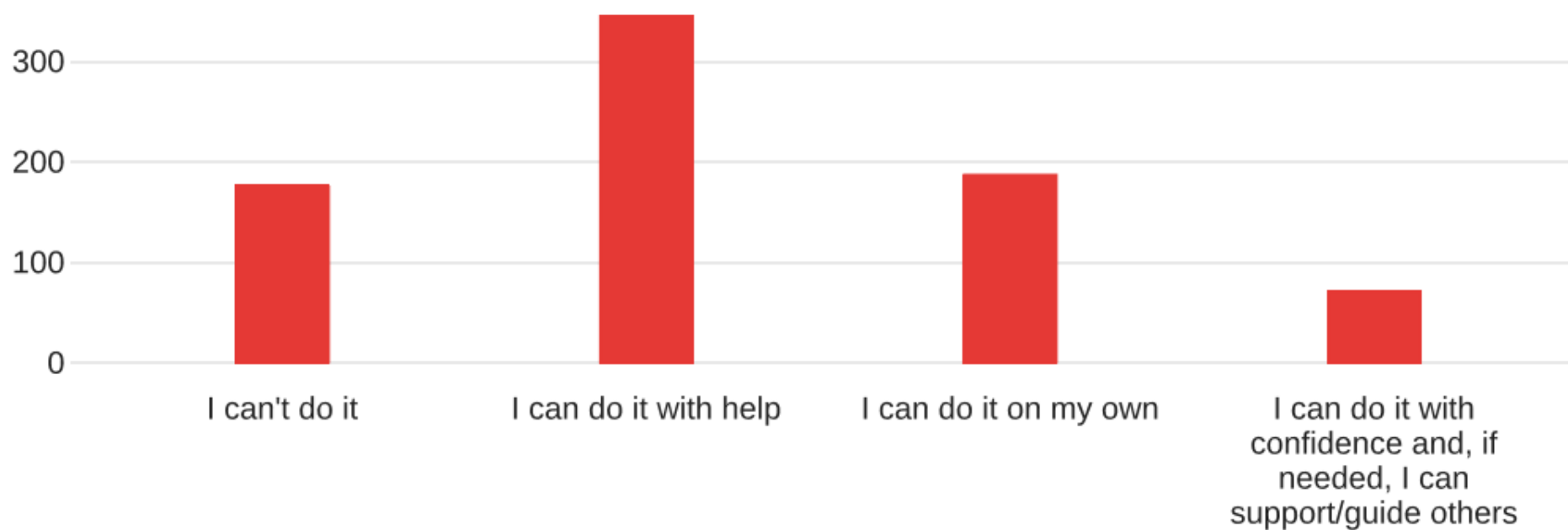
784 Responses





## Q20 - I know how to recover digital information and other content (e.g. photos, contacts) from a backup.

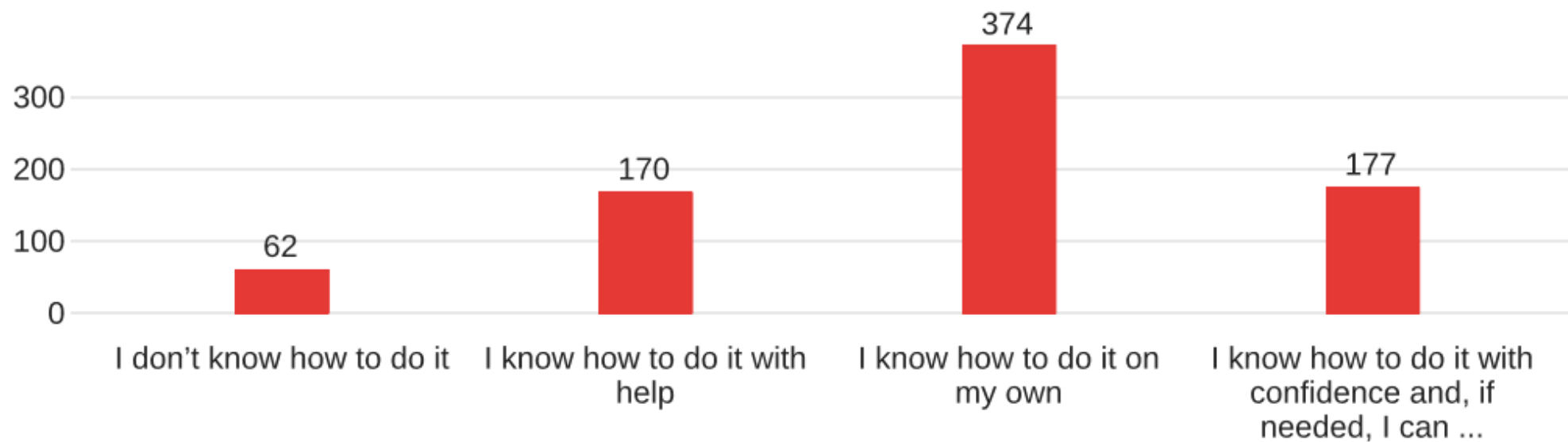
785 Responses





## Q21 - I know how to identify suspicious e-mail messages that try to obtain my personal data.

783 Responses





Q22 - I know how to check that the website where I am asked to provide personal data is secure (e.g. https sites, safety logo or certificate).

783 Responses





## Q23 - I know how to protect myself from unwanted and malicious online encounters and materials (e.g. spam messages, identity theft emails).

783 Responses





## Q24 - I know how to select the right tool, device or service to perform a given task.

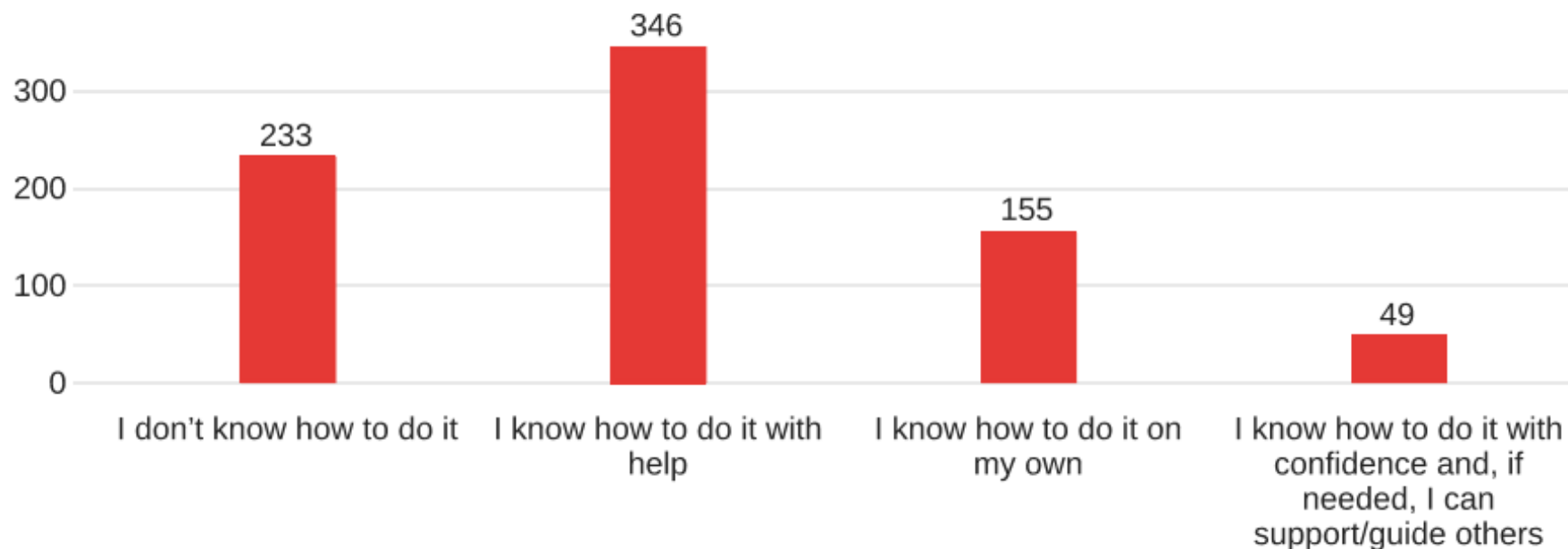
782 Responses





Q25 - I can use data tools (e.g. databases, data mining and analysis software) that manage and organize complex information to make decisions and solve problems.

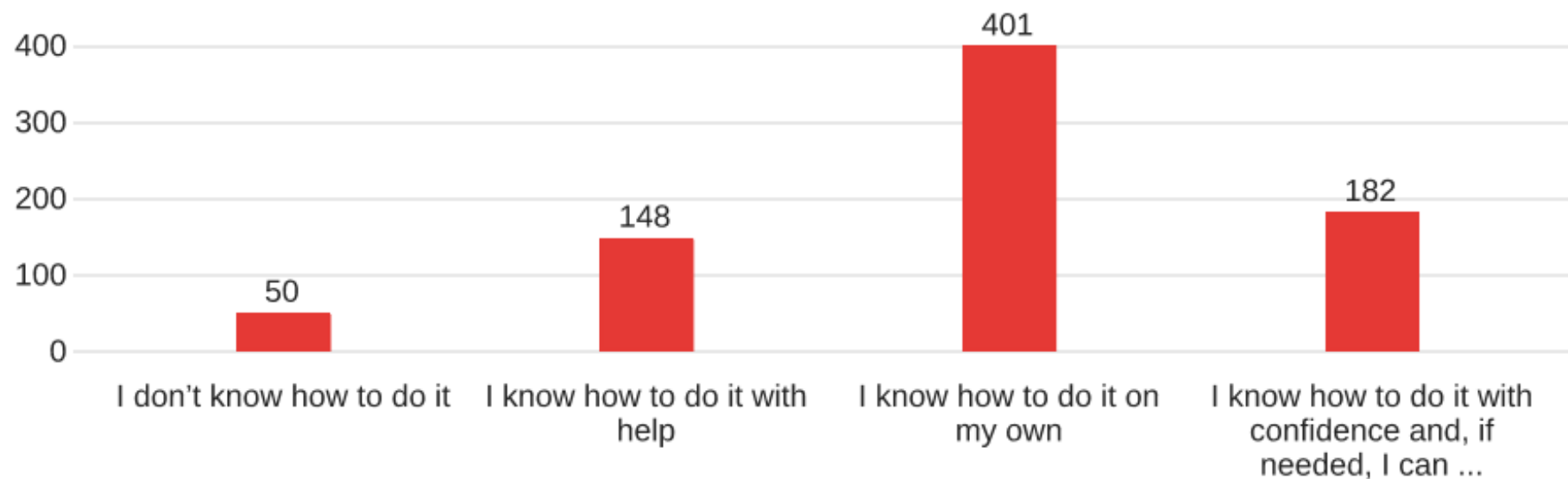
783 Responses





## Q26 - I know how to use online learning tools to improve my digital skills (e.g. video tutorial, online courses).

781 Responses

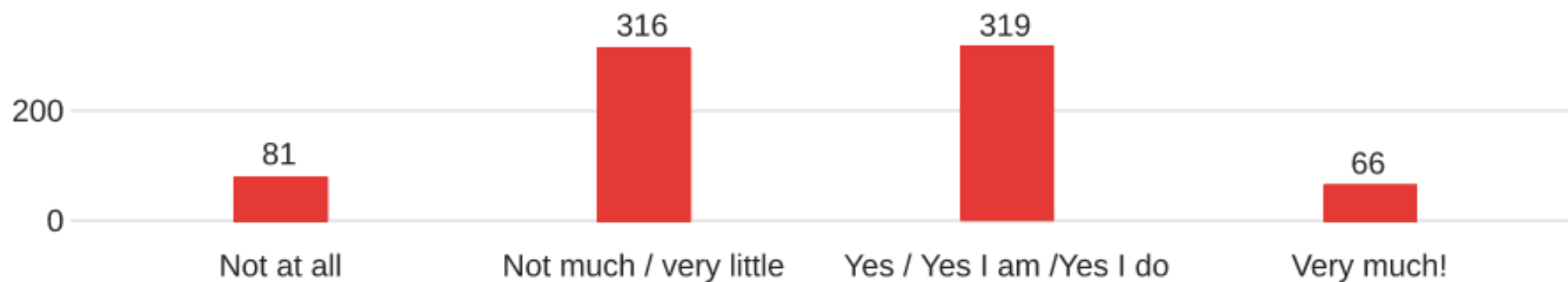






## Q27 - I am careful about checking the privacy policies of the digital services that I use.

782 Responses





## Q28 - Please indicate your organisation's status in relation to digital health fo...

750 Responses

Field	Min	Max	Mean	Standard Deviation	Variance	Responses	Sum
People who work here feel confident that the organization can get people invested in implementing digital transformations	1.00	5.00	3.31	1.17	1.37	745	2466.00
People who work here are committed to implementing digital transformation	1.00	5.00	3.12	1.20	1.43	745	2327.00
People who work here feel confident that they can keep track of progress in implementing digital technologies	1.00	5.00	3.11	1.17	1.36	745	2318.00
People who work here will do whatever it takes to implement digital healthcare delivery	1.00	5.00	3.03	1.22	1.50	742	2246.00
People who work here feel confident that the organization can support people as they adjust to digital transformations	1.00	5.00	3.23	1.20	1.45	744	2400.00
People who work here want to implement digital technologies	1.00	5.00	3.40	1.12	1.26	743	2525.00
People who work here feel confident that they can keep the momentum going in implementing digital transformation	1.00	5.00	3.17	1.06	1.12	740	2348.00



People who work here feel confident they can handle the challenges that might arise in implementing digital technologies	1.00	5.00	3.14	1.06	1.13	740	2325.00
People who work here are determined to implement digital technologies	1.00	5.00	3.13	1.12	1.25	742	2326.00
People who work here feel confident that they can coordinate tasks so that implementation goes smoothly	1.00	5.00	3.08	1.09	1.19	742	2285.00
People who work here are motivated to implement digital technologies	1.00	5.00	3.18	1.13	1.27	740	2350.00
People who work here feel confident that they can manage the politics of implementing digital technologies	1.00	5.00	3.01	1.07	1.15	736	2217.00



## Q29 - Which of the following would you like training in? Please rank the options...

686 Responses

Field	Min	Max	Mean	Standard Deviation	Variance	Responses	Sum
Cybersecurity	1.00	7.00	3.14	1.89	3.57	686	2151.00
Emergency preparedness	1.00	7.00	3.13	1.78	3.16	686	2145.00
Management of health impacts of climate change	1.00	7.00	5.06	1.75	3.05	686	3471.00
Using Electronic Health Records (EHRs)	1.00	7.00	3.62	1.78	3.18	686	2485.00
Personal wellbeing	1.00	7.00	3.99	1.91	3.64	686	2736.00
Telehealth and mobile health in patient care	1.00	7.00	4.14	1.96	3.84	686	2840.00
Organisational resilience	1.00	7.00	4.93	1.98	3.91	686	3380.00



## Q30 - Which of the following would you personally to most improve?

Please rank t...

680 Responses

Field	Min	Max	Mean	Standard Deviation	Variance	Responses	Sum
My confidence in using digital tools and databases	1.00	5.00	2.41	1.36	1.84	680	1637.00
Understanding how a device or software works that I use at work	1.00	5.00	2.73	1.34	1.80	680	1853.00
How to use digital processing skills correctly	1.00	5.00	2.92	1.19	1.42	680	1988.00
How to recognise cyberthreats and deal with them	1.00	5.00	3.38	1.35	1.82	680	2295.00
How to deal with digital device malfunctions	1.00	5.00	3.57	1.49	2.22	680	2427.00



Thanks 😊

Questions?

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