

29 Completed Responses

0 Partial Responses



Introduction

A glossary of terms used in e-oral health

Thank you for your participation! We are interested in whether you agree or not to include each item in this glossary of terms related to digital oral health and their definitions.

Please indicate whether you agree with the inclusion of each term. If you agree, please also indicate whether you agree with the provided definition. <u>Please note that there are no right or wrong answers.</u>

If you are unsure about a term or its definition, please respond "I do not know" instead of "Yes" or "No." If you respond "No" or "I do not know," please suggest an alternative definition.

Thank you!

e-Oral Health Network IADR

No Responses

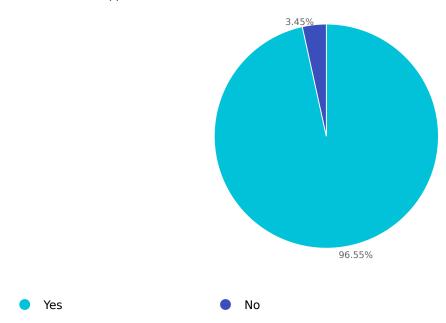
Terms related to e-Oral Health

No Responses

Artificial intelligence in oral health: Is a technology that enables machines to perform tasks previously exclusive to humans. In the field of oral health, it has been used for the identification of normal and abnormal structures, diagnosis of diseases, prediction of treatment outcomes, it is also integrated into dental laboratory practices. (Nguyen, Larrivée et al. 2021)

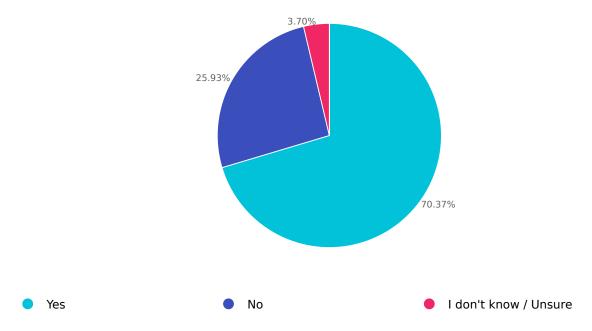
Please indicate whether you consider that this term should be included or not.





Choices	Response percent	Response count
Yes	96.55%	28
No	3.45%	1

Answered: 27 Skipped: 2

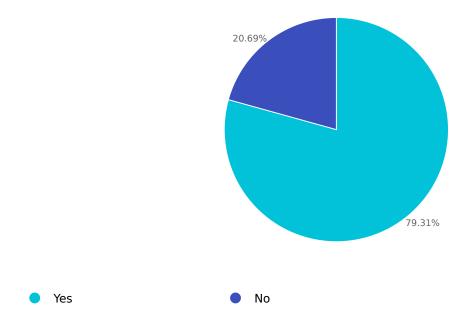


Choices	Response percent	Response count
Yes	70.37%	19
No	25.93%	7
I don't know / Unsure	3.70%	1
Any additional comments?		13

- 1. Artificial intelligence is the output/knowledge created by machine learning technology, not the technology itself. The rest of the definition (In the field of...) is correct.
- 2. looks good to me, but I don't have much experience in AI so I do not feel that my opinion holds much value.
- 3. For me this definition could be more concrete. It's a technology, but most definitions refer to the word intelligence/'science'. Maybe we could add something, like "Al leverages computers and machines to mimic human's intelligence processes, like problem-solving and decision-making capabilities of the human mind. (IBM) or Al combines computer science and robust datasets, to enable problem-solving.
- 4. I would like to suggest do replace "normal and abnormal structures" with "anatomical and pathological structures"
- 5. I think there are better and more precise definitions out there. I can't understand the concrete purpose of the first sentence. The definition itself does not mention applications like assistance in clinical decision making or automation of administrative workflows. However I am not an expert in the field of AI and dont have a good overview of the current literature.
- 6. No.

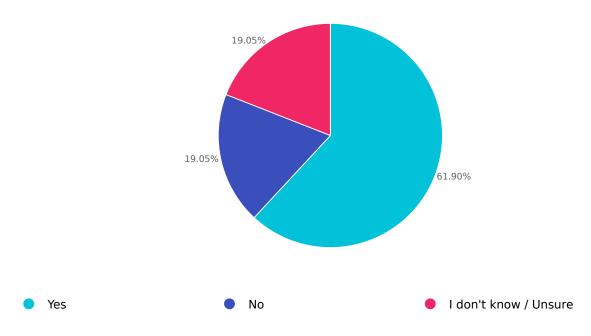
- 7. In addition to the tasks described, AI in oral health is also used for dental care services management and administration and to support decision not only in clinics, but also in dental public health
- 8. Just an editing matter: in the last portion of the statement- It should beprediction of treatment outcomes, and also integrated into dental laboratory practices.
- 9. Planning of treatment may also be completed by an Al system.
- 10. The explanation seems incomplete. From my understanding- AI can be defined as: AI is a field that deals with theory and development of computer systems with an ability to perform tasks on par with human intelligence. In oral health AI can support oral health specialists (and connected domains) in early identification of oral diseases, clinical decision making, rapid and reliable data interpretation, improve process and workflow automation of clinical and administrative tasks, treatment monitoring, predict disease and treatment outcomes and overall improve care quality and patient experience. (https://www.linkedin.com/in/arunakiry-natarajan/)
- 11. Artificial intelligence in oral health refers to the use of computer algorithms and machine learning techniques to analyze data and make decisions related to oral health care.
- 12. I think that this bit "it is also integrated into dental laboratory practices." should be changed to "it can also integrated into dental laboratory practices." This is because AI in oral health can be integrated into other systems like Public health systems where specific oral health systems do not exist.
- 13. Could be better described

Convolutional neural network (CNN): Is a type of deep learning architecture currently popular for medical image analysis (NCBI 2022)



Choices	Response percent	Response count
Yes	79.31%	23
No	20.69%	6

Answered: 21 Skipped: 8



Choices	Response percent	Response count
Yes	61.90%	13
No	19.05%	4
I don't know / Unsure	19.05%	4
Any additional comments?		9

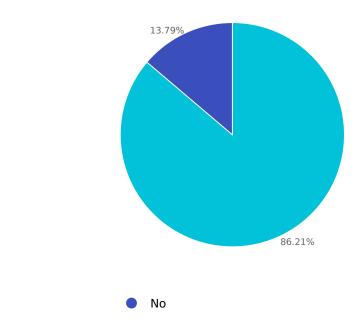
- 1. No.
- 2. To my understanding, CNNs can also be used in other areas that do not use images for diagnosis, such as psychiatry and speech language (in speech recognition, for example).
- 3. In terms of definition, it needs some detail: Suggestion- 'Convoluted Neural Network (CNN) is a class of artificial neural networks in deep learning and has applications medical oral radiographic analysis.'
- 4. Could add a diagram to illustrate the meanings of different terminology. The term needs some brief details in another line such as its components (e.g., feature extraction, classification..)
- 5. I understand this is the definition on Pubmed. It does not, however, clarify things a lot. What I know beyond this is limited: I understand it is a series of models that build on each other to generate a logarithm to identify things.
- 6. Not only medical image
- 7. CNN is a type of ANN and deep learning algorithms which are designed for the processing of images (pixel data) and commonly used for image recognition and processing. (https://www.linkedin.com/in/arunakiry-natarajan/)
- 8. I would add CHH is particularly well-suited for image recognition and processing tasks.

9. Can be better described

Deep learning in health: Deep learning is a particularly complex subset of machine learning that uses volumes of data and complex algorithms to train a model (Ko, Shen et al. 2021)

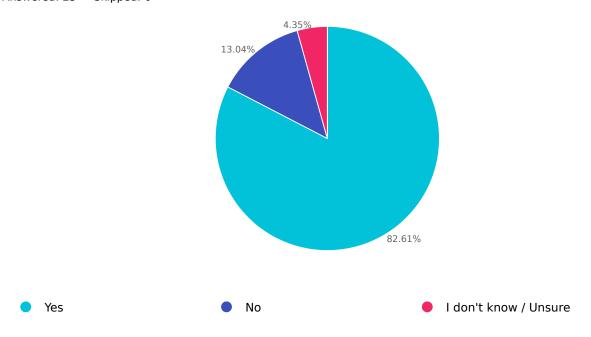
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Yes



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

Answered: 23 Skipped: 6

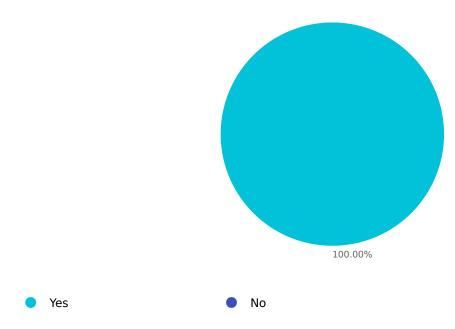


Choices	Response percent	Response count
Yes	82.61%	19
No	13.04%	3
I don't know / Unsure	4.35%	1
Any additional comments?		7

- 1. The definition is correct but not conclusive. The difference between machine learning and deep learning is not clear. It might become a little bit technical, but the many layers and self-learning aspect may be an addition that highlights the difference between machine learning and deep learning.
- 2. deep learning incorporates hidden layers and outperforms machine learning. Well-developed deep learning models used imaging data for disease detection
- 3. No.
- 4. Personally, I would add oral to health, as this is specific to dentistry
- 5. Simple definitions to the point. Yet, again with diagrams, the glossary would be useful rather than defining words in a text. A diagram can show the input, feature extraction/classification, and output.
- 6. Is it possible to supplement this with what it is not.... like "it is different from x where y is used"
- 7. I believe the definition is too general, and is more about DL instead of DL in health. Maybe should talk about the use of patient data to train healthcare model

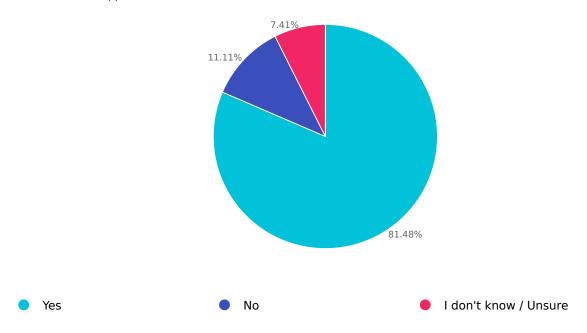
Digital health: Umbrella term that comprises e-health (which includes mobile health) and the use of computational sciences in artificial intelligence, big data and genomics (WHO, 2019). Digital health extends the concept of e-health to include digital consumers, with a wider range of smart devices and connected equipment. It also encompasses digital health technologies such as the Internet of Things, artificial intelligence and robotics and data analytics to improve health and wellbeing of patients, and/or to reduce costs of services" (WHO, 2021)





Choices	Response percent	Response count
Yes	100.00%	29
No	0.00%	0

Answered: 27 Skipped: 2

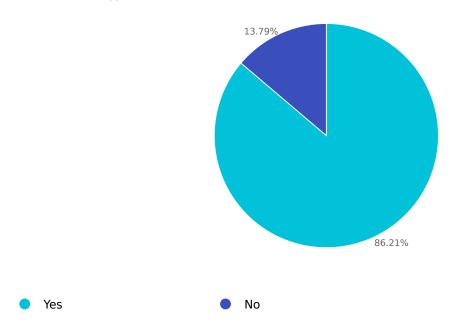


Choices	Response percent	Response count
Yes	81.48%	22
No	11.11%	3
I don't know / Unsure	7.41%	2
Any additional comments?		6

- 1. Deep learning in health and the CNN are outside of my range. I do not agree nor disagree as this is also not my area of expertise. As for digital health, I am not sure what the "internet of things" is. It sounds odd, but that may be because I don't know what it was.
- 2. Does digital health need to reduce costs of services? I think it aims it, but in my opinion it doesn't need to be included in the definition. It can also increase the costs, but improve the quality of healthcare, can't it?
- 3. I probably would include telehealth as an important brunch of Digital Health / e-health.
- 4. Same as above
- 5. I agree with some parts of the definition. In my opinion, it limits the definition of digital health to using equipment, technologies, etc only. I came across a broader definition by Dr. Bertalan Mesko. It states that "Digital Health is the cultural transformation of how disruptive technologies that provide digital and objective data accessible to both caregivers and patients leads to an equal level doctor-patient relationship with shared decision-making and the democratization of care" The key components of definition 1) its is a cultural transformation of care 2) it uses technologies that provide data to Both patients and medical professionals 3) it leads to an equal-level partnership between them Reference: Meskó B, Drobni Z, Bényei É, Gergely B, Győrffy Z. Digital health is a cultural transformation of traditional healthcare. mHealth 2017;3:38. This can be adapted to digital health in dental medicine.

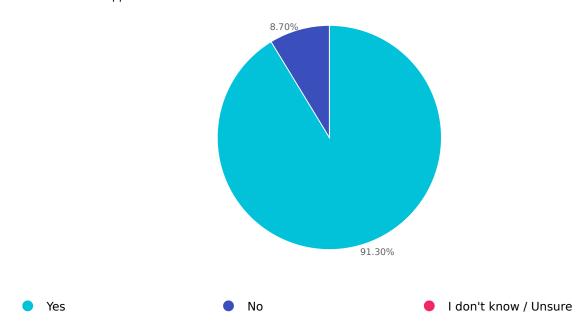
6. It could be better described

e-consent: Remote electronic consenting, a component of e-health (Almeida-Magana, 2022)



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

Answered: 23 Skipped: 6



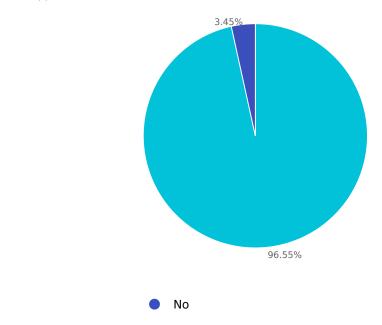
Choices	Response percent	Response count
Yes	91.30%	21
No	8.70%	2
I don't know / Unsure	0.00%	0
Any additional comments?		7

- 1. Not directly digital oral health, but it should be included
- 2. Consent can be more difficult and I think defining it is great.
- 3. you could include the need for an electronic identifier
- 4. No
- 5. Can take place on-site in addition to remotely.
- 6. I think the emphasis here is on "e-/ electronic" rather than "remote". For example, if I am collecting questionnaire data in the field and participants respond themselves on a table or phone I provide by ticking a consent box, it would be electronic but not remote.
- 7. A digital or electronic record of a dental consumer's/ patient's choices, which permits or denies identified recipient(s) or recipient role(s) to perform one or more actions within a given policy context, for specific purposes and periods of time. modified from FHIR based standard definition for Consent https://hI7.org/fhir/consent.html (https://www.linkedin.com/in/arunakiry-natarajan/)

e-health: "products, systems and services that go beyond simply Internet-based applications. They include tools for both health authorities and professionals as well as personalised health systems for patients and citizens." (Commission of the European Communities 2004)

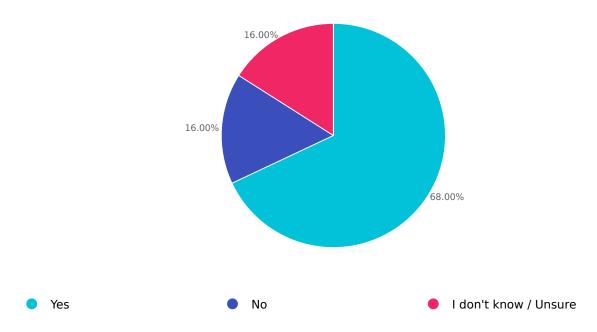
Answered: 29 Skipped: 0

Yes



Choices	Response percent	Response count
Yes	96.55%	28
No	3.45%	1

Answered: 25 Skipped: 4



Choices	Response percent	Response count
Yes	68.00%	17
No	16.00%	4
I don't know / Unsure	16.00%	4
Any additional comments?		7

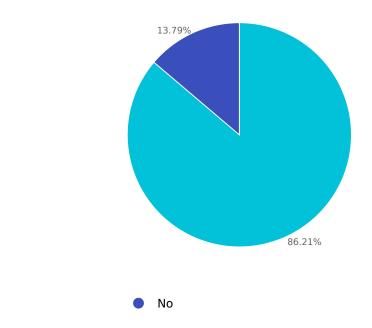
- 1. I feel like e-health and digital health are close enough that we need to really emphasize the difference
- 2. Simple internet-based applications are part of e-health, and it misses the health component. The WHO (2023) defines eHealth as the cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research. Not sure about the cost-effective and secure part of the definition (see previous comment)
- 3. I think the term ehealth has developed since 2004 and has to be integrated / distinguished with terms like digital health and healthtech. i like this one from the who more: eHealth is the transfer of health resources and healthcare by electronic means. It includes a broad range of technologies vital to the operation of the health system, such as electronic health records, systems supporting clinical treatment, standards for the exchange of health information, and mobile health (mHealth).
- 4. I have doubts about the real scope of e-health, as we started using in a more global perspective the term digital health. If it is true that digital health comprises e-health, where exactly are the boundaries between one and the other? In other words, what is digital health but not e-health?

- 5. In addition to the statement, it would be great to add the purpose of e-health in the definition. I came across this definition of eHealth by the European Society of Cardiology. e-Health "is the use of information and communication technology to support health and healthcare."
- 6. The definition indicates it goes beyonf internet based apps but does not in the second half mention anything about "e-".
- 7. The definition is narrow.

e-health record: Media that facilitate transportability of pertinent information concerning patient's health across varied providers and geographic locations. Some versions include direct linkages to online consumer health information that is relevant to the health conditions and treatments related to a specific patient. (NCBI 2010)

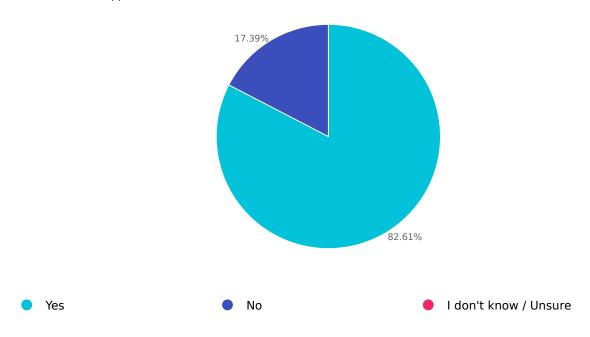
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Yes



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

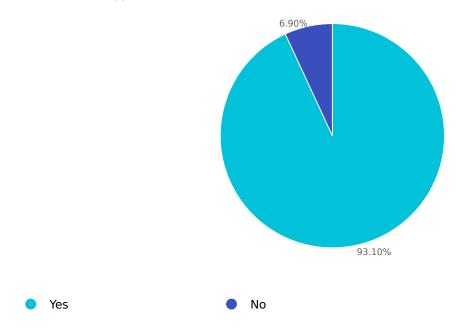
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Choices	Response percent	Response count
Yes	82.61%	19
No	17.39%	4
I don't know / Unsure	0.00%	0
Any additional comments?		7

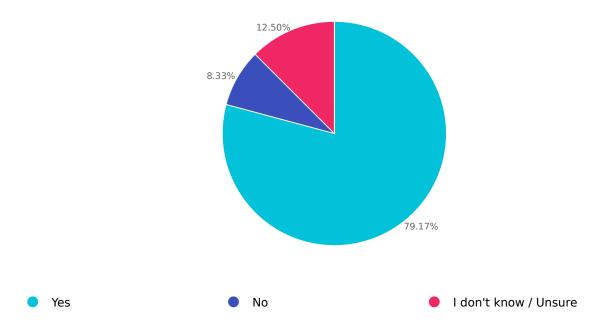
- 1. This would be such a wonderful thin to have.
- 2. Is a record media? EHR are a digital repository of patient data and contain retrospective, current, and prospective information in chronological order. (Häyrinen K, Saranto K, Nykänen P. Definition, structure, content, use and impacts of electronic health records: a review of the research literature. Int J Med Inform. 2008;77(5):291-304.)
- 3. I would at least mention the capabilites for structured data entry and interoperability Also the possibility of a longitudinal patient record.
- 4. No
- 5. I would add dental
- 6. I think the first sentence of the definition needs to include something about "e-".
- 7. Update

e-learning: refers to the use of Internet technologies and online learning to deliver medical education. e-Learning also includes learning for health care providers, in terms of continuous medical education or continuous professional development (Masic 2008)



Choices	Response percent	Response count
Yes	93.10%	27
No	6.90%	2

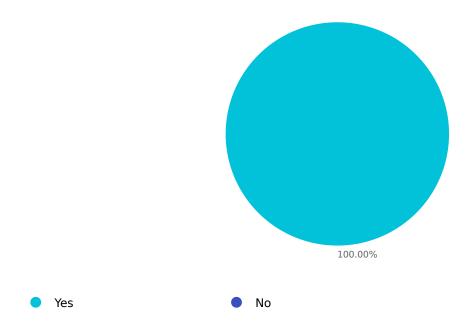
Answered: 25 Skipped: 4



Choices	Response percent	Response count
Yes	79.17%	19
No	8.33%	2
I don't know / Unsure	12.50%	3
Any additional comments?		8

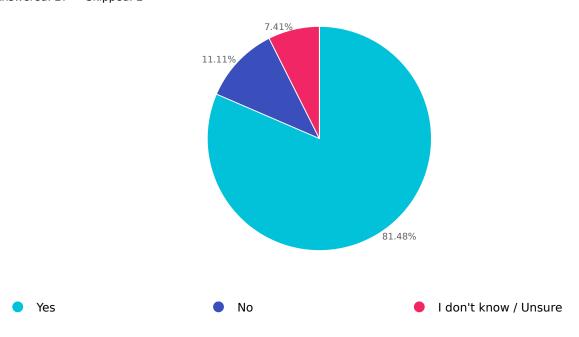
- 1. This e-health record definition induces that it must be transported or linked to destination x, but in my opinion a record has not a primary function to transport. Records must support e-health (processes), even if the record stays in the media it was originally recorded. Of course, it has the ability to exchange but an e-health record is primary a record that is registered to support e-health(care).
- 2. It sounds like it includes patient education?
- 3. Instead of the term "medical education", which is restrict to physicians, I wolud rather prefer health professionals education.
- 4. This is not restricted to medical (or even health education)
- 5. It can also include dental students and trainees, as another example.
- 6. May be replace "medical education" by "education" or "healthcare professions education"
- 7. E-learning, or electronic learning, refers to the use of digital technologies to deliver educational content and support learning. This can include a wide range of different tools and platforms, such as online courses, virtual classrooms, webinars, educational software, and mobile apps.
- 8. The definition is narrow

e-oral health: can be described as the cost-effective and secure use of information and communication technologies in support of oral health care and fields related to oral health care, including oral health surveillance, oral health education, oral health knowledge and research. This definition is adapted from the WHO's definition for e-health (WHO 2022)



Choices	Response percent	Response count
Yes	100.00%	29
No	0.00%	0

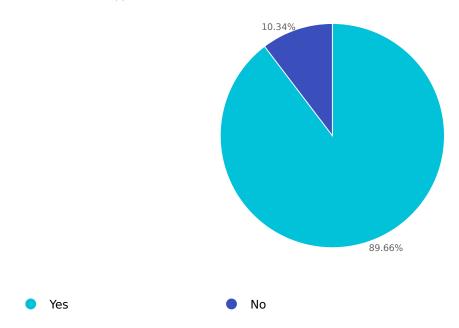
Answered: 27 Skipped: 2



Choices	Response percent	Response count
Yes	81.48%	22
No	11.11%	3
I don't know / Unsure	7.41%	2
Any additional comments?		8

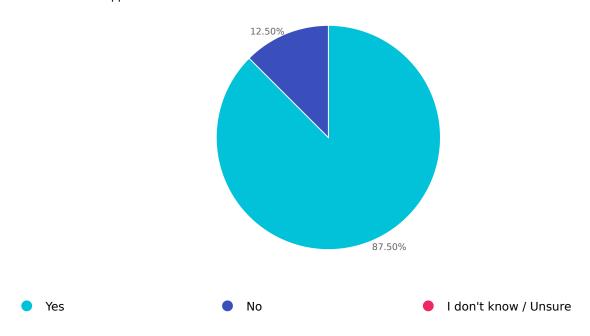
- 1. Maybe reword/delete the "cost-effective" bit
- 2. This seems very broad. I am guessing there will be other terms that will get more specific.
- 3. I am not sure about "the cost-effective and secure use" See my previous comment
- 4. The cost-effectiveness and security of e-health should not be part of the definition as it cannot be ensured.
- 5. We could also include as possible functions of e-health / telehealth, the dimension of management of helth services network.
- 6. I suggest replacing "oral health education" by "oral health promotion" or adding the latter. Not sure if "cost-effective" would be restrictivemost existing studies/ applications do not have an economic evaluation to support this.
- 7. remove word "cost-effective" as these aren't always the most cost-effective option.
- 8. It could be better described

e-prescription: The use of computer communication networks to store and transmit medical prescriptions (NCBI 2009)



Choices	Response percent	Response count
Yes	89.66%	26
No	10.34%	3

Answered: 24 Skipped: 5



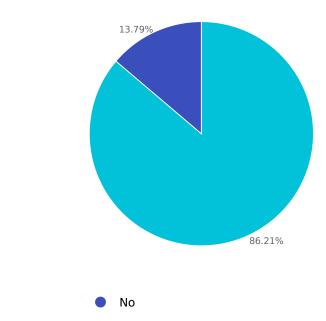
Choices	Response percent	Response count
Yes	87.50%	21
No	12.50%	3
I don't know / Unsure	0.00%	0
Any additional comments?		7

- 1. Not directly digital oral health, but it should be included
- 2. No
- 3. Add dental
- 4. to generate, store and transmit ..
- 5. Should "generate" be added before "store"?
- 6. The definition provided is the description of a CPOE system and not of the e.prescription it self. e-prescription is an electronic time-limited authorization for the provision of medication to the recipient from a licensed authority in providing oral care. Please note that e- prescriptions can have scopre beyond medication (https://www.linkedin.com/in/arunakiry-natarajan/)
- 7. Narrow definition

e-referral: The exchange of significant patient information from one treating healthcare provider to another via a system of creating, storing and sharing reports. (Australian Digital Health Agency 2022)

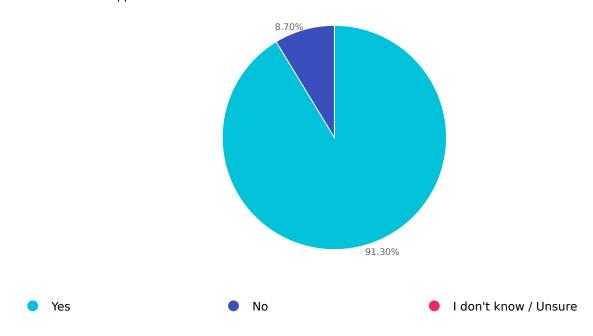
Answered: 29 Skipped: 0

Yes



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

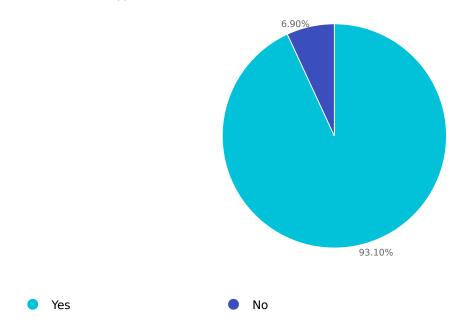
Answered: 23 Skipped: 6



Choices	Response percent	Response count
Yes	91.30%	21
No	8.70%	2
I don't know / Unsure	0.00%	0
Any additional comments?		6

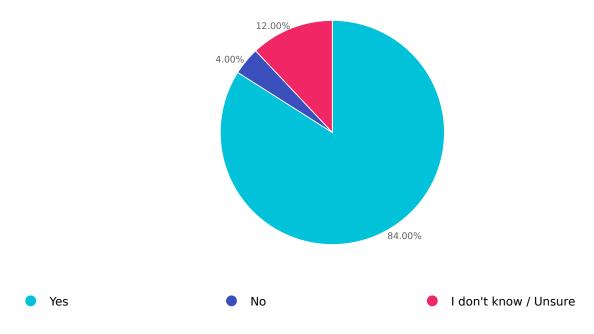
- 1. Not directly digital oral health, but it should be included
- 2. ...but it also includes the coordination of the patient treatment, further enquiries of information and case discussions and the referral of the patient. This definition limits it to the exchange of information which for me is a prerequisite but not the actual use case of an e-referral
- 3. No
- 4. To my knowledge, a referral is not only an exchange of info, but also an action that involves referring a patient to receive care delivered by another professional. This encompasses comprehensiveness and care cordination, which are key attributes of primary care
- 5. Edit: Add digital as follows: The digital exchange of significant patient information.....
- 6. It could also be between centers: Primary care to tertiary care centers

Health informatics: Health Informatics has been defined by WHO as "an umbrella term used to encompass the rapidly evolving discipline of using computing, networking and communications – methodology and technology – to support the health related fields, such as medicine, nursing, pharmacy and dentistry" (WHO. Regional Office for the Eastern Mediterranean 2001)



Choices	Response percent	Response count
Yes	93.10%	27
No	6.90%	2

Answered: 25 Skipped: 4

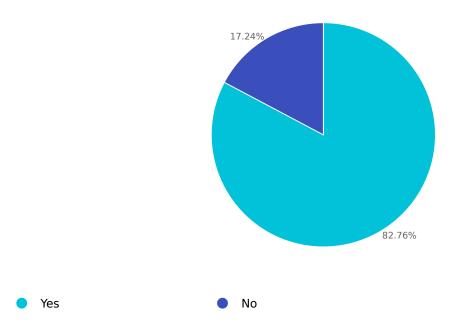


Choices	Response percent	Response count
Yes	84.00%	21
No	4.00%	1
I don't know / Unsure	12.00%	3
Any additional comments?		4

- 1. Is it a discipline or a field of science and engineering that aims at developing methods and technologies for the acquisition, processing, and study of patient data, which can come from different sources and modalities, such as electronic health records, diagnostic test results, medical scans?
- 2. No.
- 3. I think it is missing how these technologies are being used to support health-related fields. Can adapt from this definition "Health informatics is the field of science and engineering that aims at developing methods and technologies for the acquisition, processing, and study of patient data, which can come from different sources and modalities, such as electronic health records, diagnostic test results, medical scans" Imhoff, M (2002). "Health Informatics". Evaluating Critical Care: 255–256. doi:10.1007/978-3-642-56719-3_18. ISBN 978-3-540-42606-6. Sami HR, Reynolds NC (7 May 2021). Talavera F, Busis NA, Lorenzo N (eds.). "Medical informatics in neurology: What Is Medical Informatics?, Signal Processing, Image Processing". EMedicine: Medscape's Continually Updated Clinical Reference.
- 4. needs update

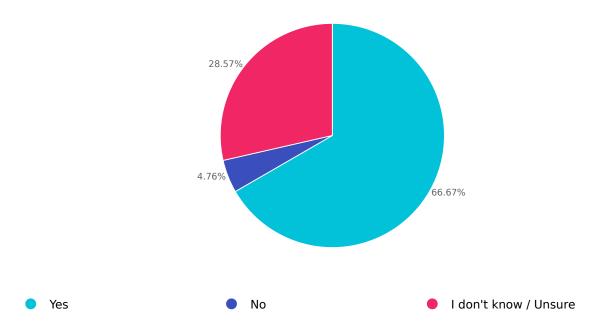
Health telematics: Health-related activities, services and systems, carried out over a distance by means of information and telecommunication technologies, for the purposes of global health promotion, disease control and health care, as well as education, management, and research for health (WHO 1998).

Answered: 29 Skipped: 0



Choices	Response percent	Response count
Yes	82.76%	24
No	17.24%	5

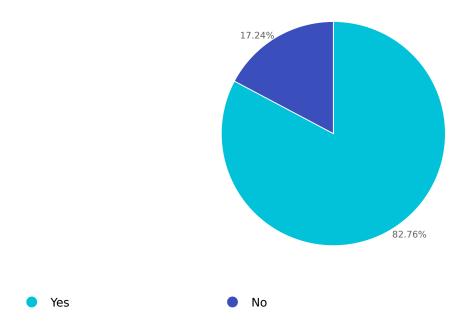
Answered: 21 Skipped: 8



Choices	Response percent	Response count
Yes	66.67%	14
No	4.76%	1
I don't know / Unsure	28.57%	6
Any additional comments?		5

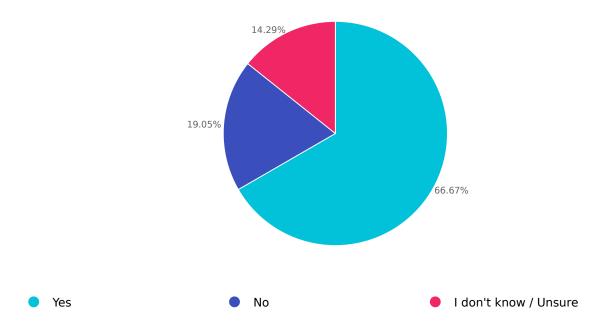
- 1. It is an old term, but still in use. it should be included
- 2. I am not sure. There are many things that are similar on this list.
- 3. May be the term "eletronic health record"should be includes.
- 4. Needs examples to understand how this is implemented on the ground; how this differs from other terminology of e-health, health informatics, etc. Add distinguishing terms for each, maybe! Health informatics, for example, is a field rather than activities or technologies?!
- 5. Could this term be changed to telemedicine or telehealth?

Health Technology: Any technology that aims to advance the delivery, payment, and consumption of consumer care, medical care, or broader healthcare (Storm3 2022)



Choices	Response percent	Response count
Yes	82.76%	24
No	17.24%	5

Answered: 22 Skipped: 7



Choices	Response percent	Response count
Yes	66.67%	14
No	19.05%	4
I don't know / Unsure	14.29%	3
Any additional comments?		8

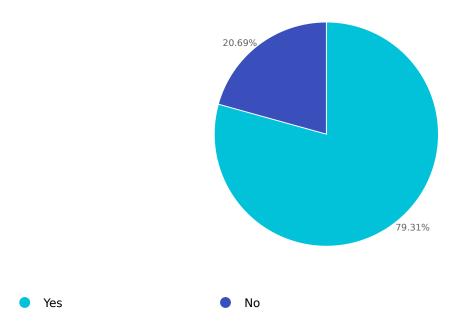
- 1. Too broad. It could be more focussed on digital health technology
- 2. "Any technology that aims to advance the delivery, payment, and consumption of consumer care" This definition also refers to e.g. Uber eats as it doesn't include the aspect Health.
- 3. Healthtech is not fintech! even storm3 knows that just look at storm2;) if the technology uses claims data to advance payment its a fintech. if it uses the data to advance care (going up the patient journey) it can be considered a healthtech. Healthtech can be distinguished to other industries like Biotech, Medtech, Fintech or Insurtech. the definition of healthtech is very similar to that of digital health however in this term enabler technologies play a more pronounced role than in the term digital health
- 4. I would add management of health systems and services
- 5. Add examples or types of technologies to visualize the definition.
- 6. Seems incomplete Should include terms like patient experience, PROMS related text, care efficiency, quality , time and cost reduction
- 7. Health technology "Promote the safety, quality and adequacy of blood and blood products, and the selection of appropriate and cost-effective diagnostic and therapeutic procedures which are essential for the provision of healthcare" Reference https://web.archive.org/web/20040825074541/http://www.who.int/technology/

8.	Perhaps include some examples? Medical devices Diagnostic tools, Digital health solutions: such as electronic health records, telemedicine, and mHealth apps?

Health Information and Communication Technologies OR Health information

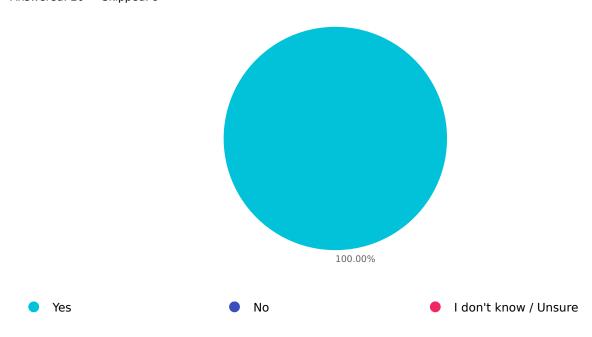
system: A set of technologies resulting from the convergence of computing and advanced multimedia and telecommunications techniques, for processing, storage, dissemination and exchange of health information. (Office Quebec de la langue française 2008) OR "A system that integrates data collection, processing, reporting, and use of the information necessary for improving health service effectiveness and efficiency through better management at all levels of health services." (WHO 2021)

Answered: 29 Skipped: 0



Choices	Response percent	Response count
Yes	79.31%	23
No	20.69%	6

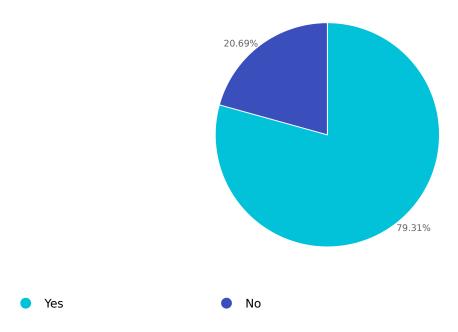
Answered: 20 Skipped: 9



Choices	Response percent	Response count
Yes	100.00%	20
No	0.00%	0
I don't know / Unsure	0.00%	0
Any additional comments?		7

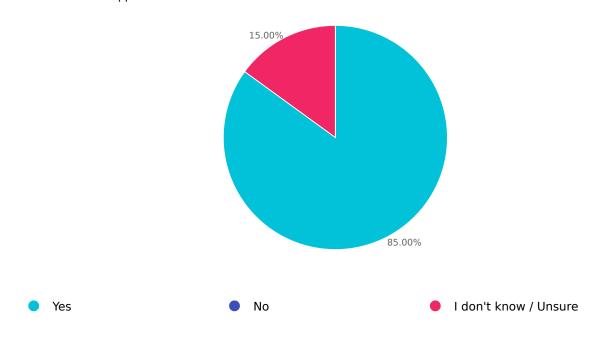
- 1. I prefer the Office Quebec de la langue française 2008's definition and the use of the term "Health Information and Communication Technologies"
- 2. def 1.
- 3. like the second one better
- 4. No.
- 5. I would only add that such systems also support and perform data analysis and dissemination of info
- 6. I would choose the first definition along with the last section of the second definition. information technology (electronic information, imaging) and telecommunication (interactive audio, video, data communications, store, and forward technologies)
- 7. I prefer the WHO definition.

Internet of Things: A system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to computer interaction. (WHO 2021)



Choices	Response percent	Response count
Yes	79.31%	23
No	20.69%	6

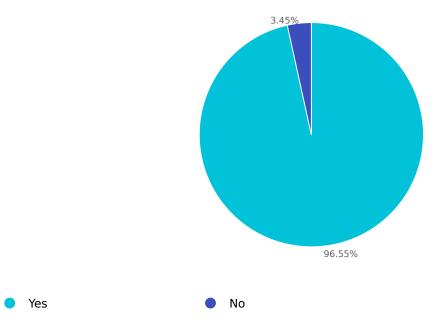
Answered: 20 Skipped: 9



Choices	Response percent	Response count
Yes	85.00%	17
No	0.00%	0
I don't know / Unsure	15.00%	3
Any additional comments?		5

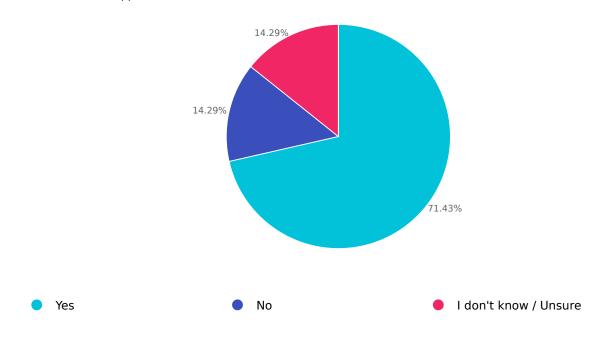
- 1. Not directly digital oral health, but widely used and should be included
- 2. IoT is an overly broad term
- 3. I don't really understand what it is.
- 4. I'm not sure, but I think this definition is broad in regard to "identifiers on objects, animals, or people."
- 5. I believe there are medical internet of things (mIoT) and dental internet of things (dIoT), though may not be very well developed yet

Machine learning in oral health: Machine Learning (ML) is a subset of Artificial Intelligence, focused on allowing a machine (used to solve oral health problems) to automatically learn from past data without programming explicitly. (Ko, Shen et al. 2021)



Choices	Response percent	Response count
Yes	96.55%	28
No	3.45%	1

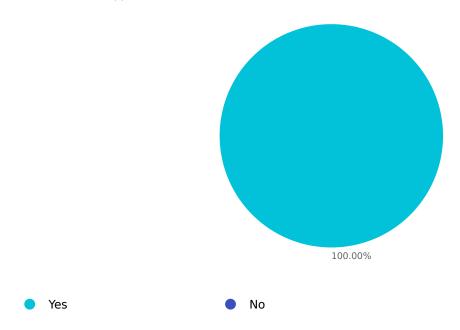
Answered: 21 Skipped: 8



Choices	Response percent	Response count
Yes	71.43%	15
No	14.29%	3
I don't know / Unsure	14.29%	3
Any additional comments?		4

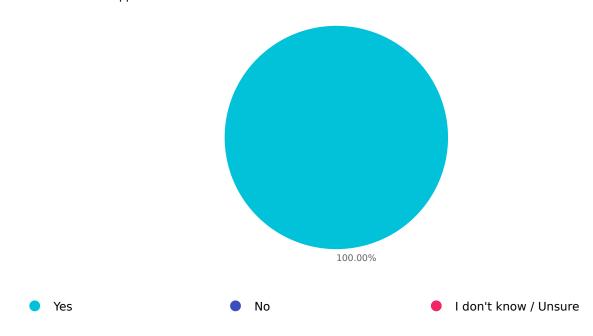
- 1. ML is able to handle multidimensional data, including many variables, and incorporate complex interactions between these variable
- 2. No
- 3. Too general to be "in oral health", and may need to be careful to differentiate AI, Machine Learning and Deep Learning
- 4. Not completely. I think that we can use past data but also current data. Talking only about past data presents the process as frozen.

m-oral health: The use of mobile and wireless technologies (such as mobile phones, tablet computers, and personal digital assistants) to support the achievement of oral health objectives/ dental public health objectives (WHO 2021; American Dental Association 2017)



Choices	Response percent	Response count
Yes	100.00%	29
No	0.00%	0

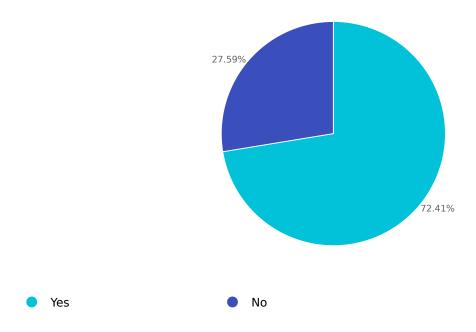
Answered: 27 Skipped: 2



Choices	Response percent	Response count
Yes	100.00%	27
No	0.00%	0
I don't know / Unsure	0.00%	0
Any additional comments?		2

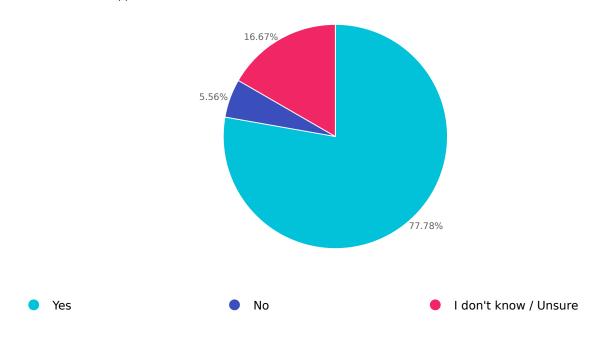
- 1. Mobile technologies include wireless technologies, isn't it?
- 2. No.

Natural language processing (NLP): An intersection of AI and linguistics that refers to computer systems that analyse, understand, or produce one or more human languages



Choices	Response percent	Response count
Yes	72.41%	21
No	27.59%	8

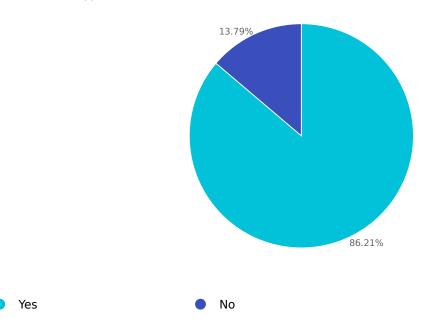
Answered: 18 Skipped: 11



Choices	Response percent	Response count
Yes	77.78%	14
No	5.56%	1
I don't know / Unsure	16.67%	3
Any additional comments?		5

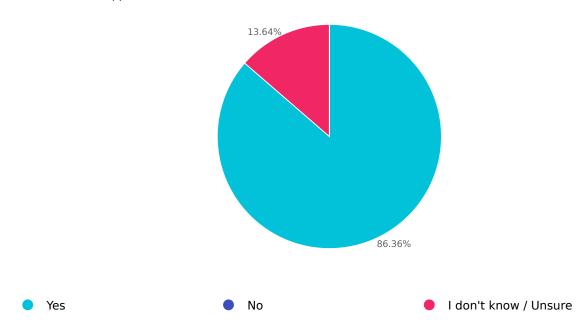
- 1. The addition of unstructured data (f.e. clinical notes) highlights the type of data where NLP is mostly applied.
- 2. i think there are better definitions out there
- 3. I just don't know.
- 4. any possibility to be more specific to oral health?
- 5. An intersection of AI and linguistics that refers to computer systems that analyse, understand, or produce one or more human languages and provide responses that mimic human responses. https://openai.com/blog/chatgpt/https://www.techtarget.com/searchenterpriseai/definition/Turing-test

Patient portal for health information: Is a health information technology tool that is presented in the form of an online website and/or application through which patients can access their personal health records (PHRs) and some information from their electronic health records (EHRs) (Baldwin, Singh et al. 2016; Emont 2011)



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

Answered: 22 Skipped: 7



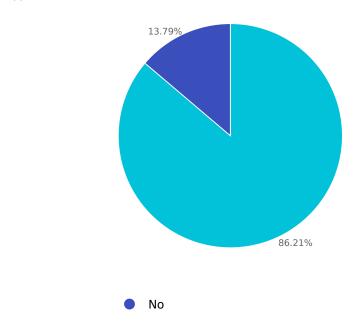
Choices	Response percent	Response count
Yes	86.36%	19
No	0.00%	0
I don't know / Unsure	13.64%	3
Any additional comments?		2

- 1. access AND interact eg upload information, communicate with healthcare providers and also schedule appointments
- 2. No

Real-time (synchronous): Live, two-way interaction between a person (patient, caregiver, or provider) and a provider using audio-visual telecommunications technology (American Dental Association 2017)

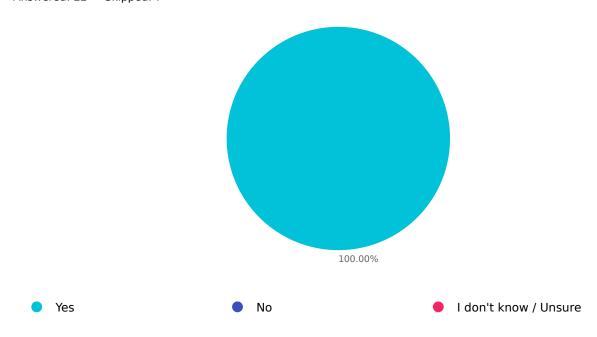
Answered: 29 Skipped: 0

Yes



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

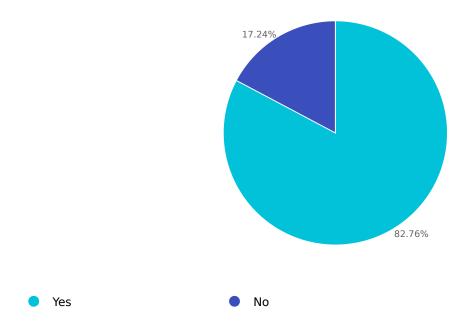
Answered: 22 Skipped: 7



Choices	Response percent	Response count
Yes	100.00%	22
No	0.00%	0
I don't know / Unsure	0.00%	0
Any additional comments?		2

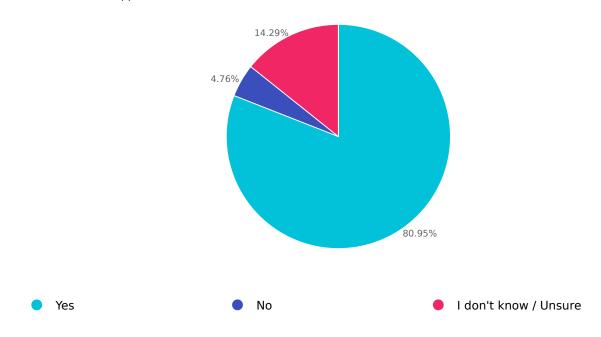
- 1. Life consultation provides people with the opportunity to interact with oral health professionals at real time (synchronous modality).
- 2. No

Robotics or Robotics for healthcare: "Systems able to perform coordinated mechatronic actions (force or movement exertions) based on processing information acquired through sensor technology, to support the functioning of impaired individuals, medical interventions, care and rehabilitation of patients and also individuals in prevention programs" (European Foresight Monitoring Network 2008)



Choices	Response percent	Response count
Yes	82.76%	24
No	17.24%	5

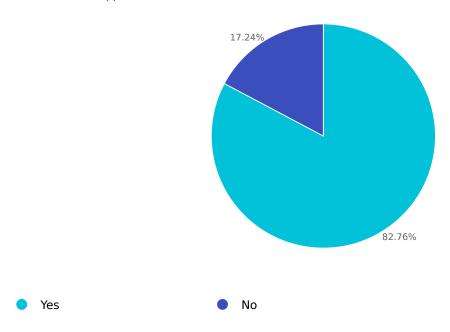
Answered: 21 Skipped: 8



Choices	Response percent	Response count
Yes	80.95%	17
No	4.76%	1
I don't know / Unsure	14.29%	3
Any additional comments?		4

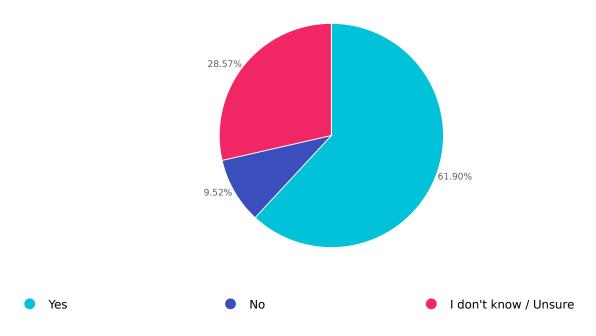
- 1. Real-time can ideed be viewed as 'live' interaction, but also induces the most recently updated . For example, when a machine learning suggestion is based on the most recent data of today. It is adapting to the latest information, but doesn't necessarily need face-to-face interaction.
- 2 No
- 3. good, broad definition
- 4. Because the focus is oral health, maybe use the term dentronics instead of robotics.

Serious Games/ Gamification: Serious Games is the "Computer application, for which the original intention is to combine with consistency, both serious (Serious) aspects such as non-exhaustive and non-exclusive, teaching, communication, or the information, with playful springs from the video game (Game)." (Alvarez & Djaouti, 2012; Gentry et al., 2019). Gamification is "the application of the characteristics and benefits of games to real-world processes or problems". (Wortley. 2013; Gentry et al., 2019).



Choices	Response percent	Response count
Yes	82.76%	24
No	17.24%	5

Answered: 21 Skipped: 8

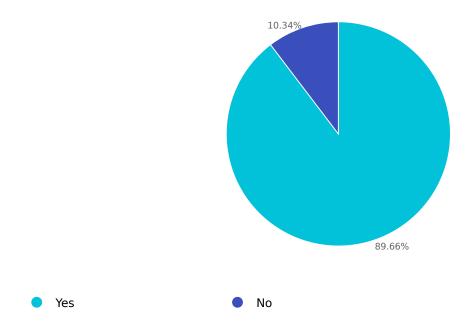


Choices	Response percent	Response count
Yes	61.90%	13
No	9.52%	2
I don't know / Unsure	28.57%	6
Any additional comments?		8

- 1. I understand gamification and agree. I don't understand the serious Games
- 2. I do agree with the first part, but I do not agree with the second part: Gamification is "the application of the characteristics and benefits of games to real-world processes or problems".
- 3. No
- 4. I also suggest checking this book, Actionable Gamification, by Yu-Kai Chou, a pioneer in this field, analyzing over 90 examples of gamification from different industries. He defined the term as "the craft of deriving fun and engaging elements found typically in games and thoughtfully applying them to real-world or productive activities. A process called "Human-Focused Design." optimizes for human motivation in a system instead of optimizing for pure functional efficiency within the system." I highly suggest checking his gamification framework as well, Octalysis.
- 5. Please split the two definitions. Gamification can and is used in non technology systems. The definition above actually is divided into two. They are not synonyms.
- 6. I believe more elaborations, especially in terms of relationship with healthcare, may be needed
- 7. maybe keep the term singular gamification is a more common term.
- 8. Gamification is the process of using game design elements and mechanics in non-game contexts to engage and motivate people to achieve their goals.

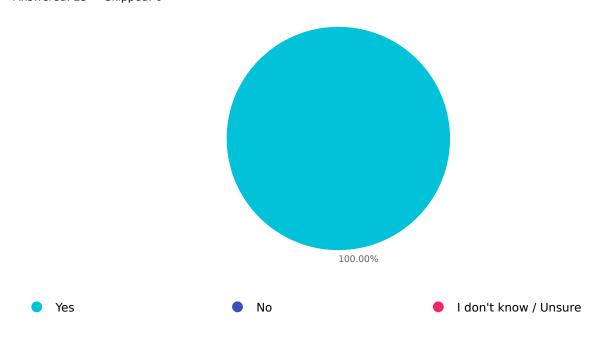
Store-and-forward (asynchronous): transmission of recorded health information (for example, radiographs, photographs, video, digital impressions, and photomicrographs of patients) through a secure electronic communications system to a practitioner, who uses the information to evaluate a patient's condition or render a service outside of a real-time or live interaction. (American Dental Association 2017)

Answered: 29 Skipped: 0



Choices	Response percent	Response count
Yes	89.66%	26
No	10.34%	3

Answered: 23 Skipped: 6



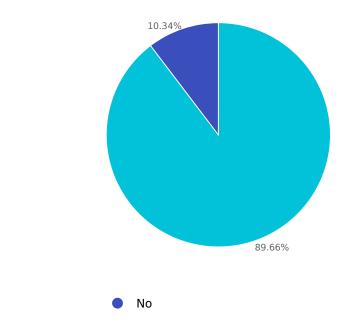
Choices	Response percent	Response count
Yes	100.00%	23
No	0.00%	0
I don't know / Unsure	0.00%	0
Any additional comments?		3

- 1. No
- 2. maybe add data before info
- 3. Great definition! covers all the necessary components, including security.

Tele-assistance/tele-support: Support to remote health facilities located in isolated areas, remote places, or in areas affected by natural disasters, armed conflict, etc. where a health professional remotely assists another doctor carrying out a medical or surgical procedure (COCIR 2011; Mariño & Ghanim, 2015)

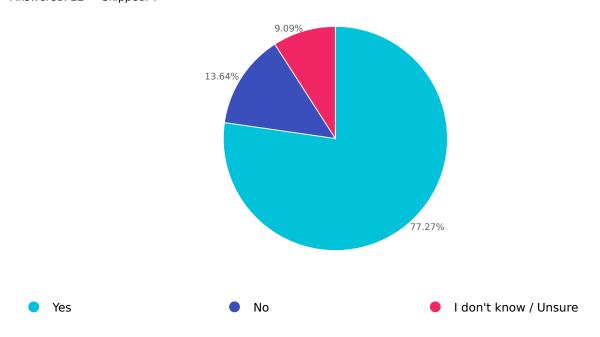
Answered: 29 Skipped: 0

Yes



Choices	Response percent	Response count
Yes	89.66%	26
No	10.34%	3

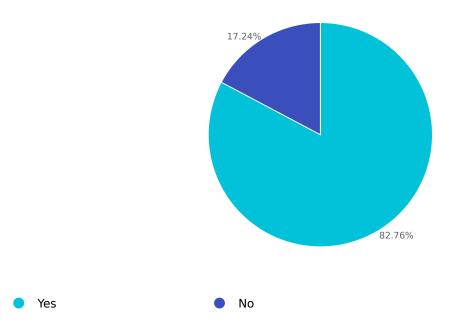
Answered: 22 Skipped: 7



Choices	Response percent	Response count
Yes	77.27%	17
No	13.64%	3
I don't know / Unsure	9.09%	2
Any additional comments?		4

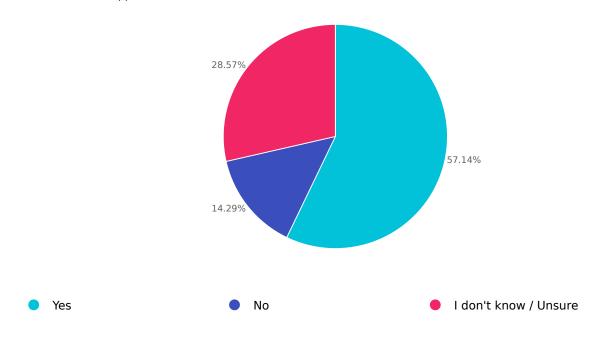
- 1. Not directly digital oral health, but it should be included
- 2. This can be between more than just doctor to doctor. I would like to see this be also between midlevel providers and medical assistants. This does not expand their scope, but rather help with regular tasks.
- 3. I believe that teh term "Tele-assistance" should apply to al situations where patients and health care professionals interact by means of digital technologies, no matter if patients are in isolated, remote places. As long as they are not in the same geographical place, I think that should be considered Tele-assistance / tele-support
- 4. Tele-assistance is not only important in remote, isolated areas, but also in areas where health care workforce is scare (for example, lack of specialized care providers)

Telecare: Systems and services capable of social alert and social services, e.g. to to monitor the situation of people dependent on external help, e.g. elderly or disabled people in the home setting. (COCIR 2011)



Choices	Response percent	Response count
Yes	82.76%	24
No	17.24%	5

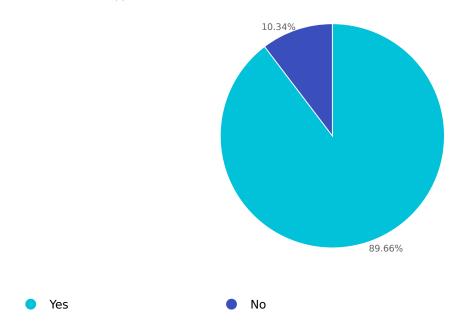
Answered: 21 Skipped: 8



Choices	Response percent	Response count
Yes	57.14%	12
No	14.29%	3
I don't know / Unsure	28.57%	6
Any additional comments?		9

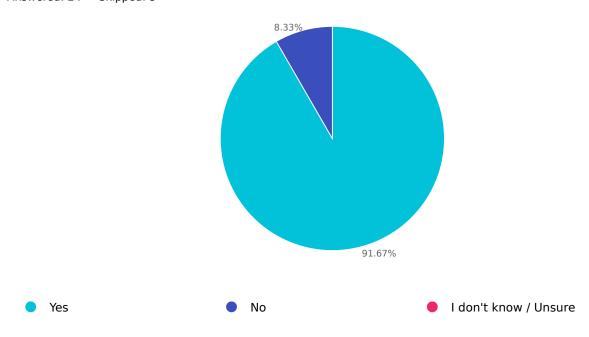
- 1. I would suggest to use older people as opposed to elderly
- 2. No
- 3. elderly is a derogatory term also, telecare is not restricted to such scenarios and it is useful in many other circumstances
- 4. Agree, but you can also add the types for more clarification, such as monitoring sensors and so on.
- 5. I am not sure whether this may apply to dentistry. What may apply to "tele" comes after this item: teledentistry for example....
- 6. This seems to be similar to remote patient monitoring. I'd like to see that term included in this list.
- 7. maybe add in elements of "remote" and "no need physical presence", something like that
- 8. this may also be referred to as virtual care?

9. Telecare refers to the use of technology to support and care for individuals who are living at home, but who may require assistance due to a disability, long-term health condition, or aging. Telecare services typically involve the use of remote monitoring equipment and digital communication devices to enable individuals to live independently, while still receiving the support they need. **Tele-consultation**: A consultation made remotely; sometimes referred to as remote consultation or virtual consultations, e-consultations, refers to interactions that happen between a clinician and a patient for the purpose of providing diagnostic or therapeutic advice through electronic means. (WHO Pan American Health Organisation 2020)



Choices	Response percent	Response count
Yes	89.66%	26
No	10.34%	3

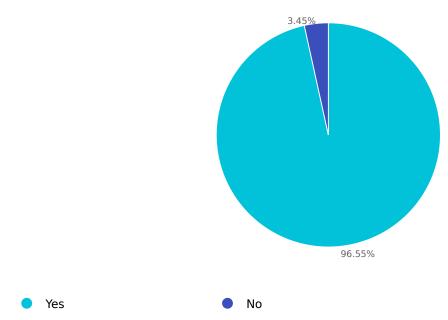
Answered: 24 Skipped: 5



Choices	Response percent	Response count
Yes	91.67%	22
No	8.33%	2
I don't know / Unsure	0.00%	0
Any additional comments?		4

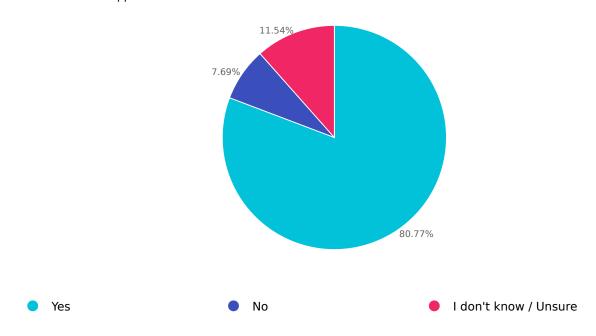
- 1. No
- 2. Therapeutic advise is not consultation...
- 3. I suggest adding that the consultation can be based on transmitted patients' digital records or without them, as in some follow-up visits, consulting about certain symptoms.
- 4. Not only between clinician and patient in the case of elderly or disabled people in the home setting, where a third person is necessary

Teledentistry: Represents the uses of ICT for dental consultations, diagnosis and treatment planning, including the transmission of clinical information and images between an oral health professional and patient or between two health professionals, including at least one oral health professional, who are separated by distance. (WHO 2021)



Choices	Response percent	Response count
Yes	96.55%	28
No	3.45%	1

Answered: 26 Skipped: 3



Choices	Response percent	Response count
Yes	80.77%	21
No	7.69%	2
I don't know / Unsure	11.54%	3
Any additional comments?		8

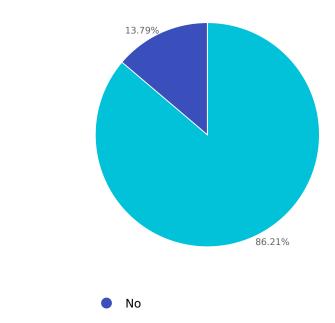
- 1. Spell out ICT as information and communication technology
- 2. The difference between these definitions of teleconsultation and teledentistry does not emerge clearly.
- 3. It is a bit more broad as defined by the ADA. the ADA also includes education in this.
- 4. Teledentistry is the usage of telecommunication systems (same as ICT??) to provide remote oral healthcare. It also includes screening, therapeutic oral health interventions, and oral health prevention.
- 5. No

- 6. add examples of what type of clinical information and images (e.g.,..) Why not adding prevention and follow up as well as in the definition of telemedicine. Teledentistry has a major role in public health such as providing preventive screening in school-based programs. Also following up and monitoring the symptoms for patients in a TMD or a surgery clinics (and further examples existed!) Add the term for the ICT: Information and Communications Technology Suggested definition: "Teledentistry Represents the uses of Information and Communications Technology to provide dental care services between an oral health professional and patient or between two health professionals, including at least one oral health professional, who are separated by distance. It involved the secure transmission of clinical information, and images, through text, interactive audio, video, or other forms needed for dental prevention, consultations, diagnosis, treatment planning and follow-up of patients (WHO 2021 & Commission of the European Communities 2008).
- 7. e.g precedent comment
- 8. Define acronyms (ICT)

Tele-diagnosis: The use of information and communication technology to establish a diagnosis based on remotely gathered information (e.g., smartphone, intra-oral cameras) instead of face-to-face visits. (Basu, 2020).

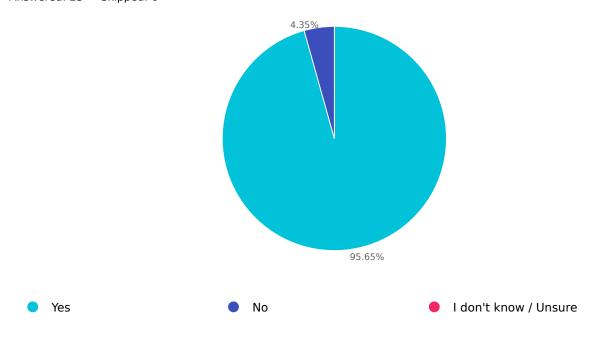
Answered: 29 Skipped: 0

Yes



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

Answered: 23 Skipped: 6

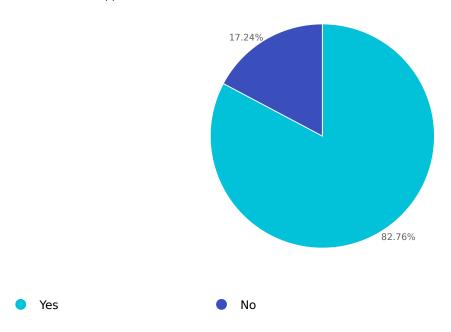


Choices	Response percent	Response count
Yes	95.65%	22
No	4.35%	1
I don't know / Unsure	0.00%	0
Any additional comments?		4

- 1. No
- 2. no e.g
- 3. Add "a subset of teledentistry," or maybe this term can be general to non-dental fields as well. Add synchronously or asynchronously.
- 4. The definition is good, but i think that the term is inappropriate (with reference to the definition of a diagnosis)

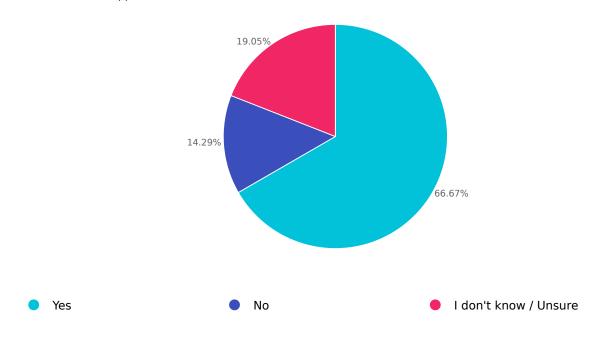
Tele-education or e-learning: A process by which change can be catalysed in attitudes, knowledge, information, and skills, by means of information and communication technologies by and for consumers, health professionals and communities, for the purpose of fostering improves health. (WHO 1998)

It may include, audio or video technologies provided synchronously or asynchronously. (Curran 2006)



Choices	Response percent	Response count
Yes	82.76%	24
No	17.24%	5

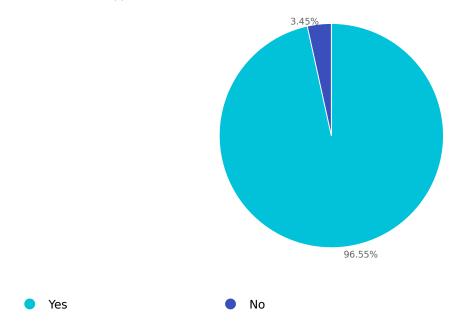
Answered: 21 Skipped: 8



Choices	Response percent	Response count
Yes	66.67%	14
No	14.29%	3
I don't know / Unsure	19.05%	4
Any additional comments?		8

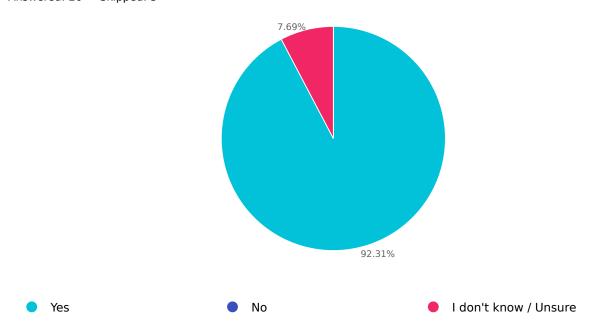
- 1. Probably separate tele health education to patients to e-learning for professionals
- 2. Tele diagnosis need to be specified to 'tele'. This definition could also describe e-diagnosis (broader than tele).
- 3. There is already a term e-learning. It's interchangeable? So please change the above definition (e-learning) too
- 4. No
- 5. edit: ...improved health. (WHO 1998)
- 6. Both definitions fulfill the meaning of these terms. Yet, for the WHO definition: add a distinguishing word for the term, as e-learning could be for any field rather than health.
- 7. e-learning has been mentioned previously we can only have one definition?
- 8. Combine with "e-learning" above

Telehealth: A collection of electronic and telecommunications technologies and services that support at-a-distance healthcare delivery and services to a recipient.



Choices	Response percent	Response count
Yes	96.55%	28
No	3.45%	1

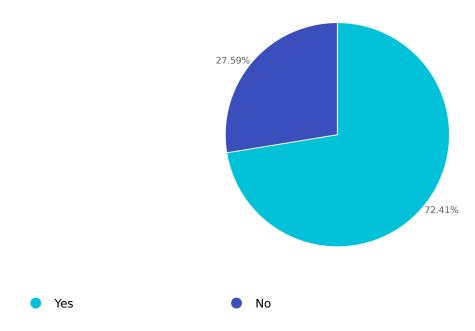
Answered: 26 Skipped: 3



Choices	Response percent	Response count
Yes	92.31%	24
No	0.00%	0
I don't know / Unsure	7.69%	2
Any additional comments?		3

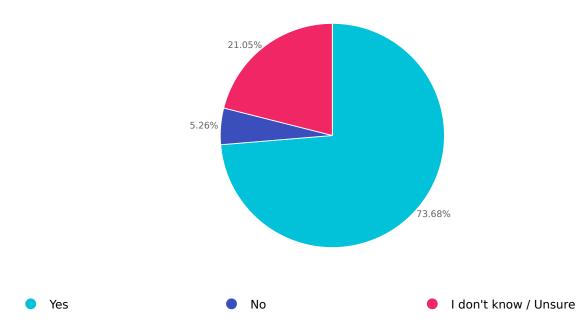
- 1. The Health Resources and Services Administration distinguishes telehealth from telemedicine in its scope, defining telemedicine only as describing remote clinical services, such as diagnosis and monitoring, while telehealth includes preventative, promotive, and curative care delivery.
- 2 No
- 3. The reference is missing

Tele-intervention: A therapeutic medical act which is performed remotely by a physician on a patient, without or with the local presence of other healthcare professional(s) (e.g. telesurgery). (COCIR 2011)



Choices	Response percent	Response count
Yes	72.41%	21
No	27.59%	8

Answered: 19 Skipped: 10



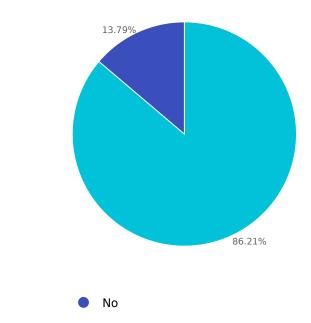
Choices	Response percent	Response count
Yes	73.68%	14
No	5.26%	1
I don't know / Unsure	21.05%	4
Any additional comments?		4

- 1. Not directly digital oral health, but it should be included
- 2. No
- 3. Not only physicians, but healthcare providers in general
- 4. It is the first time hearing about it.

Tele-medicine: Telemedicine is the provision of health care services, through the use of ICT, in situations where the health professional and the patient (or two health professionals) are not in the same location. It involves the secure transmission of medical data and information, through text, sound, images or other forms needed for the prevention, diagnosis, treatment and follow-up of patients (Commission of the European Communities 2008)

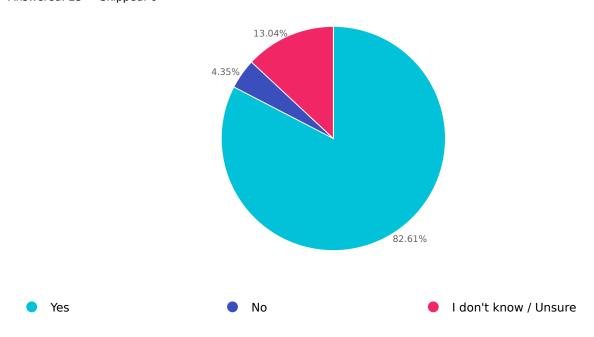
Answered: 29 Skipped: 0

Yes



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

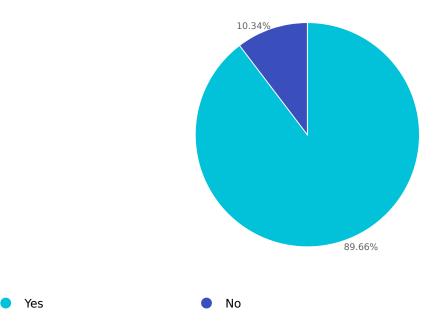
Answered: 23 Skipped: 6



Choices	Response percent	Response count
Yes	82.61%	19
No	4.35%	1
I don't know / Unsure	13.04%	3
Any additional comments?		4

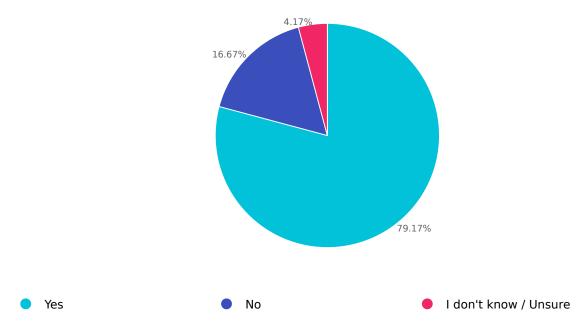
- 1. Add: umbrella term of teledentistry. The Health Resources and Services Administration distinguishes telehealth from telemedicine in its scope, defining telemedicine only as describing remote clinical services, such as diagnosis and monitoring, while telehealth includes preventative, promotive, and curative care delivery.
- 2. No
- 3. I don't believe it's necessary to hyphenate any of these words. Given that "tele" is a prefix for "over a distance" I think it can be added to any word without the hyphen.
- 4. is telemedicine specific to the field of medicine and not other allied health services e.g. nursing. dentistry, pharmacy, physiotherapy.

Tele-monitoring: The remote exchange of physiological data between a patient at home and medical staff at a hospital to assist in diagnosis and monitoring. (Mariño R, Tonmukayakul U et al. 2014)



Choices	Response percent	Response count
Yes	89.66%	26
No	10.34%	3

Answered: 24 Skipped: 5

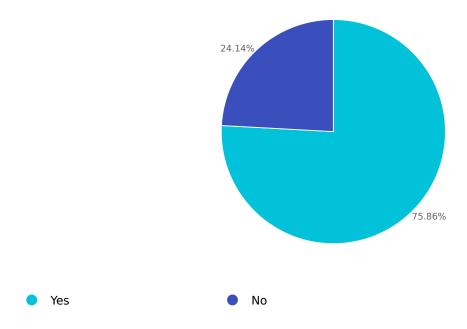


Choices	Response percent	Response count
Yes	79.17%	19
No	16.67%	4
I don't know / Unsure	4.17%	1
Any additional comments?		11

- 1. Not directly digital oral health, but it should be included
- 2. This is also called remote patient monitoring in things I have read.
- 3. should it be physiological data? Or can we say health -related data? It can also be information about someone's behaviour, isn't? Brushing data for example.
- 4. -is a part of telemedicine -refers to the monitoring and evaluation of health parameters remotely can be used during treatment but also for prevention and aftercare still there is a difference between monitoring and screening also in telemedicine
- 5. No
- 6. It is not restricted to medical staff
- 7. Yet make it broad, health staff instead of the medical staff?! because I see dentists as well in this context.
- 8. See comment above about hyphenating. I've also seen this referred to as remote patient monitoring.
- 9. Not only at a hospital.
- 10. could we add ... a patient and or carer at home and medical staff?

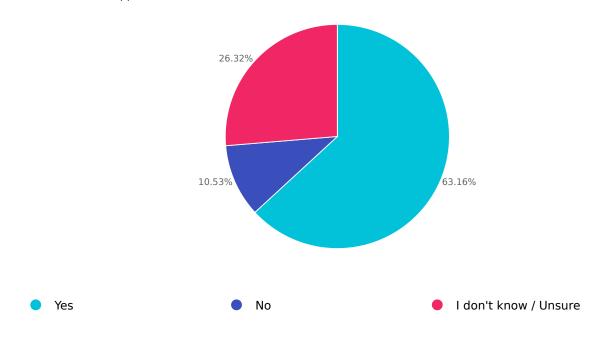
11. Change "physiological data" to "health data" as it isn't always physiological i.e. can be psychological or social.

Tele-orientation: Tele orientation, through a pre-clinical questionnaire, to determine the most suitable time frame to perform a face-to-face service. (Carrer, Matuck et al. 2020)



Choices	Response percent	Response count
Yes	75.86%	22
No	24.14%	7

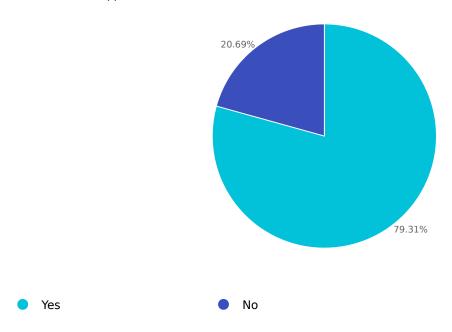
Answered: 19 Skipped: 10



Choices	Response percent	Response count
Yes	63.16%	12
No	10.53%	2
I don't know / Unsure	26.32%	5
Any additional comments?		7

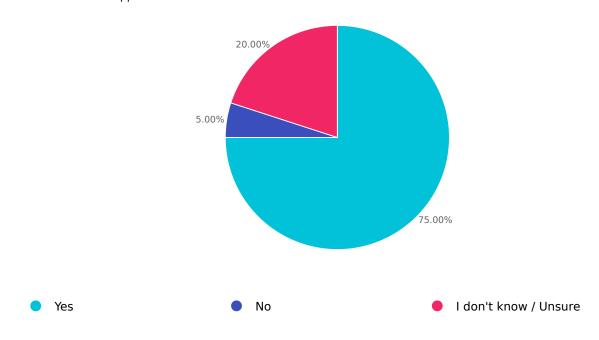
- 1. Not directly digital oral health, but it should be included
- 2. No
- 3. This is broader and not restricted to the use of questionnaires
- 4. First time hearing about it.
- 5. It is not very clear. I am not sure it can be related to dentistry or have dental application.
- 6. See comment above about hyphenating.
- 7. tele-orientation could also be termed as tele-triage? Suggest the removal of this term if there are too many terms in the final glossary.

Tele surgery: The remote controlling of surgical apparatus, e.g. a surgical robot, by an experienced surgeon or the remote advice provided by an experienced surgeon to the surgeon on duty in the operating theatre. In the latter case, a live video connection and an audio connection between the two surgeons is sufficient. In the former case, a data link between the surgical apparatus on site and the remote manipulation tool is required. (COCIR 2011)



Choices	Response percent	Response count
Yes	79.31%	23
No	20.69%	6

Answered: 20 Skipped: 9



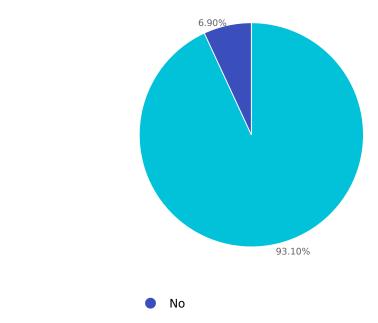
Choices	Response percent	Response count
Yes	75.00%	15
No	5.00%	1
I don't know / Unsure	20.00%	4
Any additional comments?		5

- 1. MAYBE MERGE WITH ROBOTICS AND TELE TREATMENT
- 2. Tele-orientation and -monitoring are not specific enough.
- 3. No
- 4. See comment above about hyphenating.
- 5. confirming that the tele-surgery is a subset of tele-intervention but also performed by a medical specialist?

Tele-triage: Evaluation of a patient's symptoms through remote consultation, using information and communication technology (e.g., smartphone or laptop computer), and establishing a concept of urgency for attending healthcare face to face. (Nuvvula et al, 2021)

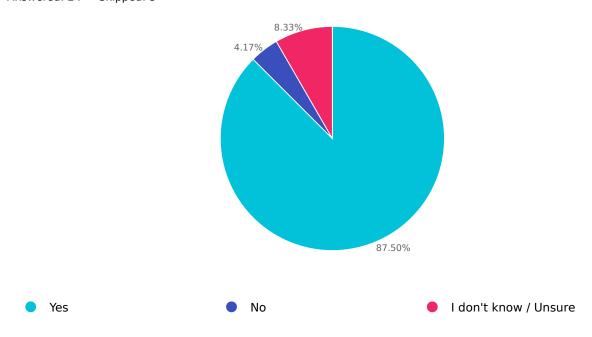
Answered: 29 Skipped: 0

Yes



Choices	Response percent	Response count
Yes	93.10%	27
No	6.90%	2

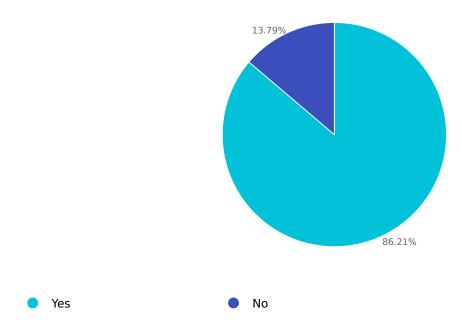
Answered: 24 Skipped: 5



Choices	Response percent	Response count
Yes	87.50%	21
No	4.17%	1
I don't know / Unsure	8.33%	2
Any additional comments?		5

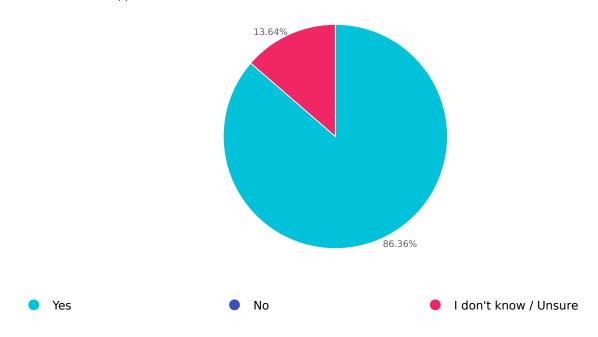
- 1. Not directly digital oral health, but it should be included
- 2 No
- 3. I would add that it is not only used to define urgency, but to establish the need of care in general
- 4. See comment above about hyphenating.
- 5. tele-orientation and tele-triage have similar definitions. Suggest the removal of the orientation term, if there are too many terms in the final glossary. OR there is a need to clearly differentiate the terms.

Wearable Sensors: It enables providing real-time sensing information about the wearer, and the environment. Used for monitoring the physiological and biochemical profiles.



Choices	Response percent	Response count
Yes	86.21%	25
No	13.79%	4

Answered: 22 Skipped: 7



Choices	Response percent	Response count
Yes	86.36%	19
No	0.00%	0
I don't know / Unsure	13.64%	3
Any additional comments?		6

- 1. why limit it to biochemical profiles?
- 2. you could include the term patient generated data
- 3. No
- 4. I think motion should also be added in addition to the physiological and biochemical profiles, also audio data may be relevant
- 5. needs a reference?
- 6. Wearable sensors are electronic devices that can be worn on the body to monitor and track various physiological and environmental data.

Figures

Here are three figures that illustrates:

- 1. the relationships and positioning between the different terms: digital health, eHealth, telehealth, etc. (Figure 1)
- 2. the relationships and positioning between eHealth, telehealth, and health informatics. (Figure 2)
- 3. some of the most common applications across Teledentistry's fields of practice. (Figure 3)

We are interested in knowing whether you agree or not with their contents and descriptions and clarity. Please indicate (Yes/No):

Figure 1

Robotics

Health technology
Digital health
Sopreture

Smart
Genomics

Artificial
intelligence

Artificial
intelligence

Fermorry

Telehealth

Telehealth

Serious
Symmet
Sensors/
Wearables
Internet of
things

Figure 2

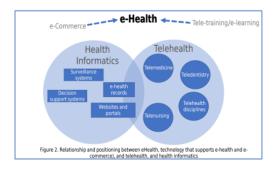


Figure 3

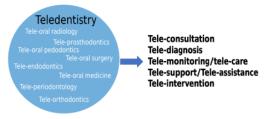


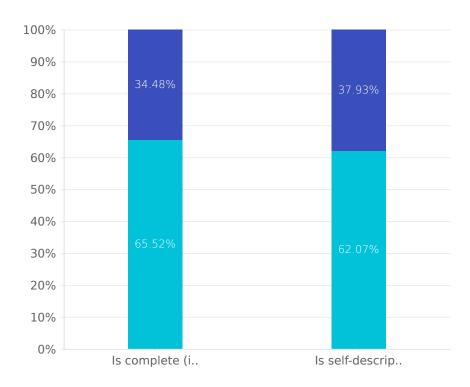
Figure 3. Most common fields of practice in Teledentistry and modalities of applications

No Responses

About the figures:

Answered: 29 Skipped: 0

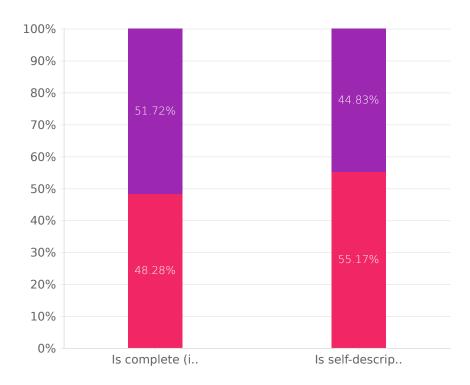
Fig 1



• Yes • No

Row	Yes	No	Response count
Is complete (i.e., other elements must be included)?	65.52% (19)	34.48% (10)	29
Is self-descriptive?	62.07% (18)	37.93% (11)	29

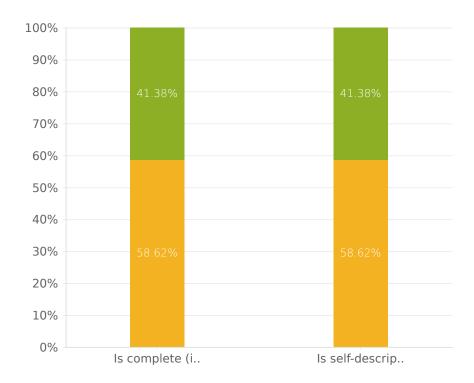
Fig 2



• Yes • No

Row	Yes	No	Response count
Is complete (i.e., other elements must be included)?	48.28% (14)	51.72% (15)	29
Is self-descriptive?	55.17% (16)	44.83% (13)	29

Fig 3



Yes		No
103		140

Row	Yes	No	Response count
Is complete (i.e., other elements must be included)?	58.62% (17)	41.38% (12)	29
Is self-descriptive?	58.62% (17)	41.38% (12)	29