

The quick and proper ethical technology assessment model



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How to use the model

In the following you will be introduced to the quick and proper ethical technology assessment model. The model has 4 steps.

The steps are designed to guide and inspire discussion and reflections about technology in your daily practice.

Reflective questions and examples are added for inspiration. The examples are based on both scientific literature and professional experiences.

How should the model be used

The model and its analysis can be used for both individual and group sessions, but group sessions are recommended since this will likely result in more lively discussions and reflections across colleagues.

Who is it relevant for

Though all steps are relevant for both HCP and their managers, it could be considered if reflections about long term consequences and potential misuse, should be a joint reflection between HCP and HCM, since reflections might lead to discussions about inclusion and exclusion criteria for whom the technology is relevant, and in which situations.

Advice!

These questions can be used on your own or as a starting point for discussion in a group session.

They are also printable.

The quick and proper ethical technology assessment model

1

Pick a digital health technology that you would like to discuss and assess and answer the following questions

1A

What is the main purpose of the technology? And what might be beneficial about this purpose and thereby the technology?

1B

What might be unintended adverse side effects when interacting with the technology?

1C

How might the technology be misused? (by the patient, management, private companies, health care professionals)

1D

What might be the long term consequences of interaction with the technology?

2

Relate your answers to appropriate ethical values from the Vocabulary

3

Identify unethical situations and ethical dilemmas

4

Formulate criteria for a more appropriate design of the technology, how it is implemented and used

Pick a digital health technology that you would like to discuss and assess and answer the following questions

1A

- **What is the main purpose of the technology?**
- **What might be beneficial about the purpose and thereby the technology?**

Write your notes here

Examples

The main purpose of telemedicine is to provide options for a citizen to receive treatment and care, in the cases where the treatment do not have to include that the citizen physically show up at a clinic. The citizen can thereby receive treatment and care closer to or in their own home in safe surroundings and also avoid spending time and energy on transportation (2).

By delegating task to the patient, that were previously done by a HCP, you potentially empower the patient by making them a more active participant in managing and coping with their disease.

In a Danish telemedicine project aimed at COPD patients (Telecare Nord) the self-monitoring were stored and forwarded to HCP to detect exacerbations, this could provide opportunities for more rapid treatment (3). Evaluation of the project concluded that patients experienced greater control, freedom/autonomy, sense of safety/security and greater awareness of their COPD symptoms (4)

Pick a digital health technology that you would like to discuss and assess and answer the following questions

1B

- **What might be adverse and unintended effects when interacting with the technology?**
- **Could some of these unintended effects be positive?**

Write your notes here

Examples

By increased use of telemedicine and Ehealth HCP might experience increased workload because use of digital health technologies create “digital chaos” due to multiple logins, unsynchronized systems which they don’t know how to handle or have time for. This also result in a feeling that more time is spent on administration than caring for the patients (1).

Lack of adequate IT infrastructure can also exclude citizens from participating in digital health solutions

Trust in health care provision can be compromised if concerns about data security are not handled appropriately, resulting in citizens who refrain from seeking public health care assistance.

Physicians could potentially be more likely to issue a prescription from a distance, such as antibiotics for reasons such as playing-it-safe, concerns that patients will otherwise shop around online, to avoid time-consuming explanations as to why the prescription is not necessary and worries about bad ratings if they do not abide by the demand from the patient (1)

The digital technology might result in conflicts between patients and their relatives, if the patient have cognitive disabilities and won’t let their relatives help (2)

Pick a digital health technology that you would like to discuss and assess and answer the following questions

1C

- **How might the technology be misused?**
- **By whom – the management, private companies, patients or health care professionals?**

Write your notes here

Examples

By increased use of telemedicine and Ehealth misuse of treatment on a distance could potentially occur, especially if telemedicine completely replaced the option to also have face2face interaction due to efficiency. Decisionmakers and management might cease the opportunity to cut cost on running physical clinics and HPC, since tasks would be delegated to the patient. Trying to cut cost could potentially also overlook the “invisible work” done by patients and HCPs to make use of the technology (2) and thereby supplying them will less resources to do so.

Some doctors experience telemedicine as surveillance of their work, because sessions are recorded and they worry that the system allows management to collect data about what they do during the day (3)

Collection, storage and sharing of patient data can potentially be misused by private companies or criminal individuals if they have or gain access to the data either as provider of the equipment used or if data security is breached by criminal acts such as hacking.

Patients might in some cases find creative “workarounds” when interacting with Ehealth systems, for example by clicking a certain assessment or treatment option in the system, that will allow them to have a physical meeting with the doctor, although they did not really need this particular assessment or treatment. This will likely result in disruptions of HCPs workflow and workload, when they later have to manage this “misuse” of the system and their organization of work tasks (4)

Pick a digital health technology that you would like to discuss and assess and answer the following questions

1D

→ What might be the long term consequences of interaction with the technology – good and bad?

Write your notes here

Examples

By increased digitalization in health citizens might over time refrain from seeking public health interventions, if they have continuously negative experiences with accessing public health due to struggles with increased digitalization.

A negative long term consequence could be that we risk exclusion, stigmatization and citizens feeling helpless and dependent if they don't have the necessary digital literacy or cognitive, physical or mental capabilities to interact with the digital health technologies. Another could be that the increased use of digital health technologies without the proper debate and thorough design and implementation processes negatively affect the working conditions of HCP.

On the more positive side, a long term consequence could also be that the "disruptive power" of the digital health technologies leads to a general shift in responsibilities of health care, were patients become more aware and active in managing their health care condition. If citizens become more knowable of how to manage their own health in general, potential less strain is put on public health interventions.

Because we now have new technology for new ways of interacting with health care systems, societal debate and activism arise about what it entails to be a patient, a HCP and what health care systems are supposed to assist with and for whom etc. Public debate where multiple perspectives and arguments are shared should always be encouraged and seen as a positive consequence of interacting with the technology.

2

→ Relate your answers to appropriate ethical values from the Vocabulary

Ethical dilemma

Related ethical value

Examples

To provide options for a citizen to receive treatment and care, in the cases where the treatment do not have to include that the citizen physically show up at a clinic. The citizen can thereby receive treatment and care closer to or in their own home in safe surroundings and also avoid spending time and energy on transportation.

By delegating task to the patient, that were previously done by a HCP, you potentially empower the patient by making them a more active participant in managing and coping with their disease.

Examples

Providing options for citizens, so they can freely choose what type of health care intervention that best suits them is in line with the ethical value of autonomy. It is also in line with the value of no harm to prevent citizens from spending resources to transport themselves back and forth to the clinic if they don't have to, resources that might be spent on more meaningful and valued activities that also contribute to their wellbeing and health. This argument and the aim of empowering the patient, would also be in line with the value of compassion, because the action of providing the option of telemedicine and assisting the patient to become an active partner in managing their disease is also striving to help vulnerable people with chronic diseases.

4

→ Formulate criteria for a more appropriate design of the technology, how it is implemented and used

Questions to guide your discussions

- What could be design criteria so that the technology became more inclusive? Are there elements of the technology that prevent certain groups of users from benefiting from the technology?
- What could be design criteria that addressed both the ethical value of compassion and autonomy?
- What would you advice management and decision makers to consider when implementing the technology? How to do propose work and responsibilities are organized?
- If we design the technology or the service in which it is part of in a certain way do we exclude a specific potential vulnerable patient group?

Examples

The telemedicine solution should accommodate users with different disabilities, for example poor vision. Loss of hearing, arthritic fingers etc. due to...
The planning and implementation process of telemedicine should involve the following groups of users due to ...

The decision to use telemedicine should be an additive to existing treatment solutions and not a substitute, due to ...

Vocabulary of ethical values

Use them to enrich your
discussions about ethical
dilemmas related to
technology



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Ethical dilemmas and technology

Authenticity

Authenticity can be defined as the right to pursue one's own authentic perception of oneself. This includes the right to follow one's ethical orientation system, rather than blindly reproducing the norms of society. Authenticity is an ethical value because every person has a right to unfold herself by pursuing what she finds valuable.

Autonomy (or informed consent)

Everyone has a right to self-determination as long as it does not prevent others from their right to self-determination. Autonomy can be deduced from Kant's categorical imperative: no one must be treated only as a means and not also as an aim in themselves. Autonomy requires information and is often called 'informed consent'. It requires mental abilities and freedom to choose what one considers best. No external pressure must be put on the autonomous individual.

Compassion and vulnerability

This ethical value states that a person is obliged to help another person who is suffering, e.g. if the person is ill or in pain. Compassion is related to vulnerability that obliges a person to help another person to withstand a hostile environment if this person is not able to do it herself.

Humility

This ethical value is the antithesis to committing hubris. One commits hubris when one loses contact with reality and overestimates one's own competencies, does not listen to criticism, and thinks one-dimensionally without giving alternatives any consideration. According to a Greek myth, one will be punished by nemesis if one commits hubris. One is humble when one is self-restrained.

Inclusion

This value requires

- simultaneous attention to the interests of all legitimate stakeholders
- a balance between this multiplicity of interests (including self-interests).

Justice/fairness

Here is included two different definitions: 1) just actions are to generate the greatest benefit to the least-advantaged members of society, and 2) everybody must be treated according to merit and effort; two people can only be treated differently if their merits or efforts are different. Discrimination and stigmatisation are in direct conflict with the ethical value of justice. One sometimes adds words to specify different aspects of the value, e.g. 'global justice' – to indicate an unjust distribution between the North and the South – or 'intergenerational justice' – to indicate unjust distributions between current and future generations.

No harm (covers both safety and security)

No harm requires that everybody has the right to be protected from harm, and safeguarded from illness, hunger, accident, and other dangers. This value encompasses protection from undesirable events and malicious actions. Sometimes a distinction between safety and security is made where safety refers to the right to be safeguarded from unintentional harm, and security refers to the right for protection against intentional harm (e.g. from terrorism).

Precaution

This value requires that an action should not be undertaken if there are reasonable grounds for concern, though no scientific evidence, for it having dangerous effects on the environment, public health, or civilisation.

Ethical dilemmas and technology

Privacy

Everybody has a right to personal privacy, which means to have control of one's personal (digital) information. The value of privacy limits external and inappropriate access to private information and derived social control exercised by e.g. governments, public organizations, corporations, and others.

Respect for nature

According to this value, all forms of life have intrinsic or inherent value and are to be respected for their own sake. Humans are part of nature and the well-being and flourishing of human beings are not considered more important than the well-being and flourishing of other forms of life. Diversity of different life forms are contributing to the well-being of both individual species and individuals. This value derives from the notion of environmental rights.

Social stability

This ethical value focusses on how the various parts of society fit together and strives for establishing equilibrium by balancing different aspects and interests, and as a last resort forcing out extreme actions, ideas and individuals that disagree with popular opinion.

Stewardship for the earth

This ethical value claims that humans are responsible for the world, and therefore are obliged to take care of it, by shaping trajectories of social-ecological change at local-to-global scales to enhance and balance ecosystem resilience and human well-being. This ethical value has religious origins, as it can be derived from the believe that humans are guardians of God's creation. Nature and natural resources are considered as a gift.

Transparency

Transparency requires one to operate in such a way that it is easy for others to see what actions are performed and what decisions are made. It also commits visibility of the underpinning foundation with which actions and decisions are justified. Transparency implies openness, communication, and accountability.

Trust

Trust is about the elimination of doubt in oneself, in other persons, and in technologies. This ethical value commits a person to act in a reliable way, so that other people can trust in her, and other persons to treat the first person as a person to be entrusted. A person must not say one thing and do something different. Similar reflections regard technologies. A technology should enact according to specifications, information material, and advertisement.

Sources used in material

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