

Telehealth Standards Directions Supporting Better Patient Care

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Outline

- ❖ **Telehealth scope limitations and implications**
- ❖ **A framework for broadening the scope of Telehealth**
- ❖ **Some examples based on applying the framework**

Motivation

- ❖ **Telehealth has long been advocated as a means to improve healthcare systems efficiency and access**
- ❖ **However, uptake has been slow and mostly in a rather restricted range of clinical areas**
- ❖ **The traditional view of Telehealth has been as a clinician-centred clinical activity, akin to a procedure**
- ❖ **This imposes limitations on flexibility to cater for new models of care, and development of generic guidelines**





Broadening the Scope

- ❖ **Survey of Telehealth Standards by Standards Australia IT-14-12 Telehealth sub-committee of IT-14 Health Informatics committee: TR-2961-2007 (Sep 2007)**
- ❖ **Rather than focus on individual clinical specialities, consider two domains which standards must serve:**
 - “Tele” (data, communications, equipment, software)
 - “Health” (usage, clinical processes, health care systems)
- ❖ **Refine these areas down to distinctive functional subsets of similar components or tasks**

Telehealth Standards Framework I

DOMAIN	FUNCTION	COMPONENT
Tele (Data)	Capture	Physical Characteristics (colour, resolution) Device Types (audio, image, video, sensors)
	Storage	Compression (JPEG, MPEG) Content (regions of interest, physiol. signals)
	Transmission	Coding (protocols, packets, errors)
	Processing	Transforms (scaling, noise)
	Quality	Display (screen properties, mappings) Observer (subjective opinion)

Telehealth Standards Framework II

DOMAIN	FUNCTION	COMPONENT
Health (Usage)	Assessment	Clinical guidelines Screening/consultation Telepresence/robotics
	Diagnosis	Reporting guidelines Remote testing and imaging Decision making and expert consultation
	Treatment	Prescribing and medication Formulation of care plan
	Management	Execution and modification of care plans Coordination of multiple carers
	Monitoring	Recording from medical devices Analysis of data, images, signals Carer-patient e-mail/web usage

Operational Considerations

- ❖ **Identify elements or stages of health data handling which could occur during a Telehealth session:**
gathering, transferring, aggregating, analysing, deciding, presenting
- ❖ **Characterise the modes of participant action/interaction:**
patient self-care
carer-patient and clinician-patient
carer-carer, carer-clinician, clinician-clinician
- ❖ **Acknowledge the relevant technical factors:**
timing, medium, mechanism, channel, performance, human

Example I

- ❖ **Home based health care: patient tele-monitoring**
 - logging patient physiological data by wearable devices or smart home storage, compression and transfer of data offsite
 - processing of body of data to abstract and find patterns
 - computing of decisions for return to patient
- ❖ **Patient self-care action type**
- ❖ **Health domain = monitoring; Tele domain = all**

Example II

❖ **Personal Health Records:**

prompt patient via software application

collect/check/format information

search/retrieve/present information

❖ **Patient self-care action type**

❖ **Health domain = management; Tele domain = storage**

Conclusion

- ❖ **The framework described allows a broader interpretation of Telehealth activities, including more patient centric ones**
- ❖ **Patient-specific personalised, individualised health care delivery is supported by Telehealth in this broader view**
- ❖ **Health portals, health call centres and health coaching are part of this emerging models of care area**
- ❖ **Further examples with other types of Telehealth actions can also be considered: e.g. multiparty, telesurgery**

Contact

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