

## Healthcare Simulation Dictionary

### V2.0 ADDENDUM: terms related to simulation at a distance

**Distance Simulation** \ dis-tuhns \ sim-yuh-ley-shuh n \ noun

**Etym. distance** (adj) Meaning "remoteness of space, extent of space between two objects or places" is from late 14c. Also "an interval of time" (late 14c., originally *distaunce of times*). Meaning "remote part of a field of vision" is by 1813. The figurative sense of "aloofness, remoteness in personal intercourse" (1590s) is the same as in *stand-offish*.

**Etym. simulation** (n.) noun of action from past participle stem of *simulare* "imitate," from stem of *similis* "like". Meaning "a model or mock-up for purposes of experiment or training" is from 1954.

#### Definition

- Implementing a simulation or training at a physical distance from the participant(s) (LeFlore et al., 2014; von Lubitz et al., 2003). This may include operating a simulator via some type of remote access where the operator remotes into a simulator stationed where the participants are located; otherwise known as remote-controlled (LeFlore et al., 2014). Or, it could be where the participants remote into something like the cameras during a simulation where the simulator is stationed at a different site, which may be called "distance-based high-fidelity human patient simulation training" (von Lubitz et al., 2003, p. 379). Advantages of this method are being able to use experts to run the simulator (LeFlore et al., 2014) or to instruct (von Lubitz et al., 2003) if not currently available at the site where the participants are located.

Compare: REMOTE SIMULATION, TELESIMULATION

**Mental Simulation** (additional definition) \ 'men-tl \ n sim-yuh-ley-shuh n \ noun

**Etym. mental** (adj.) early 15c., "in, of, or pertaining to the mind; characteristic of the intellect," from Late Latin *mentalis* "of the mind," from Latin *mens* (genitive *mentis*) "mind," from PIE root \***men-** (1) "to think."

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#### Definition

- Activities that take place in the brain such as "mental imagery, imagination, thought flow, narrative transportation, fantasizing, and counterfactual thinking." These are "specific processes that occur in the brain when an individual is mentally simulating an action or forming a mental image," or are "focused on the consequences of mental simulation processes for affect, cognition, motivation, and behavior." (Markman, Klein, & Suhr, 2009)

**Online Simulation** \ on-lahyn \ sim-yuh-ley-shuh n \ noun

**Etym. online** (adj.) also *on-line*, in reference to computers, "directly connected to a peripheral device," 1950; see *on+ line* (n.).

**Etym. simulation** (n.) noun of action from past participle stem of simulare "imitate," from stem of similis "like". Meaning "a model or mock-up for purposes of experiment or training" is from 1954.

### Definitions

- Interactive simulation experience offered through an online platform that connects participants with other learners in a virtual world to complete assessment, diagnosis and treatment tasks for virtual patients (Dikshit et al, 2005; Duff et al, 2016).
- Online, often multiplayer, simulation exercises involving care for a single patient or multiple patients. Often utilizes gamification concepts to engage and incentive learners (Kusumoto et al, 2007; Evans et al, 2015).

**Remote Simulation** \ ri-moht \ sim-yuh-ley-shuh n \ noun

**Etym. remote** (adj.) mid-15c., from Middle French *remot* or directly from Latin *remotus* "afar off, remote, distant in place," past participle of *remove* "move back or away, take away, put out of view, subtract," from *re-* "back, away" (see **re-**) + *movere* "to move" (from PIE root **\*meue-** "to push away")

**Etym. simulation** (n.) noun of action from past participle stem of simulare "imitate," from stem of similis "like". Meaning "a model or mock-up for purposes of experiment or training" is from 1954.

### Definition

- Simulation performed with either the facilitator, learners or both in an offsite location separate from other members to complete educational or assessment activities (Laurent et al, 2014; Shao et al, 2018). Facilitation and assessment can be performed either synchronously or asynchronously using video or web conferencing tools.

Compare: DISTANCE SIMULATION, TELESIMULATION

**Remote-controlled Simulation** (also Remote-facilitated simulation) \ ri-moht \ kuh n-trohld \ sim-yuh-ley-shuh n \ noun

**Etym. remote** (adj.) mid-15c., from Middle French *remot* or directly from Latin *remotus* "afar off, remote, distant in place," past participle of *remove* "move back or away, take away, put out of view, subtract," from *re-* "back, away" (see **re-**) + *movere* "to move" (from PIE root **\*meue-** "to push away")

**Etym. controlled** (adj.) "held in check, restrained," 1580s, past-participle adjective from **control** (v.). Of rent, from 1930.

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### Definitions

- Simulation sessions conducted by an instructor who is in a location separate from the learners for a given session. The remote facilitator introduces the simulation environment and session, runs scenarios and debriefs with (Ohta et al. 2017) or without an onsite facilitator (Ikeyama et al. 2012; Shao et al. 2018).

- A simulation-based session where mannequins are operated by remote control and instructors facilitate in real time via Web or videoconferencing, as an alternative method to face to face simulation-based training (Christensen et al., 2015).

**Take-home simulators** \ teyk \ hohm \ sim-yuh-ley-ters \ *noun*

**Etym. take** (v.) late Old English *tacan* "to take, seize," from a Scandinavian source (such as Old Norse *taka* "take, grasp, lay hold," past tense *tok*, past participle *tekinn*; Swedish *ta*, past participle *tagit*), from Proto-Germanic *\*takan-* (source also of Middle Low German *tacken*, Middle Dutch *taken*, Gothic *tekan* "to touch"), from Germanic root *\*tak-* "to take," of uncertain origin, perhaps originally meaning "to touch."

**Etym. home** (n.) Old English *ham* "dwelling place, house, abode, fixed residence; estate; village; region, country," from Proto-Germanic *\*haimaz* "home" (source also of Old Frisian *hem* "home, village," Old Norse *heimr* "residence, world," *heima* "home," Danish *hjem*, Middle Dutch *heem*, German *heim* "home," Gothic *haims* "village")

**Etym. simulator** (n.) 1835, of persons, from Latin *simulator* "a copier, feigner," agent noun from *simulare* "imitate," from stem of *similis* "like". In reference to training devices for complex systems, from 1947 (flight simulator). *simulated* (adj.) 1620s, "feigned," past participle adjective from *simulate* (v.). Meaning "imitative for purposes of experiment or training" is from 1966 (agent noun *simulator* in the related sense dates from 1947. In commercial jargon, "artificial, imitation" by 1942.

**Definition**

- Simulators that can be taken home or used in other locations (e.g. call room). (Bokhari et al 2010).

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**Definition**

- A combination of devices (e.g.laparoscopic box trainer), software, tasks, instructional videos, target performance levels, log sheets, and program overview materials that are provided to participants for use at in-home or other similar locations for completing simulation activities. (Wilson et al 2019)

## Telepresence \ 'tɛlɪ,prɛzəns \ noun

**Etym. tele** (adj.) before vowels *tel-*, word-forming element meaning "far, far off, operating over distance" (also, since c. 1940, "television"), from Greek *tele* "far off, afar, at or to a distance," related to *teleos* (genitive *telos*) "end, goal, completion, result," from PIE root \*kwel- (2) "far" in space or time."

**Etym. presence** (n.): mid-14c., "fact of being present," from Old French *presence* (12c., Modern French *présence*), from Latin *praesentia* "a being present," from *praesentem* (see [present](#) (n.)). Present c. 1300, "existing at the time," from Old French *present* "evident, at hand, within reach;" as a noun, "the present time" (11c., Modern French *présent*) and directly from Latin *praesentem* (nominative *praesens*) "present, at hand, in sight; immediate; prompt, instant; contemporary," from present participle of *praesse* "be before (someone or something), Meaning "being there" is from mid-14c. in English.

### Definition

- Telepresence is the bridging of geographical separation using technology that enables interaction and communication approximate to being actually present. Work-from-home meeting software like Cisco WebEx, Zoom, etc. is telepresence. The environment you see in a through the webcam of your colleague is a real, non-computer generated environment (e.g. their office or home). Manikin-based simulations with a debriefer who is geographically separated but uses a telepresence robot would be telepresence, but not virtual presence (Shaw et al., 2018).

Compare: VIRTUAL PRESENCE

## Telesimulation (Tele-OSCE) \ 'tɛlɪ, \ sim-yuh-ley-shuh n \ noun

**Etym. tele** (adj.) before vowels *tel-*, word-forming element meaning "far, far off, operating over distance" (also, since c. 1940, "television"), from Greek *tele* "far off, afar, at or to a distance," related to *teleos* (genitive *telos*) "end, goal, completion, result," from PIE root \*kwel- (2) "far" in space or time."

**Etym. simulation** (n.) noun of action from past participle stem of *simulare* "imitate," from stem of *similis* "like". Meaning "a model or mock-up for purposes of experiment or training" is from 1954.

### Defintions

- "A telesimulation platform utilizes communications technology to provide mannequin-based simulation education between learners and instructors located remotely from one another. Specifically, the instructor controls the mannequin and moderates the debriefing remotely. During these sessions, the instructor observes the learners in real time and provides immediate feedback during the debriefing. This platform obviates the need to have instructors, learners, and mannequins in the same place at the same time, potentially allowing simulation-based educational sessions to occur with greater frequency for institutions not located proximate to formal simulation centers. Additionally, the telesimulation platform enables an experienced simulation instructor to observe and directly help new simulation instructors at remote simulation locations. Readily available Web-conferencing, screen-sharing software, microphones, and webcams makes telesimulation possible. Mannequin-based telesimulation is relatively new and not well represented in the literature, but could facilitate systems changes, providing educational experiences to health care professionals in locations not currently benefiting from mannequin-based simulation opportunities. Several research questions need to be addressed in future studies to better develop this educational approach, including technical feasibility, logistic issues, a comparison of telesimulation to other simulation approaches, and assessing limitations of the telesimulation platform." (Hayden et al., 2018, p. 144).

- “Telesimulation (TS) is a novel concept that uses the internet to link simulators between an instructor and a trainee in different locations” (Okraïneç et al., 2010, p. 417). “Telesimulation uses the Internet to link simulators between an instructor and trainee in different locations” (Okraïneç et al., 2010, p. 417). “Using two simulators, multiple computers, a series of webcams, and basic video conferencing software, the instructor and trainee can see within each other’s simulators as well as see and speak to each other” (Okraïneç et al., 2010, p. 418). Telesimulation differs from “telementoring or teleconferencing because it actually connects two simulators in different physical locations,” allowing teacher and student to see, but not control, what the other is doing in real time (Okraïneç et al., 2010, p. 418). . . . “Telesimulation is a novel, practical, inexpensive, effective, and well-received method for teaching appropriate procedural skills” (Mikrogiannakis et al., 2011, p. 427).

Compare: DISTANCE SIMULATION, REMOTE SIMULATION

**Virtual Presence** \ vur-choo-uh l \ prezəns \ noun

**Etym. virtual** (adj.) The meaning "being something in essence or effect, though not actually or in fact" is from mid-15c., probably via sense of "capable of producing a certain effect" (early 15c.). Computer sense of "not physically existing but made to appear by software" is attested from 1959.

**Etym Presence** (n.): mid-14c., "fact of being present," from Old French presence (12c., Modern French présence), from Latin praesentia "a being present," from praesentem (see present (n.)). Present c. 1300, "existing at the time," from Old French present "evident, at hand, within reach;" as a noun, "the present time" (11c., Modern French présent) and directly from Latin praesentem (nominative praesens) "present, at hand, in sight; immediate; prompt, instant; contemporary," from present participle of praesse "be before (someone or something), Meaning "being there" is from mid-14c. in English.

### Definitions

- The “sense of being physically present with visual, auditory, or force displays generated by a computer” and is similar but distinct from Telepresence, the “sense of being physically present with virtual object(s) at the remote teleoperator site.” (*Sheridan, 1992*).
- Virtual presence refers to the degree to which individuals experience a computer-generated environment rather than the physical locale (Samosorn, et al 2019).

Compare: TELEPRESENCE

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