Note: Page numbers followed by f indicate figures, t indicate tables, b indicate boxes, and np indicate footnotes.

A	telemedicine in, 259–262
Accreditation	change, 261
hospital, 269	incidence, 260
Joint Commission International (JCI),	influence of space medicine, 260–261
267–268	legal issues, 261–262
Accredited Standards Committee (ASC), 84	limitations, 261
ACR RadPeer protocol, 193	
Africa, telemedicine in, 340–341	В
AI. See Artificial intelligence (AI)	Big data, 328–330
Alaska the Dental Health Aide Therapist	Bitcoin (BTC), 326–327
program, 238–239	Blockchain technology, 305–306, 325–328
Alerts and triggers, in electronic health	Brazil
record (EHR), 50–51	Health Unified System, 334
All India Institute of Medical Sciences	telehealth in, 334–337, 335–336f
(AIIMS), virtual teaching, 154b	Brazilian Telehealth Program, 210, 334
American Medical Association, 299	
American Well, 32, 64–66	C
product features, 67b	CABG. See Coronary artery bypass surgery
Ankylosing spondylitis, disease activity	(CABG)
index in, 109, 110 <i>f</i>	CAD. See Computer Aided Design (CAD)
AOL messenger, 74–75	Canada, telemedicine/telehealth in, 337–33
Apple Health, 96	Cancer, 217–218, 220
Application programming interface (API),	Cardiology
89	E-teaching in, 156–158
AR. See Augmented reality (AR)	teleteaching in, 211
Aravind eye-care system, 5, 5b	Cardiopulmonary resuscitation (CPR), 292
Arctic telemedicine, 263–265	CardioSpa, 209
Artificial intelligence (AI), 107, 109,	Cardiovascular disease (CVD), 156, 207
305–306, 314, 316–317	Care coordination, 116–117, 124, 126
applications of, 317–318, 317f	programs, 116–117, 123
challenges, 319–321	Caregivers, 115, 150
deep learning and, 195, 315–316, 317f	Care plan, 39
history and evolution, 314–315	Care process, 26
ASC. See Accredited Standards Committee	Care providers, lack of, 3
(ASC)	Care provision, 6
Ask an Expert (AAE), Samsung, 32	CBR. See Community-based rehabilitation
Audio/Video Interface (AVI), 50	(CBR)
Augmented reality (AR), 321	CCD. See Continuity of Care Document
Australia, telehealth in, 331–333, 333t	(CCD)
Authentication, 302	CCR. See Continuity of Care Record (CCR)
Availability, integrity, and confidentiality	CDA. See Clinical Document Architecture
(AIC) triad, 191	(CDA)
AVI. See Audio/Video Interface (AVI)	CDISC. See Clinical Data Interchange
Aviation, commercial	Standards Consortium (CDISC)

CDS. <i>See</i> Clinical decision support (CDS) CDSS. <i>See</i> Clinical decision support system	Community health workers (CHWs), 281 adherence, 174
(CDSS)	ensuring health equity, 174–175
Centers for Medicare and Medicaid	fast diagnostics, 174
Services (CMS), 85–86	purpose of care support, 173
CGM. See Continuous glucose monitor	telemedicine for, 172–175
(CGM)	Complex emergencies, 272
Change management approach, 8	Computed radiography (CR), 188
CHC. See Community health center (CHC)	Computer Aided Design (CAD), 191, 195, 253
Chennai floods, India (2015), 275	Computer assisted care, 107–113
Chronic disease, 6, 115	-
	Computerized provider order entry
Chronic Patient Relationship Management	(CPOE), 39, 109
(CPRM) model, 123–124, 123–124t,	Confidentiality, 302
125 <i>f</i> , 126	Congestive heart failure (CHF), 319
Chronic problems, 179	Connectathon, 89
CHWs. See Community health workers	Connectivity, 60
(CHWs)	Consent, for telemedicine, 301–302
Citrix, 233	Continuing medical education (CME)
Clinical Data Interchange Standards	meetings, 162
Consortium (CDISC), 84	Continuity of Care Document (CCD), 86
Clinical decision support (CDS), 38–39	Continuity of Care Record (CCR), 86
Clinical decision support system (CDSS),	Continuous glucose monitor (CGM), 65
53–54, 84–85, 109	Coronary artery bypass surgery (CABG), 313
Clinical Document Architecture (CDA), 86	CPCs. See Clinico-Pathology Conference(s)
Clinical documentation, 39	CPOE. See Computerized provider order
Clinical information system (CIS), 83	entry (CPOE)
ClinicalKey, 111b	CPR. See Cardiopulmonary resuscitation
Clinicians, 6–7, 7f, 35, 41	(CPR)
resistance of clinicians to telehealth, 18	Critical care unit, 222
Clinico-Pathology Conference(s) (CPCs),	CRM. See Customer relationship
14–15	management (CRM)
Clinic's lab information system (LIS), 38	Customer relationship management
Cloud computing, 271	(CRM), 123, 123 <i>t</i>
Codecs (coding-decoding), 50	CVD. See Cardiovascular disease (CVD)
Codec H264, 75–76	Cyan, magenta, yellow, and black (CMYK), 44
Collaborative telehealth, 95	, , , , , , , , , , , , , , , , , , , ,
Commercial off-the-shelf (COTS) products,	D
216	Data analytics, healthcare. See Healthcare
Communicable diseases, 267	data analytics
Communication, 135	Data-driven decision-making, 53
channels, 103–104	Data movement streaming engines
effective, 69–73	(DMSE), 140
electronic, 70	Data security issues, accuracy ensure
human-to-human, 69–70	blood pressure, 71
links, 59	dates, 71
modes, 63	email, 71
	gender, 70
in primary healthcare, 176	
Software, 278 Community based rehabilitation (CRP)	Data warehouse (DW) servers, 140
Community-based rehabilitation (CBR),	Da Vinci Robot system, 311, 311f, 313
254, 254f	Decision-making, data-driven, 53
Community Health Aide Program,	Dementia, 63
238–239 Community health center (CHC) 161	Dental Health Aide Therapist program,
COMMUNITY DESITE CENTER IL FILL 1 161	/.3 0 -/.3 9

Diabetes Diary, 225–226	Documentation
Diabetes, self-management of, 224	clinical documentation, 39
Diabetic foot, 181	medical, 19–20, 20f
DICOM. See Digital Imaging and	Document standards, 86, 87f
Communications in Medicine	Do-it-yourself (DIY) initiatives, 31, 294
(DICOM)	DIY project, 32–33
Digital Health, 5–6, 18–19	• ,
Digital health assistant, training	E
requirements of, 151–153, 152 <i>b</i>	EBM. See Evidence-based medicine (EBM)
Digital health workforce, 149–153	Ebola virus treatment, 323
Digital Imaging and Communications in	Echocardiograms, 209
Medicine (DICOM), 33, 45–46, 45f,	ECHO Program, 166–167
84, 105–106, 190–191	Ecological momentary assessment (EMA)
DICOMWeb, 191	techniques, 230
vs. non-DICOM, 188	Education, virtual teaching (VT) in,
Digital Information Security for Healthcare	153–156, 155 <i>t</i>
Act (DISHA), 298	Effective communication, 69–73
Digital literacy, 119	Effective telehealth, 69–70
DigitalMe, 33	Efficient care delivery, 115
Digital slide, 196b	eHealth. See Electronic health
Digital stethoscope, 208, 208f	EHRs. See Electronic health records (EHRs)
Digitization of X-rays, 46–47	Electrocardiograms (ECGs), 209
DIKW, 4–5, 4 <i>f</i> , 41	tele-transmissions of, 14
Direct-to-consumer telehealth, 338	Electronic communication, 70
Disaster management, 272–273, 273f, 274t	Electronic connectivity, Internet and, 97
Disasters, telehealth in, 272–275, 273f	Electronic consultation (eConsult) tools,
Disease activity index, in ankylosing	338
spondylitis, 109, 110f	Electronic health (eHealth), 5–6, 22,
Disease activity score of 28 joints (DAS28),	122–123
109, 110 <i>f</i>	definition, 12
DISHA. See Digital Information Security for	in patient engagement, 117–121, 118f
Healthcare Act (DISHA)	Electronic healthcare delivery system, 38
Distance-based care, social media and	Electronic health records (EHRs), 16, 19–22,
networking for, 102–103	27, 36, 53–54, 95
Distance education, 146	alerts and triggers in, 50-51
in context of professional work in health,	ambulatory/outpatient, 37–38
146–149	application of, 40–41
health area, 149	definition, 37
hybrid teaching, 148	features and functionalities of, 35-36
myths, advantages, and disadvantages	inpatient, 38–39
in, 146–148	Electronic medical record (EMR), 16, 20–21,
online, 148	36, 136
teacher and student training, 148	Electronic medication administration
web-based, 146	record (eMAR), 39
Distance learning, 146–148, 153	Electronic patient diaries, 121
Doctor-doctor linkages, 96–97	Electronic skin (e-skin), 111 <i>b</i>
Doctor on Demand, 64–65	Emails and discussion forums, 97–99
Doctor-patient relationship, 299	eMAR. See Electronic medication
Doctors	administration record (eMAR)
and adopting telemedicine, 168-170	Emergency
facilitating doctors' adoption of	complex, 272
teleconsultation, 170–171	environmental, 272
teleconsultations from, 169–170	teleradiology, 192–193

Emergency care	current and expected structural changes
prison populations, 267	in, 62 <i>t</i>
video-conference system for, 78-81	Internet of Things (IoT) in, 318–321
Emergent models of care, 95–97	Healthcare data analytics, 51–55
Emerging interoperability standards, 89	clinical decision support system, 53–54
EMR. See Electronic medical record (EMR)	in context of telehealth, 54–55
Environmental emergencies, 272	data-driven decision-making, 53
e-skin. See Electronic skin	population and public health, 53
E-teaching	standardization, 55
in cardiology from India, 156–158	Healthcare delivery, 6, 161, 163
in pediatric cardiology, 157–158, 157f	costs of, 3
Ethereum, 326	electronic system, 38
Ethical guidelines, for telemedicine, 297	quality of, 94
Ethics of telemedicine, 302–303	Healthcare information, 36, 37f
E-training, 194–195	Healthcare Information and Management
Evidence-based medicine (EBM), 38	Systems Societies (HIMSS), 31
, ,,	Healthcare Information Technology (HIT),
F	35–36, 150
Face-to-face education, 147–148	Healthcare nurse practitioner, 175–176
Face-to-face interaction, 305–306	Health-care practitioners, 106–107
Fast Healthcare Interoperability Resources	Healthcare problems, 36
(FHIR), 89	Healthcare programs, 36
Few Touch Application, 225–226	Healthcare providers, 185
Flight staff, telehealth for, 261–262	Health-care provision, 145, 149–150
"Follow the sun" model, 192–193	Healthcare-related information
	acquiring and utilizing nontextual data,
G	42–50
0	
Gamification, 120–121	images, 42–46, 43 <i>t</i>
Gamification, 120–121 Garbage in garbage out (GIGO), 70	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i>
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in,
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO)	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i>
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i>
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP)	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International,
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13 GRPC model, 124	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118 critical, 118
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13 GRPC model, 124 Guardian Connect system, 65	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118 critical, 118 functional, 118
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13 GRPC model, 124 Guardian Connect system, 65	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118 critical, 118 functional, 118 interactive, 118
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13 GRPC model, 124 Guardian Connect system, 65 H Hardware for telecare, 60	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118 critical, 118 functional, 118 interactive, 118 HealthNet, 106–107
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13 GRPC model, 124 Guardian Connect system, 65 H Hardware for telecare, 60 HCIT. See Healthcare information	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118 critical, 118 functional, 118 interactive, 118 HealthNet, 106–107 Health professionals, 115, 116 <i>f</i>
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13 GRPC model, 124 Guardian Connect system, 65 H Hardware for telecare, 60 HCIT. See Healthcare information technology (HIT)	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118 critical, 118 functional, 118 interactive, 118 HealthNet, 106–107 Health professionals, 115, 116 <i>f</i> Health Unified System, Brazil, 334
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13 GRPC model, 124 Guardian Connect system, 65 H Hardware for telecare, 60 HCIT. See Healthcare information technology (HIT) Health authorities, 31	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118 critical, 118 functional, 118 interactive, 118 HealthNet, 106–107 Health professionals, 115, 116 <i>f</i> Health Unified System, Brazil, 334 Health workers, mHealth in supporting,
Gamification, 120–121 Garbage in garbage out (GIGO), 70 General practitioner (GP), 51–52, 162 nurse practitioners and, 24 Genome sequencing, 108 Geriatrics, telecare in, 215–217 Gestational telemonitoring, 214–215 GIGO. See Garbage in garbage out (GIGO) Global Burden of Disease 2015 study, 207 Global Emergency Telemedicine Services (1995), 240 Google Fit, 96 Google plus, 74–75 GotoMeeting (Citrix), 75 GP. See General practitioner (GP) Graham Bell, Alexander, 13 GRPC model, 124 Guardian Connect system, 65 H Hardware for telecare, 60 HCIT. See Healthcare information technology (HIT)	images, 42–46, 43 <i>t</i> recording images, 46–47, 49 <i>f</i> sound, 48–50 data entry, 41–42 Healthcare services, 62 traditional, 167–168 Healthcare surgery, tele-robotics in, 309–314, 311 <i>f</i> Health-care system, 128 Australia, 331 Healthcare workers, 61–62 telemedicine for community, 172–175 HealthDirect, 107 Health IT systems, data flow in, 4–5, 4 <i>f</i> Health Level Seven (HL7) International, 33, 90 Health literacy levels, 118 critical, 118 functional, 118 interactive, 118 HealthNet, 106–107 Health professionals, 115, 116 <i>f</i> Health Unified System, Brazil, 334

HIMSS. See Healthcare Information and	Informed consent, 301
Management Systems Societies	Institute of Electrical and Electronics
(HIMSS)	Engineers Standard 1073 (IEEE
HIPAA, 42, 298	1073), 84
HIS. See Hospital information system (HIS)	Integrated Management of Childhood
HIT. See Healthcare Information	Illness (IMCI), 290–291
Technology (HIT)	Integrated Service Digital Network (ISDN),
Home-based care, 305–306	15,74
Home-based rehabilitation, 305–306	Integrated telehealth-EHR system, 41
HomeCare program, 307	Integrating the Healthcare Enterprise
Home healthcare, 23, 308–309	(IHE), 88–89
Home Monitoring telehealth programs, 32	Intensive care unit (ICU), 14, 222
Home, nursing care in, 307, 307f	Interactive television (IATV), 13
Hospital information system (HIS), 124	Intermittent pneumatic compression (IPC)
Hospital Quality Improvement and	pump, 182–183
Accreditation (HQIA), 269	International Classification of Diseases
Human resources for healthcare (HRH),	(ICD), 85
162	International Council of Nurses
Human-to-human communication, 69–70	Telenursing Network, 178
Hybrid models, 164	International Diabetes Federation, 224
Hybrid teaching, 148	International Health Terminology
	Standards Development
I	Organization (IHTSDO), 85
IATV. See Interactive television (IATV)	International Labor Organization (ILO),
ICD. See International Classification of	258
Diseases (ICD)	International Standards Organization (ISO),
ICD-10 Procedure Coding System (ICD-10-	81
PCS), 85–86	Technical Committee (TC) 215 Health
ICT. See Information and communication	Informatics, 90
technology (ICT)	Internet and electronic connectivity, 97
IHE. See Integrating the Healthcare	Internet-based behavioral interventions,
Enterprise (IHE)	164–165
IHTSDO. See International Health	Internet of Things (IoT), 142, 318–321
Terminology Standards	applications, 318–321
Development Organization	challenges, 319–321
(IHTSDO)	Internet Protocol Security (IPSec), 189f, 191
IMCI. See Integrated Management of	Internet Relay Chat (IRC), 99
Childhood Illness (IMCI)	Interoperability, 37
iMMi Life, 209–210	IoT. See Internet of Things (IoT)
India	IPC. See Intermittent pneumatic
telemedicine/telehealth in, 339-340	compression (IPC) pump
telemental health after tsunami in, 22b	IPSec. See Internet Protocol Security (IPSec)
teleophthalmology, 23b	IRC. See Internet Relay Chat (IRC)
Indian Space Research Organization	ISDN. See Integrated Service Digital
(ISRO), 14–15, 339–340	Network (ISDN)
In-flight telehealth services, 262	ISRO. See Indian Space Research
InfoBionic, 65	Organization (ISRO)
Information access method, 119	0
Information and communication	J
technology (ICT), 4, 7–8, 8f, 11–12,	Jet lag, 255
16, 24, 90, 117–118, 237–238	Joint Commission International (JCI), 269
revolution, 5	accreditation, 267–268
Information Technology (IT), 4	Jurisdiction, 300

L	MLM. See Medical logic modules (MLM)
Laboratory information system (LIS), 38, 83	MMR. See Maternal mortality ratio (MMR)
Laboratory Management Information	Mobile Cardiac Telemetry (MCT) monitor,
Systems (LMIS), 143	65
Law, telemedicine, 298	Mobile devices, apps development,
Learning, distance, 146–148, 153	284–290
LHR. See Longitudinal health record (LHR)	HTML5 apps, 288–289
Licensure, 299–300	native apps, 287–288
	smart mobile devices, 285–286
LIS. See Laboratory information system	native apps vs. HTML5 apps, 286
(LIS)	Mobile health (mHealth), 6, 12, 18–19, 119,
Livestream, 233	277–281
Live TV, 49	benefits of, 280
LMIS. See Laboratory Management	drawbacks and issues, 281
Information Systems (LMIS)	
Logical Observation Identifiers, Names,	evaluation, 293–294
and Codes (LOINC), 85	hot areas of research, 281
Longitudinal health record (LHR), 35	persuasive technology (PT) and, 290–292,
Lymphedema, 180, 181f, 182–183	292 <i>t</i>
M	in supporting health workers, 281–284, 283f, 285f
Maritime Labour Convention (MLC), 257	Mobile personal health record (mPHR),
Maritime Rescue Coordination Center	215
(MRCC), 258	Mobile phone, 278
Maritime telemedicine, 257–259	telepathology, 197–198
MAS. See Minimally invasive surgery	MoMe Kardia, 65
(MAS)	Moore's law, 41, 95, 328
Maternal mortality ratio (MMR), 174	mPHR. See Mobile personal health record
MDLIVE, 107	(mPHR)
MedAire, 261	MRCC. See Maritime Rescue Coordination
Medical documentation, 19–20, 20f	Center (MRCC)
Medical equipment and facilities, 256, 256b	,
Medical ethics, and telemedicine, 298–300	N
Medical logic modules (MLM), 109	NABH. See National Accreditation Board
Medical records, paper-based, 42	for Hospitals and Healthcare
Medical tourism, 267–271	Providers (NABH)
pros and cons of, 269–270	Narrative-based history taking, 94
reasons for growth of, 268–269	NASA. See National Aeronautics and Space
stakeholders of, 270	Administration (NASA)
telehealth/telemedicine and, 270–271	
	National Accreditation Board for Hospitals
Medicare, 116–117	and Healthcare Providers (NABH),
Medtronic, 65	269
Medtronic's Guardian Connect, 65	National Aeronautics and Space
Mental health, prison populations, 266	Administration (NASA), 13, 312
Mercy SafeWatch telehealth programs, 32	National Council for Prescription Drug
Mercy's telehealth programs, 32	Programs (NCPDP), 84
Mercy Virtual Care Center, 32	National Electronics Manufacturers
mHealth. See Mobile health	Association (NEMA), 84
Microsoft Power BI, 142	National Institutes of Health Stroke Scale
Midtier servers, 140	(NIHSS), 223
Minimally invasive surgery (MAS), 310	National Program for Technology
MiniMed Connect system, 65	Enhanced Learning (NPTEL), 154
MLC. See Maritime Labour Convention	Natural disasters, 272
(MLC)	Natural language processing (NLP), 191

Needs assessment, 129-130, 133	automated messages and text/SMS,
Nightscout project, 32–33	119–120
Norwegian Centre for Telemedicine (NST),	online support groups, 120
64, 78	serious game and gamified
NP. See Nurse practitioner (NP)	applications, 120–121
NPTEL. See National Program for Technology	videoconferencing, 120
Enhanced Learning (NPTEL)	eHealth in, 117–121, 118f
NST. See Norwegian Centre for	Patient-patient linkages, 96–97
Telemedicine (NST)	PatientsLikeMe service, 33
Nurse practitioner (NP), 178–179	Pay-per-use model, 194
and general practitioner (GP), 24	PCC. See Patient-centered care (PCC)
tele support for, 175–178	PCM. See Pulse code modulation (PCM)
Nurse, telehealth primary nursing practice	PCP. See Primary care practitioner (PCP)
development, 178	PCPs. See Primary care professionals (PCPs)
Nursing care	Pediatric cardiology, E-teaching in, 157–158,
in home, 307, 307f	157 <i>f</i>
scenarios, 178	Peer consultations, 168
	Peer-to-peer interactions, 327
0	Personal health records (PHRs), 95, 121, 327
Obstetric telemonitoring, 212–213	Persuasive systems design (PSD) model, 291
Oculus surgery, 325	Persuasive technology (PT), and mHealth,
Online distance education, 148	290–292, 292 <i>t</i>
Ontario Telemedicine Network (OTN),	PHC (Primary Healthcare Centre),
337–338	135–136, 161
openEHR Foundation, 90	PHC (Primary HealthCare). See Primary
Operation Asha, 174	healthcare (PHC)
Ophthalmology, 199	PHRs. See Personal health records (PHRs)
OTN. See Ontario Telemedicine Network	Physiatry, 249
(OTN)	Physical handouts, advantages, 21b
Outpatient teleneurology, 222	Physical medicine and rehabilitation (PMR)
Over-the-counter (OTC) drugs, 135–136	specialist, 248–249
` , 0,	Physician-patient contact, 17
P	Picture archive and communications
PACS. See Picture archive and	systems (PACS), 14, 84
communications systems (PACS)	Plastic surgery, 26b
Pan African Telemedicine Project, 202	Polycom, 74
Participatory care, transaction to, 95–97	Post traumatic stress disorder (PTSD), 272,
Partners in care, patients as, 93–103	274–275
Paternalistic models, 95–97	PPP. See Public-private partnerships (PPP)
Patient(s)	Pregnancy, 212–213
adherence, 117	Prenatal telemedicine service, 212–215
compliance, 117	Prescriptions, computerized, 21b
health management, 116	Primary care practitioner (PCP), 161–162,
medical record, digitalization, 19–20, 20f	178–179
nodes, 136	Primary care professionals (PCPs), 213, 232
as partners in care, 93–103	Primary care provider, 36, 163–166
portal, 121–126	Primary healthcare (PHC), 161, 280
Patient-centered care (PCC), 115–117, 121	communication in, 176
Patient diaries, 121–122	nurse practitioner, role, 175–176
electronic, 121	nursing care scenarios, 178
Patient engagement	referral of patients to specialty care,
defined, 117	165–168
and education, 119	telemedicine in, 163–168
	,

Prison populations	Search and rescue (SAR) helicopters,
communicable diseases, 267	257–258
emergency care, 267	Semantic interoperability, 82np
mental health, 266	Sensors, 108, 277, 280, 290
substance abuse, 266–267	wireless, 271
telemedicine for, 265–267	Serious game, defined, 120–121
Privacy, 302	Short message service (SMS), 164–165, 278
Professional work, health, 146–149	Simple telehealth, 61t
PSD model. See Persuasive systems design	Single-channel cardiac event recorder
(PSD) model	devices, 210–211
PTSD. See Post traumatic stress disorder	Skype, 74–75
(PTSD)	Smart house technology, 63
Public-private partnerships (PPP), 132	Smart mobile devices, 285–286
Pubmed, 96	Smartphones, 16, 325
Pulse code modulation (PCM), 48	mHealth on, 280, 282f
	SNOMED CT. See Systematized
Q	Nomenclature in Medicine-Clinical
Quality and standard of care, 300-303	Terms (SNOMED CT)
_	Social media and networking, distance-
R	based care, 102–103
Radiology, 14	Social networks, 103
Radiology information systems (RIS), 84	Society for Administration of Telemedicine
Radio Medico Norway, 259	and Health Informatics (SATHI),
Real-time systems, 197	23 <i>b</i> , 151, 228, 274–275
Real time telecare, 19	project in Mizoram, 54-55
Remote care, 17–18, 20	telemental support program, 228, 228f
Remote caregivers, 22	teleophthalmology project, 152
Remote monitoring, 18	Tsunami project, 133, 133b, 134f, 135
Remote patient monitoring system, 65	Software platforms, telehealth services and
Rheumatic heart disease (RHD), 156, 207	106–107
Rheumatoid arthritis, disease activity index	Space Technology Applied to Rural Papago
in, 109, 110 <i>f</i>	Advanced Health Care (STARPAHC
RIS. See Radiology information systems	project, 13
(RIS)	Special Interest Groups (SIGs), 336
Robots, 20, 191, 305-306. See also	Stakeholders, of medical tourism, 270
Tele-robotics	Standard development organizations
Da Vinci Robot system, 311, 311f, 313	(SDO), 89–90
RxNorm, 85	Standard of care, quality and, 300-303
	Standards
S	and certification, 81–90
Samsung's Ask an Expert (AAE), 32	coordination, harmonization, and
SAP Analytics, 142	convergence of, 86–88
SATHI. See Society for Administration of	document, 86
Telemedicine and Health Informatics	in document exchange, 87f
(SATHI)	emerging interoperability, 89
SBQ-R. See Suicidal Behaviors	messaging and data exchange, 83-86
Questionnaire- Revised (SBQ-R)	terminology, 84–86
Schizophrenia Research Foundation	Static image-based systems, 197
(SCARF), 274–275	Stethoscope, digital, 208, 208f
Scribes, 151	Stoplight zone system, 65–66
SDO. See Standard development	Substance abuse, prison populations,
organizations (SDO)	266–267

Suicidal Behaviors Questionnaire- Revised (SBQ-R), 278–279	Teleemergency service, 239–242, 241 <i>f</i> Telehealth, 4–7, 11–12, 25 <i>t</i> , 176
Support system, clinical decision, 53–54,	advanced, 61t
84–85, 109	advantages of, 26
Syntactic interoperability, 82np	definition, 11–12
Systematized Nomenclature in Medicine-	deployment of, restrictions on, 60
Clinical Terms (SNOMED CT), 85	in disasters, 272–275
, , , , , , , , , , , , , , , , , , , ,	for flight staff, 261–262
T	history of, 12–17
Tableau, 142	intervention, 178
TAM. See Technology acceptance model	issues, 27, 28–29t
(TAM)	nursing services, country level, 178
TAT. See Turnaround time (TAT)	platforms, 103–107, 104f
Teaching, hybrid, 148	primary nursing practice development,
Teamviewer, 75	178
Technical Committee (TC) 215 Health	project management in, 131–132
Informatics, ISO, 90	rationale behind telehealth, 24–27
Technology acceptance model (TAM), 119	role in health system strengthening, 128
Telecardiology, 14, 206–207, 210f, 211–212	roles and responsibilities, 128–132
Telecare, 18, 21, 42	simple, $61t$
	situations and, 17–30
applications, 216–217 challenges, 60–64	tools, 164–165
in geriatrics, 215–217	
	Telehealth-based ecosystem, 127–128
hardware for, 60	analytics and indicators, 139–143
modes, 40	basic concepts, 141–143
real time, 19	Telehealth Brazil Program and the Virtual
types, 18–24	Blood Centers (RHEMO), 334
real time/synchronous, 18	Telehealth-electronic health records (EHR)
store and forward (S&F)/	system, integrated, 41
asynchronous, 18	Telehealth-enabled diseases, 61
telemonitoring/remote monitoring,	Telehealth programs, 128–129
18	clinical oversight and referral, 130
Telecommunication, 13, 257	clinical service provision, 130–131
Telecom Regulatory Authority of India	components of, 129
(TRAI), 284	considerations in staffing, 131–132
Teleconsultation, 75, 104–107, 135–136,	Home Monitoring, 32
164–165, 211, 298	Mercy SafeWatch, 32
from doctors' perspective, 169–170	program management, 130
facilitating doctors' adoption of,	project management, 129–130
170–171	site coordination, 130
reimbursement of, 169	technical support, 131
Teledentistry, 237–239	Telestroke, 32
Telederma, 206	Virtual Hospitalists, 32
Teledermatology, 203, 204f	workflows and standard operating
Teledermoscopy, 203–204	procedures (SOPs), 132
Telediabetes, 223–226	Telehealth project, 135–138, 136–138t
Telediagnosis, 105–106, 166	appointment roster, 135
Teledialysis, 244–248	backup systems, 138
Teleechocardiography, 209	project planning, 133, 133b, 134f
Tele-electrocardiograms (ECGs), 209–211,	Telehealth services, 30–34
210 <i>f</i>	development of, 32
Tele-education, 145	and software platforms, 106–107

Telehealth Streams	automatic intelligence, 198
classifications based, 22	benefits of, 197
within an enterprise, 23	categories of, 197b
connectivity, 24	concepts and applications, 195-196
home healthcare, 23	digital pathology, 196, 198f
patient and provider, 22	mobile phone-based, 197–198
providers of different levels, 22	technology, 196–198
providers of the same level, 23	Telephone, 13
public health purposes, 23	Telephone-based behavioral interventions,
specialty, 24	164–165
Telehomecare, 63, 305–309	Telepsychiatry, 15, 226–230, 228–229f, 266
Tele-intensive care unit (ICU), 242	Teleradiology, 187–195
challenges, 243–244	availability and integrity, 191
impact and future trends, 244	concepts and applications, 188
logistics and resources, 243	current and future trends, 194–195
models, 242–243	data flow in, 189f
Telemedical Assistance Service (TMAS), 258	digital imaging and communications in
Telemedicine, 5–6, 14–15	medicine (DICOM) vs. non-digital
for community healthcare workers, 172–175	imaging and communications in
definition, 11	medicine, 188
deployments of, 15	emergency applications, 192–193
devices, 64–69	healthcare costs, 192–193
doctors and adopting, 168–170	image management, viewers, and
history of, 12–17	workflow, 191–192
linkages, 14–15	image transmission, 190
in primary healthcare (PHC), 163–168	optimizes radiologist efficiency, 192–193
for prison populations, 265–267	origins of, 192
	9
Telemedicine 2.0, 15	quality and regulation, 193–194
Telemedicine law, 298 French law, 298	secondary capture, 188
	security, 190–191
Malaysian law, 298 Talamental health, 226, 230, 2386	services to remote areas, 193
Telemental health, 226–230, 228f	solutions, 40
after tsunami in India, 22b	speed, 190
Telementoring, 234	technology adoption in, 188
Telemonitoring, 18–19, 105	Telerehabilitation, 248–249
gestational, 214–215	applying, 251
obstetric, 212–213	assistive devices, 253
Teleneurocritical care, 222	community-based rehabilitation (CBR), 254
Teleneurology, 221–223	concepts and applications, 249
medical education and research, 222	diagnosis, 251–252
outpatient, 222	disability and rehabilitation, 249
Telenursing, 176	physiatric prescription, 252
interventions, 177t	problem statement, 250, 250f
Teleobstetrics, 212–215	referral, 253–254
applications, 213–214	treatment and monitoring, 252–253
Teleoncology, 217–220, 219f	Tele-robotics, 109
Teleophthalmology, 23b	in healthcare surgery, 309–314
case study, 200–202	laparoscopic and thoracoscopic
concepts and applications, 199	procedures, 312
history, 199	neurosurgery, 313
principles of, 199	safety aspects, 313–314
vision center (VC), 200–202	TeleStroke, 221, 338
Teleotorhinolaryngology, 235–237	telehealth programs, 32
Telepathology, 195–198	Tele support, 162–163

for nurse practitioners, 175–178 Telesurgery, 230–231 computer-based simulation, 234 concepts and applications, 231–234 operative procedure, 231–232, 232f postoperative care, 232 preoperative preparation, 231 training of a surgeon, 233, 233f video-based learning, 233	for emergency care, 78–81 Videoconferencing acute medical conference (VAKe), 78–79 telemedicine service, 264–265 Video consultation services, 136 Virtual 3D Lab model, 193 Virtual hospitalists telehealth programs, 32 Virtual live e-teaching, 158 Virtual private network (VPN), 245–246
Telesystem, 108 Teleteaching, 158 in cardiology, 211 Teletracking, 106 Tele-transmissions, of electrocardiograms (ECGs), 14	Virtual reality (VR), 305–306 in health, 321–325, 322t, 323–324f origins of, 321 VR goggles, 325 Virtual rehabilitation (VRehab), 324 Virtual slide systems, 197
Televisits, appointments for, 135 TMAS. See Telemedical Assistance Service (TMAS) Traditional healthcare services, 167–168	Virtual teaching (VT) in education, 153–156 education and the usage of, 153–155 Virtual teaching platform (VTP), 155–156
TRAI. See Telecom Regulatory Authority of India (TRAI) Travel-related health emergencies, 256 Tsunami (India), telemental health after, 22b Turnaround time (TAT), 195 Twine Health, 66	Virtual waiting room, 41 Vision center (VC), 200–202 Voice over Internet Protocol (VoIP), 74, 76 VR. See Virtual reality (VR) VRPhobia, 325 VT. See Virtual teaching (VT)
TytoCare, 68 ecosystem, 31 Home, 31 TytoHome features, 69b	VTP. See Virtual teaching platform (VTP) W Web-based distance education, 146
TytoPro features, $68b$ U	Web Content Accessibility Guideline (WCAG) standards, 122 WebEx, 75, 233
Ulcers, 181–182, 182 <i>f</i> Ultrahigh definition (UHD), 44 Ultrasonography, 193	WebMD, 96 Whole slide imaging (WSI), 196–197
UMLS. See Unified Medical Language System (UMLS) Unified Health System (SUS), 238	Wing works, 65–66 Wireless sensors, 271 Withings Thermo (Nokia Technologies), 69 WMA 2009 statement, 299
Unified Medical Language System (UMLS), 86 Unified threat management (UTM) device, 188 United States Medical Licensure Examination (USMLE), 299–300 University Hospital of North Norway	World Health Organization (WHO) health system, 128 Wound care, 178–180, 179f WSI. See Whole slide imaging (WSI)
(UNN), 78–79, 245 emergency unit, 80 <i>t</i> US Joint Commission, 193–194 USMLE. <i>See</i> United States Medical Licensure Examination (USMLE)	X X-rays digitization of, 46–47 images, 14
V VAKe. See Videoconferencing acute medical conference (VAKe)	Y Yahoo! messenger©, 74–75
Video conferencing (VC), 49, 60, 74–78, 186, 245–246	Z ZEUS©, 313