Telehealth Service Delivery Models

TeleHealth Service Delivery Models is a working document created and supported by the ATA Business and Finance SIG work group tasked with the development of the tool, and formed with the following charter:

"… to describe care delivery modalities (both traditional and non-traditional) where telehealth technology may be effectively used."

Name	Description	End points	Communications Model	Financial Model	Maturity	Drivers
Direct Patient Care Teleconsultation (Typically Clinician to Patient Sessions)	Video conferencing systems are used to facilitate the remote participation of medical personnel for consultation purposes. Point to point or public Internet connections are used. The common format is two-way, interactive, real-time video sessions at a bandwidth sufficient to provide clinical diagnosis.	Health Care Facility to Health Care Facility; Provider home or office to Health Care Facility; Health Care Facility or other provider location to patient home; Third party managed care organization headquarters to Health Care Facility or patient home	Real-time video communications. Examples: 1. Psychiatrist at clinic or home providing services to patients at separate, often distant, health facility. 2. GP with infectious disease patient consulting with ID specialist on newest drugs for treatment.	Third party payers including Medicare (according to specific criteria), Medicaid (state by state rules apply), private payers, self-ensured employers, self-pay patients, county supported health care delivery	Widely deployed and growing.	Improved access to care; improved continuity of care; improved recruitment and retention of medical personnel; internal cost reduction (financial savings); increase in retained earnings (reduced travel costs); CO2 savings (from reduced travel) support of medical home model and ACO payment structure; helps meet quality indicators.
Store and Forward	Services delivered using telecommunications technology but not requiring patient to be present during implementation. Utilizes devices such as digital cameras to capture and transmit still images for example of a skin lesion, digitizers or direct digital acquisition of radiographic or pathologic images, and transmission of ECG strips.	Health Care Facility to Health Care Facility; Provider home or office to Health Care Facility; Health Care Facility or other provider location to patient home; Third party managed care organization headquarters to Health Care Facility or patient home	Typically via dedicated telemedicine computer workstation equipped with software to view transmitted images and related data. Reporting communication is often by e-mail, fax, phone. Examples: 1. Teledermatologist receives photographs via secure e-mail from GP, interprets and provides treatment recommendations via e-mail response. 2. Teleradiologist receives radiographic images via secure broadband to PACS workstation, interprets images, renders diagnostic interpretation, dictated report transmitted via secure	Third party payers including Medicare (according to specific criteria), Medicaid (state by state rules apply), private payers, self-ensured employers, self-pay patients, county supported health care	Most widely used and mature application is teleradiology, followed by teledermatology and pathology. Increase in mobile technology use is increasing use of images captures & transmitted via telecommunications.	Improved access to care; improved continuity of care; improved recruitment and retention of medical personnel; internal cost reduction (financial savings); increase in retained earnings (reduced travel costs); CO2 savings (from reduced travel) support of medical home model and ACO payment structure; helps meet quality indicators

			e-mail to remote clinician.			
Hospital Care Transitions –	Telehealth technology is used to continue to monitor the health of a patient post-discharge for a period sufficient to attain post discharge health goals and safety objectives	Care coordination teams at health care facilities or management centers to home or transitional care facility (SNF)	Daily or periodic collection of physiological data, subjective health information, and any additional information submitted by patients according to protocol – reviewed by care coordinator or care management team	Bonus payments or retained revenue based on an episode of care based on meeting quality and event metrics such as reduced hospitalizations, avoided hospitalizations, reduced readmissions, zero hospital adverse events, and other health quality indicators. Models for payment are developed and in place by some third party payers and are being developed by Medicare and Medicaid agencies for 2012.	Growing rapidly in certain environments.	Required quality metrics, public quality reporting requirements, bonus payment structures, patient-centered care delivery requirements, IOM chasms of quality
ACO Model Accountable Care Organization	Primary care becomes coordinator of care and are provided financial incentives to reduce cost of care, improve the health of their patient group, coordinate care of specialists, appropriately use health resources for patients, and achieve quality indicators set by payers and primary care together	Requires an electronic health record for greater depth of implementation, use of telemedicine and e-health strategies to meet goals and objectives, more smart home and remote monitoring technologies in place. Greater use of telemedicine strategies to coordinate specialists and communication with patients in the home.	EHR and PHR systems (proprietary , HIE and Web-based Home telehealth portals.	ACO – Sharing of cost savings Bonus for efficiency & improved pt health	CMS planned implementation in 2011. Private payers already negotiating under ACO model of care.	Improve care efficiency & continuity; facilitate coordination of care, reduction of unnecessary care, and return of primary care as the medical home in order to quality for incentive payments
Home Health Care Agency Interactive Visits and Remote Monitoring	Assist with achieving PPS low utilization versus high utilization patient goals for OASIS, used as an efficiency model for home health agencies to do more with less in terms of meeting patient needs. Used for routine checks of vital signs, etc., and to evaluate need to drive out to patient home.	Home connected to the Home Care Agency via phone or Internet for interactive two-way video, remote monitoring, and server-based internet web portals for sharing of patient data	Daily or periodic collection of physiological data, subjective health information, and any additional information submitted by patients according to protocol – reviewed by care coordinator or care management team	Internal cost reduction; meet care goals in a declining reimbursement model, Physician ordered service,	Fairly widespread adoption.	Reduced costs; fewer hospital visits; increased patient independence & QOL
Workplace sited Telehealth Portal/Kiosk	Full interactive video consultations in employee health office; NP onsite clinic supported by MD clinician by telemedicine; employee self-directed Kiosk in work place that replaces/reduces onsite	Workplace to affiliated physicians' group or emergency department	Remote healthcare consultation. Similar to web-based interaction but better supported with connected health care peripherals (BP monitor, pulse oximeter, Stethoscope, etc.)	Employers drive the financial incentives especially self-ensured employers who will be interested in contracting with providers – provider incentives are low cost administration of health	Small scale deployments	Increase work productivity, satisfaction and reduce healthcare costs; reduce employee absenteeism; improvement in adherence to legal requirements for payment of workers

	nurse and also reduces trips to doctors during work hours			care services to employers, claims management is easier, invoicing at a lower administrative cost than fee-for-service		compensation claims decreased workers comp time off;; earlier and better rehabilitation of workplace injuries
School site Telehealth Portal/Kiosk	Kiosk in school that replaces/reduces onsite nurse and also reduces trips to doctors during school hours	Interactive video system in school health office or kiosk to affiliated physicians' group or centralized school nursing center.	Remote healthcare consultation. Similar to web-based interaction but better supported with connected health care peripherals (BP monitor, pulse oximeter, Stethoscope, etc.)	Schools must meet nurse/student ratios and for providing some health services to mainstreamed special needs children	Small scale deployments	Improve school nursing staffing requirements; reduce cost; reduce student absenteeism; reduce need for parents to leave work
Mobile Health Applications	Applications on Smartphones and/or tablets designed to collect health information or provide personal health guidance in many situations and wherever the patient can get connected	Typically Personal Smartphone connected to application server, with information available through authenticated web portal access or exported to an HER or PHR	Cellular, wireless, or 3G/4G Wireless	Cost savings to the individual in terms of reduced time lost from work, out-of-pocket costs to care for family members or self, reduced dependence on medication, etc. Low cost of acquisition (often free).	Growing rapidly	More mobile society, baby boomers reaching critical age points, advancements in Smartphone technologies, increase in security procedures, less emphasis on traditional office-based care, increased smartphone adoption and application model. Convenience. Low costs.
Specialist/PCP Co-management of Chronic and Complex Diseases in Rural and Underserved Areas	Videoconferencing systems are used to connect a live, multi-site weekly meeting between specialists and providers .	Group of specialists at university medical center to rural or underserved area or correctional facility primary care providers at multiple endpoints simultaneously for group-based learning. Patients are not seen.	Specialists present on topics of interest, share best practices and hear in-depth, case-based presentations from PCPs . PCPs learn from specialists and their peers and over time become local experts. Supplemented by secure, web-based communications and information sharing among members.	Grant-funded; no cost to PCPs	Started in one state and now replicating to other states via shared training and resources	Reduced professional isolation and improved skills/knowledge base for rural physicians to treat difficult diseases; improved access to specialty care for patients in rural/underserved areas; improved consistency of care.

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