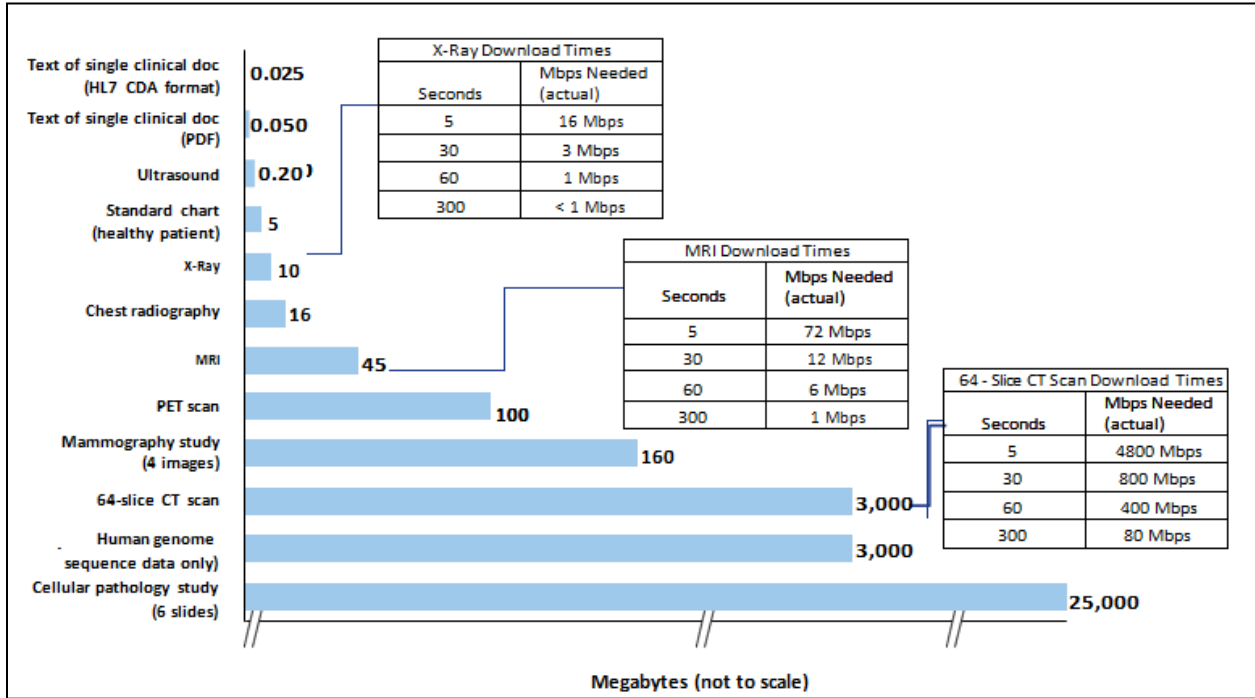


Health IT Use Cases and Associated Actual Broadband Requirements

Solo Primary Care Practice	<ul style="list-style-type: none"> • Supports practice management functions (billing, scheduling, etc.), email and web browsing • Allows simultaneous use of EHR and high-quality SD video consultations • Enables non real-time image downloads • Enables remote monitoring 	<ul style="list-style-type: none"> • Three total users per doctor for EHR and other general web-based activities • Image files (~10MB) should download in less than 30 seconds 	≥ 4
Small Primary Care Practice (2–4 physicians)	<ul style="list-style-type: none"> • Supports practice management functions (billing, scheduling, etc.), email and web browsing • Allows simultaneous use of EHR and high-quality SD video consultations • Enables non real-time image downloads • Enables remote monitoring • Makes possible use of HD video consultations 	<ul style="list-style-type: none"> • Three total users per doctor for EHR and other general web-based activities • Two simultaneous high-quality SD video consultations • Image files (~10MB) should download in less than 30 seconds 	≥ 10
Nursing Home	<ul style="list-style-type: none"> • Supports facility management functions, email and web browsing • Enables remote monitoring of resident population • Allows simultaneous use of EHR and high-quality SD video consultations • Enables non real-time image downloads • Makes possible use of HD video consultations 	<ul style="list-style-type: none"> • Five simultaneous users of general facility management and web-based activities • Two simultaneous high-quality SD video consultations • Image files (~10MB) should download in less than 30 seconds 	≥ 10
Rural Health Clinic (~5 practitioners)	<ul style="list-style-type: none"> • Supports clinic management functions (billing, scheduling, etc.), email and web browsing • Allows simultaneous use of EHR and high-quality SD video consultations • Enables non real-time image downloads • Enables remote monitoring • Makes possible use of HD video consultations 	<ul style="list-style-type: none"> • Three total users per practitioner for EHR and other general web-based activities • Two simultaneous high-quality SD video consultations • Image files (~10MB) should download in less than 30 seconds 	≥ 10
Clinic / Large Physician Practice (5–25 physicians)	<ul style="list-style-type: none"> • Supports clinic management functions (billing, scheduling, etc.), email and web browsing • Enables real-time image transfer • Allows simultaneous use of EHR and high-quality SD video consultations • Enables remote monitoring • Makes possible use of HD video consultations 	<ul style="list-style-type: none"> • Specialty services (e.g., radiology, orthopedics, dermatology) provided • Three total users per practitioner for EHR and other general web-based activities • Large image files (~20MB) should transfer in less than 10 seconds • Five simultaneous high-quality SD video consultations 	≥ 25
Hospital	<ul style="list-style-type: none"> • Supports hospital management functions (billing, scheduling, etc.), email and web browsing • Enables real-time image transfer • Allows simultaneous use of EHR and high-quality SD video consultations • Enables continuous remote monitoring • Makes possible use of HD video consultations 	<ul style="list-style-type: none"> • PACS in place for real-time diagnostic imaging • Very large image files (~50MB) should transfer in less than 5 seconds • Multiple simultaneous high-quality SD video consultations 	≥ 100
Academic / Large Medical Center	<ul style="list-style-type: none"> • Same as hospital 	<ul style="list-style-type: none"> • Same as hospital, but scale of demands on largest medical centers drives exponential bandwidth needs 	≥ 1 Gbps

Health Data File Sizes and Bandwidth to Support Download Times



Bandwidth Requirements to Achieve Full Functionality of Health IT Applications (Mbps)

Basic email + Web browsing	Text-only EHR	Remote Monitoring	SD Video Conferencing	HD Video Conferencing	Image Transfer (PACS)
1.0	0.025	0.5	2.0	>10	100