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Todd A. Zigrang, MBA, MHA, ASA, FACHE, Publisher • Jessica L. Bailey, Esq., Editor ©

Telemedicine Series Part 1: Utilization and Trends

With healthcare reimbursement shifting from volume to value-based care, partially as a result of the *Patient Protection and Affordable Care Act* (ACA),[1] healthcare practitioners are increasingly utilizing telemedicine to improve the value of care provided to patients. Although utilization of this technology has been low in the past,[2] in recent years, practitioners' use of telemedicine services has grown considerably as the technology becomes more readily available and affordable to providers.[3] Regulatory bodies, such as the *Centers for Medicare and Medicaid Services* (CMS), are progressively recognizing the utility of telemedicine services due to the cost savings it realizes from facilities that use these services.[4] The cost savings achieved by telemedicine may provide motivation for other facilities to begin using the services, especially when provider cost savings can be achieved, while simultaneously promoting the goal of patient-centered, quality-based care. Nevertheless, widespread adoption and utilization of telemedicine services has yet to occur, most notably due to limited public payor reimbursement and various regulatory hurdles involving licensure.[5]

Considering the telemedicine environment through the "*Four Pillars*" of healthcare valuation — regulatory, reimbursement, competition, and technology — can provide insight into the future of telemedicine services. This four-part Health Capital Topics series will examine the current telemedicine environment through the "*Four Pillars*" and examine how the valuation of telemedicine services is affected by these trends. As part one of this four-part series, this Health Capital Topics article will detail recent telemedicine utilization trends as well as provide the technological background behind these services.

Generally, *telemedicine* refers to the use of "*remote clinical services*" to support patient care and delivery.[6] *Telemedicine* is frequently, but mistakenly, used interchangeably with *telehealth*, which is a broader term for clinical and non-clinical remote services, such as provider training, meetings, continuing medical education, and other electronic healthcare communication.[7] Even solely in the clinical context, the potential uses of telemedicine are numerous. Telemedicine can include primary care and specialist referral services, remote patient monitoring through live interactive video, and the storage and transmission of health data.[8] Telemedicine can also be used as a supplement to care provided by nurses, particularly when physicians are not available at a healthcare delivery facility.[9]

State and federal lawmakers have worked to expand the reimbursement of telemedicine services in the past few years across numerous payor types. As of December 2015, 32 states and D.C. have passed *parity laws*, which require commercial insurers to cover telemedicine services.[10] Many states with *parity laws* also include more specific definitions of telemedicine so they are better able to regulate the care provided through the service.[11] For example, Minnesota passed a law in 2015 that defines telemedicine as "*the delivery of health care services or consultations while the patient is at an originating site and the licensed health care provider is at a distant site*"; however, the Minnesota statute specifically excludes from the definition email and fax communication between provider and patient.[12] Currently, 47 states mandate that their Medicaid programs provide reimbursement for some form of live video, compared to 44 states in 2014.[13] In 2015, Congress introduced a number of bills that would expand coverage of telemedicine to all beneficiaries of Medicare, not just those in rural or semi-rural areas as currently allowed; however, none of the bills have been approved by either congressional chamber.[14]

Currently, rural areas are more likely to utilize telemedicine services, since the number of physicians in rural areas is considerably lower than urban areas (thus creating the need), and public payors are more likely to reimburse telemedicine services provided in rural areas.[15] In 2015, the *Robert Graham Center for Policy Studies in Family Medicine and Primary Care* conducted a survey of family practitioners to determine their utilization of telemedicine in practice.[16] Of the 1,557 family physicians participating in the survey, 15% reported using telemedicine services in their practice.[17] Of the family physicians that reported utilization of telemedicine services, about 76% are located in a rural area.[18] The survey also discovered that family physicians that reported using the technology were "*more likely to be younger and…in practice for less than 10 years*."[19] In addition, the survey found that physicians who utilize telemedicine were more likely to provide obstetric, emergency, and major procedural care.[20] Further, 25% had a "*federal designation*" and another 20% were affiliated with a *health-maintenance organization* (HMO).[21]

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Provider access to telemedicine services does not always correlate with increased utilization of telemedicine services. Of the users who responded to the 2015 Robert Graham survey, about 67% reported using telemedicine services no more than 10 times in the previous year.[22] A 2014 study published by Health Affairs investigated nursing home usage of telemedicine and concluded that the facilities that frequently and regularly used telemedicine services (defined as making over 150 telemedicine calls in a twelve-month period)[23] were able to generate cost savings for the Medicare program that were greater than the cost of providing the telemedicine service.[24] The study compared six nursing homes that contracted with a telemedicine provider for the hours of the day that physicians were not present, i.e., on weeknights from 5:00 p.m. to 11:00 p.m., and on weekends from 10:00 a.m. to 7:00 p.m.[25] Of the six facilities, four significantly utilized telemedicine services (152 to 545 calls per year), whereas two had minimal use (15 to 88 calls in a year).[26] These four facilities saw an 11.3% decline in hospitalizations compared to a control group, and a comparison among the six facilities indicated a significant decline in the hospitalization rate at the facilities most frequently utilizing telemedicine services.[27] The average net savings to Medicare per year from the four facilities most frequently utilizing telemedicine services was approximately $120,000 per facility per year.[28] The study noted three observations from the results:

(1) "*[M]aking off-hours telemedicine coverage available does not guarantee that nursing homes will use the service*;"[29]
(2) "*[T]elemedicine is a viable way to reduce avoidable hospitalizations of nursing home residents;*" and,[30]
(3) "*[N]ew policies might lead to an increased investment in interventions such as telemedicine*."[31]

However, the study speculated that use of telemedicine services will likely be limited so long as Medicare benefits from the savings from reduced hospitalizations while the nursing homes are left covering the bill for the telemedicine services.[32]

There are also negative perceptions from clinicians not utilizing telemedicine regarding the benefits of this technology. Reported barriers to the use of telemedicine by users and non-users of telemedicine services include: (1) a lack of training; (2) low reimbursement rates; (3) high cost of equipment; and, (4) liability issues.[33] However, non-users generally consider each of these barriers to be a much larger problem than users do.[34] Some non-users believe they are more likely to be sued if they use telemedicine or that providing clinical services on a telemedicine platform is not an efficient use of their time.[35] Further, some providers believe that CMS does not provide adequate reimbursement to cover the expense of telemedicine.[36] In light of these issues, the global utilization of telemedicine services is expected to increase 14.3% per year through 2020, reaching a value of $36.2 billion.[37] As technology improves and consumer demand for accessible care grows, telemedicine services and use will likely continue to grow.

The next article in this four-part series will discuss the reimbursement of telemedicine in greater depth, including challenges and potential initiatives that may influence the reimbursement environment.

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Robert James Cimasi, MHA, ASA, FRICS, MCBA, CVA, CM&AA, serves as Chief Executive Officer of **HEALTH CAPITAL CONSULTANTS** (HCC), a nationally recognized healthcare financial and economic consulting firm headquartered in St. Louis, MO, serving clients in 49 states since 1993. Mr. Cimasi has over thirty years of experience in serving clients, with a professional focus on the financial and economic aspects of healthcare service sector entities including: valuation consulting and capital formation services; healthcare industry transactions including joint ventures, mergers, acquisitions, and divestitures; litigation support & expert testimony; and, certificate-of-need and other regulatory and policy planning consulting.

Mr. Cimasi holds a Master in Health Administration from the University of Maryland, as well as several professional designations: Accredited Senior Appraiser (ASA – American Society of Appraisers); Fellow Royal Institution of Chartered Surveyors (FRICS – Royal Institution of Chartered Surveyors); Master Certified Business Appraiser (MCBA – Institute of Business Appraisers); Accredited Valuation Analyst (AVA – National Association of Certified Valuators and Analysts); and, Certified Merger & Acquisition Advisor (CM&AA – Alliance of Merger & Acquisition Advisors). He has served as an expert witness on cases in numerous courts, and has provided testimony before federal and state legislative committees. He is a nationally known speaker on healthcare industry topics, and is the author of several books, the latest of which include: "*Adviser's Guide to Healthcare – 2nd Edition*" [2015 – AICPA]; "*Healthcare Valuation: The Financial Appraisal of Enterprises, Assets, and Services*" [2014 – John Wiley & Sons]; "*Accountable Care Organizations: Value Metrics and Capital Formation*" [2013 - Taylor & Francis, a division of CRC Press]; and, "*The U.S. Healthcare Certificate of Need Sourcebook*" [2005 - Beard Books].

Mr. Cimasi is the author of numerous additional chapters in anthologies; books, and legal treatises; published articles in peer reviewed and industry trade journals; research papers and case studies; and, is often quoted by healthcare industry press. In 2006, Mr. Cimasi was honored with the prestigious "*Shannon Pratt Award in Business Valuation*" conferred by the Institute of Business Appraisers. Mr. Cimasi serves on the Editorial Board of the Business Appraisals Practice of the Institute of Business Appraisers, of which he is a member of the College of Fellows. In 2011, he was named a Fellow of the Royal Institution of Chartered Surveyors (RICS).

Todd A. Zigrang, MBA, MHA, ASA, FACHE, is the President of **HEALTH CAPITAL CONSULTANTS** (HCC), where he focuses on the areas of valuation and financial analysis for hospitals, physician practices, and other healthcare enterprises. Mr. Zigrang has over 20 years of experience providing valuation, financial, transaction and strategic advisory services nationwide in over 1,000 transactions and joint ventures. Mr. Zigrang is also considered an expert in the field of healthcare compensation for physicians, executives and other professionals.

Mr. Zigrang is the co-author of the "*Adviser's Guide to Healthcare – 2nd Edition*" [2015 – AICPA], numerous chapters in legal treatises and anthologies, and peer-reviewed and industry articles such as: *The Accountant's Business Manual* (AICPA); *Valuing Professional Practices and Licenses* (Aspen Publishers); *Valuation Strategies; Business Appraisal Practice*; and, *NACVA QuickRead*. In addition to his contributions as an author, Mr. Zigrang has served as faculty before professional and trade associations such as the American Society of Appraisers (ASA); the National Association of Certified Valuators and Analysts (NACVA); Physician Hospitals of America (PHA); the Institute of Business Appraisers (IBA); the Healthcare Financial Management Association (HFMA); and, the CPA Leadership Institute.

Mr. Zigrang holds a Master of Science in Health Administration (MHA) and a Master of Business Administration (MBA) from the University of Missouri at Columbia. He is a Fellow of the American College of Healthcare Executives (FACHE) and holds the Accredited Senior Appraiser (ASA) designation from the American Society of Appraisers, where he has served as President of the St. Louis Chapter, and is current Chair of the ASA Healthcare Special Interest Group (HSIG).

John R. Chwarzinski, MSF, MAE, is Senior Vice President of **HEALTH CAPITAL CONSULTANTS** (HCC). Mr. Chwarzinski's areas of expertise include advanced statistical analysis, econometric modeling, as well as, economic and financial analysis. Mr. Chwarzinski is the co-author of peer-reviewed and industry articles published in *Business Valuation Review* and *NACVA QuickRead*, and he has spoken before the Virginia Medical Group Management Association (VMGMA) and the Midwest Accountable Care Organization Expo.

Mr. Chwarzinski holds a Master's Degree in Economics from the University of Missouri – St. Louis, as well as, a Master's Degree in Finance from the John M. Olin School of Business at Washington University in St. Louis. He is a member of the St. Louis Chapter of the American Society of Appraisers, as well as a candidate for the Accredited Senior Appraiser designation from the American Society of Appraisers.

Jessica L. Bailey-Wheaton, Esq., is Senior Counsel of **HEALTH CAPITAL CONSULTANTS** (HCC), where she conducts project management and consulting services related to the impact of both federal and state regulations on healthcare exempt organization transactions and provides research services necessary to support certified opinions of value related to the Fair Market Value and Commercial Reasonableness of transactions related to healthcare enterprises, assets, and services. Ms. Bailey is a member of the Missouri and Illinois Bars and holds a J.D., with a concentration in Health Law, from Saint Louis University School of Law, where she served as Fall Managing Editor for the *Journal of Health Law & Policy*.

Kenneth J. Farris, Esq., is a Research Associate at **HEALTH CAPITAL CONSULTANTS** (HCC), where he provides research services necessary to support certified opinions of value related to the Fair Market Value and Commercial Reasonableness of transactions related to healthcare enterprises, assets, and services, and tracks impact of federal and state regulations on healthcare exempt organization transactions. Mr. Farris is a member of the Missouri Bar and holds a J.D. from Saint Louis University School of Law, where he served as the 2014-2015 Footnotes Managing Editor for the *Journal of Health Law & Policy*.