

# ASHP Statement on Telepharmacy

## Position

ASHP believes appropriately trained and equipped pharmacists can use telepharmacy to remotely oversee pharmacy operations and provide distributive, clinical, analytical, and managerial services. ASHP advocates that telepharmacy be applied to suitable functions of pharmacy operations and patient care to improve patient outcomes, expand access to healthcare, and enhance patient safety. ASHP further advocates that boards of pharmacy adopt compatible regulations that enable the use of U.S.-based telepharmacy services within and across state lines for appropriate practice settings and that further research be conducted to establish best practices for telepharmacy.

## Background

**Telemedicine.** The Centers for Medicare and Medicaid Services (CMS) describes telemedicine as a means for improving a patient's health by permitting two-way, real-time, interactive communication between a patient and a health-care provider who are geographically separated.<sup>1</sup> This communication is conducted via interactive telecommunications equipment that includes, at a minimum, audio and video equipment to meet standards for telehealth set by the U.S. Department of Health and Human Services.<sup>2</sup> It is important to recognize, however, that telemedicine is a rapidly evolving field and that new methods of telecommunications, such as texting and mobile applications, are already in use. Standards for interactive telecommunications equipment that include text and binary data must address interactions with and without audio and video. The Food and Drug Administration (FDA) has established definitions, standards, and methodologies for mobile medical applications.<sup>3</sup>

**Definitions of Telepharmacy.** The Model State Pharmacy Act and Model Rules of the National Association of Boards of Pharmacy (Model Act) defines the *practice of telepharmacy* as “the provision of pharmacist care by registered pharmacies and pharmacists located within U.S. jurisdictions through the use of telecommunications or other technologies to patients or their agents at distances that are located within U.S. jurisdictions” and provides definitions of related terms (i.e., *coordinating pharmacy*, *remote pharmacy*, and *remote dispensing site*).<sup>4</sup> For the purposes of this document, ASHP defines telepharmacy as a method used in pharmacy practice in which a pharmacist utilizes telecommunications technology to oversee aspects of pharmacy operations or provide patient care services. Telepharmacy operations and services may include, but are not limited to, drug review and monitoring, dispensing, sterile and nonsterile compounding verification, medication therapy management (MTM), patient assessment, patient counseling, clinical consultation, outcomes assessment, decision support, and drug information.

**Practice Advancement Initiative.** The ASHP Practice Advancement Initiative states that “sufficient pharmacy resources must be available to safely develop, implement, and maintain technology-related medication-use safety stan-

dards.”<sup>5</sup> It further recommends that telepharmacy technology should be available for use in pharmacy departments “to enable remote supervision” and to “allow pharmacists to interact with patients from a remote location.”<sup>5</sup>

## Telepharmacy Applications

Telepharmacy has demonstrated value in medication selection, order review, and dispensing; i.v. admixture verification; patient counseling and monitoring; and the provision of clinical services.<sup>6</sup> Telepharmacy may be especially useful in supporting settings that perform medication-use activities when a pharmacist is not physically present or when pharmacy resources may be limited, such as in geographically isolated ambulatory care clinics and healthcare facilities.<sup>7</sup> Telepharmacy also provides a solution for order review and verification in tertiary medical centers when staffing, particularly in specialty areas such as oncology and pediatrics, is limited (e.g., due to attrition or staff turnover), creating a mechanism for health systems to provide enterprise-level pharmacy services throughout the system even when not all pharmacies operate 24 hours per day.

**Medication Selection, Order Review, and Dispensing.** A 2012 national survey of hospitals revealed that 34% of inpatient pharmacies operating in the United States did not offer 24-hour pharmacy coverage.<sup>8</sup> Telepharmacy services can extend pharmacy coverage in hospitals that do not offer round-the-clock pharmacy services. Telepharmacy has successfully enabled pharmacists to become directly involved in the medication selection process for patients at geographically remote hospitals, review new medication orders transmitted by fax or electronically, to remotely enter new orders into a patient's electronic medication profile, remotely release the ordered medication from an automated medication dispensing cabinet, and electronically supervise technicians in the performance of full-service pharmacy operations.<sup>9-16</sup> In one case, critical access hospitals and rural referral hospitals developed a common workflow and technologies to create a common electronic health record and monitor medication dispensing and administration, improving patient care and medication process quality and safety.<sup>17</sup> Pharmacies are now using mobile applications and the Internet to receive requests for refill orders from patients and to transfer prescriptions.<sup>18</sup>

**I.V. Admixture Verification.** Although technology systems for remote checking of i.v. admixture preparation were originally designed to reduce contamination risk by decreasing the need for pharmacists to physically enter sterile compounding areas to review and verify finished preparations, these and similar technologies can be used for verification of admixtures at different stages of preparation, across multiple sites, and over long distances.<sup>19</sup> The technologies also reduce exposure risk by reducing the number of pharmacy personnel and other providers required to handle hazardous medications such as chemotherapy. Documentation can also be enhanced with these systems, as images capture lot numbers and expiration dates in addition to the step-by-step

processes of preparation. Some of these systems perform in-process verification steps (e.g., barcode verification of correct product selection, gravimetric verification of additive quantities), which provide additional assurance to the remote pharmacist that the preparation is correct.

**Patient Counseling and Monitoring.** Pharmacists have been using telecommunications technology to counsel patients about the proper use of their medications for as long as telephone service lines have been available. Early examples of pharmacists employing videoconferencing technology to counsel geographically remote patients include the outreach program by a federally qualified health center in eastern Washington State<sup>20</sup> and another program in North Dakota.<sup>21,22</sup> The Indian Health Service has also implemented videoconferencing technology to provide pharmacist services to remote areas of Alaska,<sup>23</sup> and the U.S. Navy has deployed the use of this technology worldwide.<sup>24</sup> Other examples include the use of videoconferencing to provide MTM,<sup>25</sup> pharmacist-managed anticoagulation,<sup>26</sup> and mental health services.<sup>27</sup> Implementation of intensive care unit telemedicine services, including telepharmacy, led to decreased durations of hospitalization, an increase in institutional best-practice adherence, and lower rates of preventable complications.<sup>28</sup> Pharmacists are being encouraged to use mobile applications to communicate with patients to help them manage their diseases and medications.<sup>29,30</sup>

**Expanding Pharmacy Services.** Telepharmacy can be utilized to allow onsite pharmacy activities to be fulfilled even if the pharmacist is not physically located at the point of pharmacy operation or patient care. As of 2016, most areas of the country were not experiencing severe pharmacist shortages.<sup>31</sup> However, work force issues continue to plague rural areas.<sup>32</sup> Many small rural hospitals rely on contracts with local retail pharmacists to provide pharmacy services at the hospital. Telepharmacy can allow those pharmacists to devote their limited onsite time to the oversight of drug therapy management, inventory, controlled substances, and policy and procedure development rather than real-time order review and verification. In addition, telepharmacy effectively allows for the work of 1 pharmacist to be spread across several small-volume hospitals, permitting them to share the expense of such services and creating an opportunity to provide 24-hour pharmacy services. ASHP supports the implementation of telepharmacy services in rural areas to increase the availability and scope of clinical pharmacy services.<sup>33</sup> Other facilities may utilize telepharmacy services for supplemental workload balancing, which includes network workload balancing and on-call assistance.<sup>34</sup>

## Federal and State Regulation

**Federal Regulation.** Federal regulation of telepharmacy has evolved over the years. CMS has established standards for telehealth.<sup>2</sup> The Health Insurance Portability and Accountability Act<sup>35</sup> (HIPAA) and subtitle D of the Health Information Technology for Economic and Clinical Health (HITECH) Act,<sup>36</sup> which was enacted as part of the American Recovery and Reinvestment Act of 2009,<sup>37</sup> address privacy and security concerns associated with the electronic transmission of health information. FDA has jurisdiction over medical software and equipment that may be involved in

healthcare, whether online, mobile, or inhouse.<sup>38</sup> Pharmacists communicating with a patient via a mobile application should ensure that the application is compliant with FDA standards.<sup>3</sup> See the appendix for a list of federal resources.

**State Regulation.** The Model Act, while not a federal standard, provides boards of pharmacy with model language for developing state laws or board rules.<sup>4</sup> The Model Act defines telepharmacy-related terms and provides requirements for remote pharmacy services. Many states now have specific regulations for telepharmacy.<sup>39</sup> These state laws and regulations, however, demonstrate wide variation in the application and control of telepharmacy systems.<sup>40,41</sup> States have various descriptions of telepharmacy, including remote order management with or without dispensing using automated dispensing cabinets, remote supervision of medication order filling with or without automated medication order dispensing, and inpatient dispensing activities (including i.v. preparation). State laws and regulations vary based on the definition of telepharmacy, licensing requirements, education and training for participating pharmacists and technicians, practice setting restrictions, and geographic limitations for the remotely practicing pharmacist. State laws and regulations also vary widely regarding the technology required to implement telepharmacy. Although most stipulate a camera and some audio exchange between the pharmacy and the remote pharmacist, the specification of the types of technology (video versus still, telephone versus voice over Internet protocol) and the types and amounts of transactional information captured vary widely. Some state boards of pharmacy have identified specific training, certification, or experience that pharmacy technicians engaged in telepharmacy must possess.<sup>42</sup>

As the use of telepharmacy expands, state board of pharmacy regulations and state laws regarding the use of telepharmacy will increase. ASHP advocates that state governments adopt laws and regulations that standardize telepharmacy practices across state lines and facilitate the use of U.S.-based telepharmacy services. ASHP further advocates that boards of pharmacy and state agencies that regulate pharmacy practice address the following in regulations for telepharmacy services: (1) education and training of participating pharmacists, (2) education, training, and certification by the Pharmacy Technician Certification Board and licensure of participating pharmacy technicians, (3) communication and information systems requirements, (4) remote order entry, prospective order review, verification of the completed medication order before dispensing, and dispensing, (5) direct patient care services, including MTM services and patient counseling and education, (6) licensure (including reciprocity) of participating pharmacies and pharmacists, (7) service arrangements that cross state borders, (8) service arrangements within the same corporate entity or between different corporate entities, (9) service arrangements for workload relief in the point-of-care pharmacy during peak periods, (10) pharmacist access to all applicable patient information, and (11) development and monitoring of patient safety, quality, and outcomes measures.<sup>43</sup>

In addition, some state legislatures have passed laws ensuring that insurance reimbursement for telemedicine is the same as that for nontelemedicine services. Whether these statutes can or will be applied to telepharmacy services in those states remains unanswered.

Because telepharmacy is continuously evolving, the laws and regulations that address it will need to evolve as well. Before the implementation of any telepharmacy services, it is important to review the laws and regulations in the jurisdictions in which the provider and receiver of care are located. The laws and regulations should be reviewed on a regular basis after implementation to ensure continued compliance and to assess the appropriate use of telepharmacy and its potential overuse.

### Telepharmacy Infrastructure

The technology infrastructure required for the implementation and maintenance of telepharmacy services may be scalable and adjusted to fit the care setting. Two intrasystem facilities may already share a network, a pharmacy information system, and possibly an order management system. In this scenario, perhaps the only additional equipment needed is a digital communication system for the transmission of any orders not provided via computerized provider order entry.

In contrast, the intersystem model provides telepharmacy services to a facility external to the health system. In extreme situations, a facility may not have a pharmacy information system, necessitating the purchase of a pharmacy module to allow for the implementation of remote pharmacy services.

Audiovisual equipment used to verify pharmaceutical products at the remote facility must include high-resolution cameras. While most states do not require video rather than still imaging, one state recommends that equipment include a high-resolution video camera and a document camera for reading unit dose packages or verifying parenteral doses.<sup>39</sup> It is also suggested that equipment be mounted on a mobile cart to be used in the medication preparation area, at the automated dispensing cabinet, or at the patient's bedside. ASHP supports the utilization of properly implemented telepharmacy services and calibrated digital telemedicine devices within health systems that choose to use telepharmacy.

### Security of Information and Equipment

The security and integrity of patient data are of paramount importance when determining the information technology setup of a telepharmacy system. Secure access to patient records at the remote site is required by the central site; however, patient records at the central site should be inaccessible from the remote site.

The remote site must restrict access to the telepharmacy so that only those employees directly involved in processing medication orders or prescriptions at the remote site are permitted in the dispensing area. Moreover, no employees should be allowed access to the remote telepharmacy site when the pharmacy at the central site is closed.

Not all states allow pharmacists to work from sites that are not licensed as pharmacies, including home-based practices and corporate environments. State regulations must be considered when developing a telepharmacy service or expanding the service across state lines. Policies related to HIPAA<sup>35</sup> and HITECH<sup>36</sup> compliance at the remote sites may impact telepharmacy by defining levels of security, access to

the electronic medical record, and workstation session per AH5 after periods of inactivity.

### Conclusion

Telepharmacy is a method in which a pharmacist utilizes telecommunications technology to oversee aspects of pharmacy operations or provide patient-care services. Telepharmacy allows expanded coverage, improved patient safety, and improved communication among patients, healthcare providers, and pharmacists and is supported by ASHP. Variability in laws among states and evolving regulations must be closely monitored when implementing telepharmacy services. ASHP advocates more research be conducted to investigate best practices for implementing telepharmacy services.

### References

- Centers for Medicare and Medicaid Services. Telemedicine. [www.medicare.gov/Medicare-CHIP-Program-Information/By-Topics/Delivery-Systems/Telemedicine.html](http://www.medicare.gov/Medicare-CHIP-Program-Information/By-Topics/Delivery-Systems/Telemedicine.html) (accessed 2017 Jan 25).
- 42 CFR 410.78—telehealth services. [www.gpo.gov/fdsys/pkg/CFR-2004-title42-vol2/pdf/CFR-2004-title42-vol2-sec410-78.pdf](http://www.gpo.gov/fdsys/pkg/CFR-2004-title42-vol2/pdf/CFR-2004-title42-vol2-sec410-78.pdf) (accessed 2017 Jan 24).
- Food and Drug Administration. Mobile medical applications. [www.fda.gov/medicaldevices/digitalhealth/mobilemedicalapplications/default.htm](http://www.fda.gov/medicaldevices/digitalhealth/mobilemedicalapplications/default.htm) (accessed 2015 Nov 12).
- National Association of Boards of Pharmacy. Model State Pharmacy Act and Model Rules of the National Association of Boards of Pharmacy. <https://nabp.pharmacy/publications-reports/resource-documents/model-pharmacy-act-rules/> (accessed 2017 Jan 24).
- American Society of Health-System Pharmacists. The consensus of the Pharmacy Practice Model Summit. *Am J Health-Syst Pharm.* 2011; 68:1148-52.
- Calenda S, Levesque C, Groppi J, et al. VHA seeks to expand telepharmacy's reach in 2014. [www.usmedicine.com/2014-issues/vha-seeks-to-expand-telepharmacys-reach-in-2014/](http://www.usmedicine.com/2014-issues/vha-seeks-to-expand-telepharmacys-reach-in-2014/) (accessed 2016 Jan 29).
- Johnson PE, Hayes JM. Medication use in schools. *Am J Health-Syst Pharm.* 2006; 63:1277-85.
- Pedersen CA, Schneider PJ, Scheckelhoff DJ. ASHP national survey of pharmacy practice in hospital settings: monitoring and patient education—2012. *Am J Health-Syst Pharm.* 2013; 70:787-803.
- Casey M, Elias W, Knudson A, et al. Implementation of telepharmacy in rural hospitals: potential for improving medication safety. [http://rhrc.umn.edu/wp-content/files\\_mf/telepharmacy.pdf](http://rhrc.umn.edu/wp-content/files_mf/telepharmacy.pdf) (accessed 2016 Mar 30).
- Keays CA, Dandurand K, Harris J, et al. Providing nighttime pharmaceutical services through telepharmacy. *Am J Health-Syst Pharm.* 2002; 59:716-21.
- Boon AD. Telepharmacy at a critical access hospital. *Am J Health-Syst Pharm.* 2007; 64:242-4.
- Peterson CD, Rathke A, Skwieria J, et al. Hospital telepharmacy network: delivering pharmacy services to rural hospitals. *J Pharm Technol.* 2007; 23:158-65.
- Stratton TP, Worley MM, Schmidt M, et al. Implementing after-hours pharmacy coverage for critical access hospitals in northeast Minnesota. *Am J Health-Syst Pharm.* 2008; 65:1727-34.

14. Mahaney L, Sanborn M, Alexander E. Nontraditional work schedules for pharmacists. *Am J Health-Syst Pharm.* 2008; 65:2144-9.
15. Garrelts JC, Gagnon M, Eisenberg C, et al. Impact of telepharmacy in a multihospital health system. *Am J Health-Syst Pharm.* 2010; 67:1456-62.
16. Wakefield DS, Ward MM, Loes JL, et al. Implementation of a telepharmacy service to provide round-the-clock medication order review by pharmacists. *Am J Health-Syst Pharm.* 2010; 67:2052-7.
17. Wakefield DS, Ward MM, Loes JL, et al. A network collaboration implementing technology to improve medication dispensing and administration in critical access hospitals. *J Am Med Inform Assoc.* 2010; 17:584-7.
18. ConsumerReports.org. Shop smarter at the drugstore with these mobile phone apps. [www.consumerreports.org/cro/2012/12/shop-smarter-at-the-drugstore/index.htm](http://www.consumerreports.org/cro/2012/12/shop-smarter-at-the-drugstore/index.htm) (accessed 2016 Mar 30).
19. O'Neal BC, Worden JC, Coudry RJ. Telepharmacy and bar-code technology in an i.v. chemotherapy admixture area. *Am J Health-Syst Pharm.* 2009; 66:1211-7.
20. Clifton GD, Byer H, Heaton K, et al. Provision of pharmacy services to underserved populations via remote dispensing and two-way videoconferencing. *Am J Health-Syst Pharm.* 2003; 60:2577-82.
21. Young D. Telepharmacy project aids North Dakota's rural communities. *Am J Health-Syst Pharm.* 2006; 63:1776-80.
22. Peterson CD, Scott DM, Rathke A, et al. Establishing a central order entry system for delivering telepharmacy services to remote rural hospitals. *J Pharm Technol.* 2010; 26:179-86.
23. Rose JL. Improved and expanded pharmacy care in rural Alaska through telepharmacy and alternative methods demonstration project. *Int J Circumpolar Health.* 2007; 66(suppl 1):14-22.
24. Traynor K. Navy takes telepharmacy worldwide. *Am J Health-Syst Pharm.* 2010; 67:1134-6.
25. Lam A. Practice innovations: delivering medication therapy management services via videoconference interviews. *Consult Pharm.* 2011; 26:764-74.
26. Carevic KL, Harris WS, Coblio NA, et al. Telepharmacy: a new application for telemedicine. *Proc AMIA Symp.* 1998:985.
27. Nieves JE, Stack KM, Cruz M. Telepharmacy in mental health outpatient case management. *J Pharm Technol.* 2007; 23:281-3.
28. Meidl TM, Woller TW, Iglar AM, et al. Implementation of pharmacy services in a telemedicine intensive care unit. *Am J Health-Syst Pharm.* 2008; 65:1464-9.
29. Dayer L, Heldenbrand S, Anderson P, et al. Smartphone medication adherence apps: potential benefits to patients and providers. *J Am Pharm Assoc.* 2013; 53:172-81.
30. Holdford DA, Inocencio TJ. Adherence and persistence associated with an appointment-based medication synchronization program. *J Am Pharm Assoc.* 2013; 53:576-83.
31. Pharmacy Manpower. Aggregate demand index for pharmacists 2016. [www.pharmacymanpower.com/index.jsp](http://www.pharmacymanpower.com/index.jsp) (accessed 2016 May 12).
32. Rural Health Information Hub. Rural pharmacy and prescription drugs. [www.ruralhealthinfo.org/topics/pharmacy-and-prescription-drugs](http://www.ruralhealthinfo.org/topics/pharmacy-and-prescription-drugs) (accessed 2016 Mar 23).
33. ASHP policy 1022: patient access to pharmacy services in small and rural hospitals. In: Hawkins B, ed. Best practices: positions and guidance documents of ASHP. 2015–2016 ed. Bethesda, MD: American Society of Health-System Pharmacists; 2015:260.
34. American Society of Health-System Pharmacists. ASHP guidelines on remote medication order processing. *Am J Health-Syst Pharm.* 2010; 67:672-7.
35. Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services. HIPAA - general information: overview. [www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/HIPAA\\_PrivacyandSecurity.pdf](http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/HIPAA_PrivacyandSecurity.pdf) (accessed 2017 Feb 8).
36. Department of Health and Human Services. Health information privacy: HITECH Act enforcement interim final rule. [www.hhs.gov/ocr/privacy/hipaa/administrative/enforcementrule/hitech/enforcementifr.html](http://www.hhs.gov/ocr/privacy/hipaa/administrative/enforcementrule/hitech/enforcementifr.html) (accessed 2015 Nov 12).
37. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5 (2009).
38. Food and Drug Administration. Examining federal regulation of mobile medication apps and other health software. [www.fda.gov/NewsEvents/Testimony/ucm375462.htm](http://www.fda.gov/NewsEvents/Testimony/ucm375462.htm) (accessed 2016 Mar 30).
39. Survey of pharmacy law—2016. Mount Prospect, IL: National Association of Boards of Pharmacy. 2016.
40. ScriptPro.com. Trends in telepharmacy legislation. [www.scriptpro.com/Products/Telepharmacy/Trends-in-Telepharmacy-Legislation](http://www.scriptpro.com/Products/Telepharmacy/Trends-in-Telepharmacy-Legislation) (accessed 2016 Mar 30).
41. National Conference of State Legislatures. State regulation of compounding pharmacies. [www.ncsl.org/research/health/regulating-compounding-pharmacies.aspx](http://www.ncsl.org/research/health/regulating-compounding-pharmacies.aspx) (accessed 2016 Mar 30).
42. Casey MM, Sorensen TD, Elias W, et al. Current practices and state regulations regarding telepharmacy in rural hospitals. *Am J Health-Syst Pharm.* 2010; 67:1085-92.
43. ASHP policy 1310: regulation of telepharmacy. In: Hawkins B, ed. Best practices: positions and guidance documents of ASHP. 2015–2016 ed. Bethesda, MD: American Society of Health-System Pharmacists; 2015:196-7.

## Appendix—Other Resources

### Articles, Abstracts, and Books

- Angaran DM. Telemedicine and telepharmacy: current status and future implications. *Am J Health-Syst Pharm.* 1999; 56:1405-26.
- Chatterjee S, Price A. Viewpoint paper: healthy living with persuasive technologies: framework, issues, and challenges. *J Am Med Inform Assoc.* 2009; 16:171-8.
- Davis J. Utilization of a network camera to improve the safety and efficiency of chemotherapy preparation. Paper presented at ASHP Summer Meeting, Chicago, IL; 2009 May 1.
- Field MJ, Grigsby J. Telemedicine and remote patient monitoring. *JAMA.* 2002; 288:423-5.

- Field MJ, ed. *Telemedicine: a guide to assessing telecommunications in health care*. Washington, DC: National Academy Press; 1996:36.
- Food and Drug Administration. Guidance for industry, computerized systems used in clinical trials. [www.fda.gov/fdysys/pkg/FR-1999-05-10/pdf/99-11735.pdf](http://www.fda.gov/fdysys/pkg/FR-1999-05-10/pdf/99-11735.pdf) (accessed 2017 Jan 24).
- Food and Drug Administration. General principles of software validation; final guidance for industry and FDA staff. [www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm085371.pdf](http://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm085371.pdf) (accessed 2017 Jan 24).
- Garrelts J, Gagnon M. Improve coverage with remote pharmacy services. *Pharm Purch Prod*. 2011; 8.10:20-3.
- Hash J, Bowen P, Johnson A, et al. An introductory resource guide for implementing the Health Insurance Portability and Accountability Act (HIPAA) security rule. NIST Special Publication 800-66. [www.cipherix.com/docs/nist\\_security\\_rules.pdf](http://www.cipherix.com/docs/nist_security_rules.pdf).
- Moldenhauer ET. Remote checking of prescriptions in Navy health facilities. *Am J Health-Syst Pharm*. 2005; 62:1866-7.
- Thorne A, Williamson S, Jellison T, et al. Implementation of home-based medication order entry at a community hospital. *Am J Health-Syst. Pharm*. 2009; 66:1939-42.

#### Web Resources

- American Society of Health-System Pharmacists. ASHP statement on bar-code-enabled medication administration technology. [www.ashp.org/DocLibrary/BestPractices/AutoITStBCMA.aspx](http://www.ashp.org/DocLibrary/BestPractices/AutoITStBCMA.aspx) (accessed 2017 Jan 25).
- American Telemedicine Association. Telemedicine, telehealth, and health information technology: an ATA issue paper (May 2006). <https://higherlogicdownload.s3.amazonaws.com/AMERICANTELEMED/3c09839a-fff4-46f7-916c-692c11d78933/UploadedImages/Policy/telemedicine-telehealth-and-health-information-technology.pdf> (accessed 2017 Jan 25).
- Czech A. USDA Recovery Act grant helps establish a telepharmacy to help seniors, town residents, in Minnesota. <http://blogs.usda.gov/2010/09/17/usda-recovery-act-grant-helps-establish-a-telepharmacy-to-help-seniors-town-residents-in-minnesota/> (accessed 2017 Jan 25).
- Federal Communications Commission. Rural telemedicine program funds 16 more broadband telehealth networks. [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-296348A1.doc](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296348A1.doc) (accessed 2017 Jan 25).
- Health Resources and Services Administration. Telehealth programs. [www.hrsa.gov/ruralhealth/telehealth/](http://www.hrsa.gov/ruralhealth/telehealth/) (accessed 2017 Jan 25).
- Health Resources and Services Administration. Telepharmacy rescues drug stores, improves health care and creates jobs in North Dakota towns. <https://dcp.psc.gov/osg/pharmacy/documents/pac0509g.pdf> (accessed 2017 Jan 25).
- Minnesota Board of Pharmacy. Remotely engaging in dispensing activities (January 2012). <https://nabp.pharmacy/wp-content/uploads/2016/06/MN012012.pdf> (accessed 2017 Jan 25).
- North Dakota State University. Telepharmacy. [www.ndsu.edu/telepharmacy](http://www.ndsu.edu/telepharmacy) (accessed 2017 Jan 25).

#### Organizations

*Organizations that can provide assistance for implementing telepharmacy technologies to ensure compliance with federal regulations and national standards include the following:*

- National Committee on Vital and Health Statistics (NCVHS)
- ANSI Accredited Standards Committee
- Committee on Operating Rules for Information Exchange (CORE), Council for Affordable Quality Healthcare (CAQH)
- NACHA—Electronic Payments Association (formerly National Automated Clearing House Association)
- National Council for Prescription Drug Programs (NCPDP)
- Workgroup for Electronic Data Interchange (WEDI)
- Medicare Electronic Data Interchange (EDI)

*Various agencies have provided grant funding to offset some of the equipment and installation costs. Granting agencies include the following:*

- U.S. Department of Agriculture (USDA)
- Office of the National Coordinator for Health Information Technology (ONC)
- U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA)
- Office for the Advancement of Telehealth (OAT)
- Telehealth Resource Center (TRC)
- Office of Rural Health Policy
- Federal Communications Commission (FCC)
- Universal Service Administrative Company—Rural Health Care Division (USAC-RHCD)
- USDA Distance Learning and Telemedicine Loan and Grant Program (USDA-DLT)
- Centers for Medicare and Medicaid Services (CMS)
- Agency for Healthcare Research and Quality (AHRQ)
- Private foundations

---

Developed through the ASHP Section of Pharmacy Informatics and Technology and approved by the ASHP Board of Directors on June 8, 2016.

ASHP gratefully acknowledges the following organizations and individuals for reviewing this statement (review does not imply endorsement): Association of Medical Directors of Information Systems; Great Plains Telehealth Resource and Assistance Center; North Dakota Pharmacists Association; North Dakota State Board of Pharmacy; Parata Systems; Leslie Addison, M.P.H.; John A. Armitstead, M.S., FASHP; Sarah Bledsoe, Pharm.D.; Adam D. Boon, BCPS; John Bowman, B.S.Pharm., M.S.; Jeff Brittain, Pharm.D., BCPS; Michelle Casey, M.S.; Thomas Cerbone, B.S.Pharm.; Philip Chan, Pharm.D.; Christine Ciolko, B.S.Pharm.; Jennifer Cui, B.S.; Kenneth Dandurand, M.S.; Doina Dumitru, Pharm.D., M.B.A.; Stacy Elder, Pharm.D., BCPS; Abimbola Farinde, Pharm.D., M.S.; Michelle DeLuca Fraley, Pharm.D.; Barbara Giacomelli, Pharm.D., M.B.A., FASHP; Kerry Goldrosen, Pharm.D.; Erkan Hassan, Pharm.D., FCCM; Philip E. Johnson, M.S.; Nishaminy Kasbekar, Pharm.D., FASHP; Patricia

Kienle, M.P.A., FASHP; Jim Lile, Pharm.D., FASHP; Kevin Marvin, M.S., FASHP, FHIMSS; Patrick McDonnell, Pharm.D.; Candis M. Morello, Pharm.D., CDE, FCSHP, FASHP; Linda A. Nelson, Pharm.D.; Eric C. Nemece, Pharm.D., BCPS; Brandon Ordway, Pharm.D., M.S.; Fred J. Pane, B.S.Pharm., FASHP; James Ponto, M.S., BCNP, FASHP; Curt W. Quap, M.S., FASHP; Traci Synderman, B.S.Pharm.; Shelly Spiro, B.S.Pharm.; John P. Swenson, B.S.Pharm., M.S., FASHP; Jenny Szparkowski, Pharm.D., FASHP; James A. Trovato, Pharm.D., M.B.A., BCOP, FASHP; Laura Tyndall, Pharm.D.; Ray Vrabel, Pharm.D.; Jody Jacobsen Wedret, B.S.Pharm., FASHP, FCSHP; Stewart R. Wirebaugh, Pharm.D., FASHP; and William Yee, Pharm.D., FCSHP, FASHP.

The authors have declared no potential conflicts of interest.

Emily Alexander, Pharm.D., BCPS, Envision Telepharmacy LLC, Alpine, TX.

C. David Butler, Pharm.D., M.B.A., Teradata, Richmond, VA.

Andrea Darr, Pharm.D., BCPS, Avera eCARE, Sioux Falls, SD.

Matthew T. Jenkins, Pharm.D., M.S., University of Virginia Health System, Charlottesville, VA.

Robert D. Long, B.S.Pharm., Banner Churchill Community Hospital, Fallon, NV.

Colleen J. Shipman, Pharm.D., M.P.H., BCPS, Department of Pharmacy, Oregon Health and Science University, Portland, OR.

Timothy P. Stratton, Ph.D., BCPS, FAPhA, Department of Pharmacy Practice and Pharmaceutical Sciences, University of Minnesota College of Pharmacy, Duluth, MN.

Copyright © 2017, American Society of Health-System Pharmacists, Inc. All rights reserved.

The bibliographic citation for this document is as follows: American Society of Health-System Pharmacists. ASHP statement on telepharmacy *Am J Health-Syst Pharm.* 2017; 74:e236-41.