

## APPENDIX H. OTHER HEALTH CARE PROVIDER PROFILES

This appendix provides the clinical characteristics and EHR summary (EHR use, clinical utility, barriers) data for the following other health care providers. Definitions for the provider types are found in Appendix C.

- A. Ambulatory Surgical Centers
- B. Renal Dialysis Facilities
- C. Registered Dietician/Nutritional Professionals
- D. Therapists (Physical, Occupational and Speech Pathologists)
- E. Pharmacists and Pharmacies
- F. Laboratories
- G. Emergency Medical Service Providers
- H. Blood Centers

Information on health IT/EHR use was often very limited for these health care providers. Inferences were made by the study team based on review of literature available and/or review of products that may serve the market.

### A. Ambulatory Surgical Centers

Ambulatory Surgical Center provide outpatient surgical services (e.g., orthoscopic and cataract surgery). They have specialized facilities, such as operating and recovery rooms, and specialized equipment, such as anesthetic or X-ray equipment.<sup>1</sup> The ASCs must be certified as meeting the requirements for an ASC and must enter into an agreement with the Centers for Medicare and Medicaid Services (CMS).<sup>2</sup>

<sup>1</sup> U.S. Census Bureau. <http://www.census.gov/epcd/ec97/def/621493.HTM>.

<sup>2</sup> Centers for Medicare and Medicaid Services. <http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/AmbSurgCtrFeepymfctst508-09.pdf>.

<b>Ambulatory Surgical Centers' Characteristics</b>	
Number of providers	5,976 <sup>a</sup>
Description	Ambulatory Surgical Centers are hospital-based or free-standing facilities that provide outpatient surgical services to patients. Patients do not require hospitalization and the duration of the services they receive is unlikely to exceed 24 hours. <sup>b</sup>
Other names	Surgicenters
Number of patients	14,900,000 total <sup>c</sup>
Description of patients	Patients of ASCs receive a variety of ambulatory surgeries. The most common procedures in 2009 were cataract removal with lens insertion, upper gastrointestinal endoscopy, colonoscopy, and other eye procedures. <sup>d</sup>
Revenue	\$12.3 Billion <sup>e</sup>
Owned by eligible provider	94% are owned by physicians or hospitals (65% physician-owned; 17% hospital/physician-owned; 8% Corporation-Physician-owned; 6% Corporation-Hospital-Physician) <sup>f</sup>
Medicare profit margin	26.3% (estimated, based on Pennsylvania data); MedPAC unable to estimate due to lack of reporting by ASCs
<p>a. 2008 data. (VMG Health, 2010). According to VMG Health analysis, of the total number of freestanding ASCs, 5174 were Medicare-certified.</p> <p>b. See <a href="https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ASCPayment/Downloads/C_ASC_RTC-2011.pdf">https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ASCPayment/Downloads/C_ASC_RTC-2011.pdf</a>.</p> <p>c. Cullen et al., 2009.</p> <p>d. See <a href="http://www.medpac.gov/documents/MedPAC_Payment_Basics_11_ASC.pdf">http://www.medpac.gov/documents/MedPAC_Payment_Basics_11_ASC.pdf</a>.</p> <p>e. Based on MedPAC data for Medicare expenditures and VMG Health's estimate that Medicare contributes approximately 25% to ASC revenues. (VMG, 2010)</p> <p>f. American Ambulatory Surgery Association. Ambulatory Surgery Centers: A Positive Trend in Health Care, 2011. <a href="http://www.ascaconnect.org/CONNECT/Communities/Resources/ViewDocument/?DocumentKey=7d8441a1-82dd-47b9-b626-8563dc31930c">http://www.ascaconnect.org/CONNECT/Communities/Resources/ViewDocument/?DocumentKey=7d8441a1-82dd-47b9-b626-8563dc31930c</a>.</p>	

<b>Ambulatory Surgical Centers' Health IT Use, Clinical Utility and Barriers</b>		
EHR Needed	Yes	
Adoption Rate	18% <sup>a</sup>	
Use in Practice	<ul style="list-style-type: none"> <li>- Admission, discharge and transfer (ADT)</li> <li>- Appointments</li> <li>- Order entry and management</li> <li>- Clinical notes</li> <li>- Assessments</li> <li>- Care Plan</li> </ul>	<ul style="list-style-type: none"> <li>- Condition specific documentation</li> <li>- Medication and treatment records</li> <li>- Pharmacy information system</li> <li>- Patient eligibility determinations</li> <li>- Billing</li> <li>- Staffing, Payroll, and HR</li> </ul>
Clinical Utility	<ul style="list-style-type: none"> <li>- Patient Demographic, Health Information and Problem Lists</li> <li>- Clinical Decision Support</li> <li>- Physician Order Entry</li> <li>- Support Clinical Quality Measures</li> </ul>	<ul style="list-style-type: none"> <li>- Exchange health information (send, receive and integrate)</li> <li>- Privacy, Security and Integrity Features</li> </ul>
Need for Information Exchange	Care coordination to ensure a complete understanding of patient histories to adequately perform surgical operations.	
Barriers to Adoption	<ul style="list-style-type: none"> <li>- Lack of capital</li> <li>- Lack of awareness of the need to implement an EHR</li> <li>- Lack of a certified vendor for provider specialty</li> </ul>	<ul style="list-style-type: none"> <li>- Workforce limitations to implement and maintain an EHR</li> <li>- Limited decision support for complex clinical condition</li> </ul>
<p>a. Pizzi, Richard. "Ambulatory Surgery Centers Short on IT." Healthcare IT News. <a href="http://www.healthcareitnews.com/news/ambulatory-surgery-centers-short-it?page=0,0">http://www.healthcareitnews.com/news/ambulatory-surgery-centers-short-it?page=0,0</a>.</p>		

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<http://www.medpac.gov/documents/Jun12DataBookEntireReport.pdf>.

National Center for Health Statistics. *Health, United States, 2011: With Special Feature on Socioeconomic Status and Health*. Hyattsville, MD. 2012.

Pennsylvania Health Care Cost Containment Council. *An Annual Report on the Financial Health of Pennsylvania's Non-GAC Facilities. Financial Analysis 2007 v.2: Ambulatory Surgery Center Care, Rehabilitation Care, Psychiatric Care, Long-term Acute Care, Specialty Care*. November 2008.  
[http://www.phc4.org/reports/fin/07/docs/fin2007report\\_volumetwo.pdf](http://www.phc4.org/reports/fin/07/docs/fin2007report_volumetwo.pdf).

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Strope, Seth A, et al. "Disparities in the Use of Ambulatory Surgical Centers: A Cross Sectional Study." *BMC Health Services Research* 9 (July 21, 2009): 121.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2725040/>.

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[http://www.vmghealth.com/Downloads/VMG\\_Intellimarker10.pdf](http://www.vmghealth.com/Downloads/VMG_Intellimarker10.pdf).

## **B. Renal Dialysis Facilities**

Renal Dialysis Facilities is an independent unit that is approved to furnish dialysis service(s) directly to end stage renal disease patients.<sup>3</sup> They have medical staff primarily engaged in providing outpatient kidney or renal dialysis services.<sup>4</sup>

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<sup>3</sup> Centers for Medicare and Medicaid Services. <http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/bp102c11.pdf>.

<sup>4</sup> U.S. Census Bureau, North American Industry Classification System (NAICS).  
<http://www.census.gov/epcd/ec97/def/621492.HTM>.

<b>Renal Dialysis Facilities' Characteristics</b>	
Number of providers	5,760 <sup>a</sup>
Description	End Stage Renal Dialysis Facilities are facilities other than hospitals that provide dialysis treatment via hemodialysis, maintenance and/or training services to patients and caregivers on an ambulatory or home-care basis. <sup>b</sup>
Other names	Unknown
Number of patients	571,000 <sup>c</sup>
Description of patients	Patients suffer from End Stage Renal Disease, or the final stage of chronic renal disease, characterized by kidney failure. Patients who do not receive transplants must receive treatment either via in-home peritoneal dialysis (8% of patients) or in-facility hemodialysis (64%) several times each week.
Revenue	\$42.6 Billion <sup>d</sup>
Owned by eligible provider	10% are hospital-based; <sup>e</sup> 60% of ESRD facilities are owned by two for-profit chains <sup>f</sup>
Medicare profit margin	2.3% <sup>g</sup>
<p>a. United States Renal Data System (USRDS), 2011. "Chapter 10: Providers" USRDS data is for 2009.</p> <p>b. Kidney Dialysis Centers (NAICS# 621492). <a href="http://www.census.gov/econ/industry/def/d621492.htm">http://www.census.gov/econ/industry/def/d621492.htm</a>.</p> <p>c. USDRS (2011).</p> <p>d. "Report by the Numbers" (Renal Business Today, 2011).</p> <p>e. MedPAC, June 2012.</p> <p>f. GAO, 2006.</p> <p>g. MedPAC, June 2012.</p>	

<b>Renal Dialysis Facilities' Health IT Use, Clinical Utility and Barriers</b>		
EHR Needed	Yes	
Adoption Rate	Unknown	
Use in Practice	<ul style="list-style-type: none"> <li>- Admission, discharge and transfer (ADT)</li> <li>- Appointments</li> <li>- Order entry and management</li> <li>- Clinical notes</li> <li>- Assessments</li> <li>- Care Plan</li> <li>- Condition specific documentation</li> </ul>	<ul style="list-style-type: none"> <li>- Medication and treatment records</li> <li>- Pharmacy information system</li> <li>- Lab information system</li> <li>- Therapy information system</li> <li>- Patient Portals</li> <li>- Patient eligibility determinations</li> <li>- Billing</li> <li>- Staffing, Payroll, and HR</li> </ul>
Clinical Utility	<ul style="list-style-type: none"> <li>- Patient Demographic, Health Information and Problem Lists</li> <li>- Clinical Decision Support</li> </ul>	<ul style="list-style-type: none"> <li>- Physician Order Entry</li> <li>- Privacy, Security and Integrity Features</li> </ul>
Need for Information Exchange	Care coordination with other providers and professionals.	
Barriers to Adoption	<ul style="list-style-type: none"> <li>- Lack of capital</li> <li>- Lack of awareness of the need to implement an EHR</li> <li>- Lack of demand for an EHR</li> <li>- Lack of a certified vendor for provider specialty</li> </ul>	<ul style="list-style-type: none"> <li>- Workforce limitations to implement and maintain an EHR</li> <li>- Limited decision support for complex clinical condition</li> </ul>

### **Renal Dialysis Facility References**

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<http://www.renalbusiness.com/galleries/2011/10/2011-usrds-report.aspx?pg=5>.

Medicare Payment Advisory Commission (MedPAC). *A Data Book: Health Care Spending and the Medicare Program*, June 2012.

<http://www.medpac.gov/documents/Jun12DataBookEntireReport.pdf>.

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United States Renal Data System (USRDS). 2011 Annual Data Report. “Chapter 10: Providers.” [http://www.usrds.org/2011/pdf/v2\\_ch10\\_11.pdf](http://www.usrds.org/2011/pdf/v2_ch10_11.pdf).

United States Renal Data System (USRDS). 2011 Annual Data Report. “Chapter 11: Costs of ESRD.” [http://www.usrds.org/2011/pdf/v2\\_ch011\\_11.pdf](http://www.usrds.org/2011/pdf/v2_ch011_11.pdf).

## C. Registered Dietician/Nutritional Professionals

Dietitians and nutritionists are experts in food and nutrition. They advise people on what to eat in order to lead a healthy lifestyle or achieve a specific health-related goal. Dietitians and nutritionists work in many settings, including hospitals, cafeterias, nursing homes, and schools. Some are self-employed with their own practice.<sup>5</sup>

Registered Dietician/Nutritional Professionals Characteristics	
Number of providers	53,510 <sup>a</sup>
Description	Dietitians are experts in food and nutrition, who educate patients about their dietary needs in order to manage their conditions or illnesses via medical nutrition therapy and nutritional plans. Dietitians work in many settings, including hospitals and medical centers, corporate wellness programs, nursing homes, and several other public and private health settings.
Other names	Nutritionist
Number of patients	Unknown
Description of patients	Dietitians provide nutrition counseling services to patients of all ages and health conditions such as diabetes self-management.
Revenue	\$3.42 Billion <sup>b</sup>
Owned by eligible provider	32% work in hospitals; 4% work in physician offices <sup>c</sup>
Medicare profit margin	Unknown
<p>a. “Table 113: Health care employment and wages, by selected occupations: United States, selected years 2001-2010.” (NCHS, 2012) <a href="http://www.cdc.gov/nchs/data/hus/2011/113.pdf">http://www.cdc.gov/nchs/data/hus/2011/113.pdf</a>.</p> <p>b. Figure is a broad estimate, based on the number of practitioners times the average salary. (Highbeam, SIC 8049, 2012)</p> <p>c. BLS, 2012.</p>	

<sup>5</sup> See <http://www.bls.gov/ooh/Healthcare/Dietitians-and-nutritionists.htm>.

<b>Registered Dietician/Nutritional Professionals Health IT Use, Clinical Utility and Barriers</b>		
EHR Needed	Yes	
Adoption Rate	Unknown	
Use in Practice	<ul style="list-style-type: none"> <li>- Admission, discharge and transfer (ADT)</li> <li>- Appointments</li> <li>- Clinical notes</li> <li>- Medication and treatment records</li> </ul>	<ul style="list-style-type: none"> <li>- Assessments</li> <li>- Care Plan</li> <li>- Condition specific documentation</li> <li>- Lab information system</li> </ul>
Clinical Utility	<ul style="list-style-type: none"> <li>- Patient Demographic, Health Information and Problem Lists</li> <li>- Clinical Decision Support</li> </ul>	<ul style="list-style-type: none"> <li>- Privacy, Security and Integrity Features</li> </ul>
Need for Information Exchange	Care coordination to understand patient diagnosis to adequately supply nutritional information and dietary guidelines related.	
Barriers to Adoption	<ul style="list-style-type: none"> <li>- Lack of capital/lack</li> <li>- Lack of awareness of the need to implement an EHR</li> <li>- Lack of demand for an EHR</li> <li>- Lack of a certified vendor for provider specialty</li> </ul>	<ul style="list-style-type: none"> <li>- Workforce limitations to implement and maintain an EHR</li> <li>- Lagging standards for clinical processes</li> </ul>

### **Registered Dietician/Nutritional Professional References**

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Dietitians and Nutritionists.

<http://www.bls.gov/ooH/healthcare/dietitians-and-nutritionists.htm>.

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<http://www.eatright.org/search.aspx?search=EHR+Nutrient+dataset>.

Health, United States, 2012. "Table 113: Health care employment and wages, by selected occupations: United States, selected years 2001-2010".

<http://www.cdc.gov/nchs/data/hus/2011/113.pdf>.

Highbeam Business. <http://business.highbeam.com/industry-reports/business/offices-clinics-of-health-practitioners-not-elsewhere-classified>.

## **D. Therapist (Physical, Occupational and Speech Language)**

Therapists are classified as one of the following:<sup>6</sup>

- *Physical therapists* provide services to patients who have impairments, functional limitations, disabilities, or changes in physical functions and health status resulting from injury, disease or other causes, or who require prevention, wellness or fitness services.

<sup>6</sup> Offices of Physical, Occupational and Speech Therapists, and Audiologists (NAICS# 621340). <http://www.census.gov/econ/industry/def/d621340.htm>.

- *Occupational therapists* provide services to patients for planning and administering educational, recreational, and social activities designed to help patients or individuals with disabilities, regain physical or mental functioning or to adapt to their disabilities.
- *Speech language therapists* diagnose and treat speech, language, or hearing problems. The term “speech-language pathology services” means such speech, language, and related function assessment and rehabilitation services furnished by a qualified speech-language pathologist as the speech-language pathologist is legally authorized to perform under state law (or the state regulatory mechanism provided by the state law) as would otherwise be covered if furnished by a physician.<sup>7</sup>

CMS has requirements for education and licensure for therapists. They may operate private or group practices in their own offices (e.g., centers, clinics), practice in an outpatient rehabilitation facility, or work the facilities of others, such as hospital, rehab facilities, nursing homes, home health agencies, or HMO medical centers.<sup>8</sup>

<b>Therapists' Characteristics</b>	
Number of providers	393,110 <sup>a</sup>
Description	Therapists include: physical therapists, who assist patients in gaining mobility after illness or injury; occupational therapists, who help patients regain or learn day-to-day life skill; and speech-language pathologists, who help patients recovering from illness or injury to properly and effectively communicate. These professionals treat patients in a wide variety of settings, including private practices, hospitals and nursing homes.
Other names	Physical Therapist, Occupational Therapist, Speech Therapist
Number of patients	5,400,000 outpatient Medicare patients (3.9M PT, 1M OT, 0.5M SLP)
Description of patients	Patients come from all life-cycle ages, and may be treated for a wide variety of illness, injury, or condition.
Revenue	\$28.3 Billion <sup>b</sup>
Owned by eligible provider	37% of PTs work in offices of health practitioners, 28% in hospitals; 27% of OTs work in hospitals; 13% of SLP therapists work in hospitals.
Medicare profit margin	Unknown
a. “Table 113: Health care employment and wages, by selected occupations: United States, selected years 2001-2010.” (NCHS, 2012) <a href="http://www.cdc.gov/nchs/data/hus/2011/113.pdf">http://www.cdc.gov/nchs/data/hus/2011/113.pdf</a> . b. “Offices of Physical, Occupational and Speech Therapists, and Audiologists (NAICS 62134)” from Table 8.10 of the 2010 Service Annual Survey, “Selected Health Care Services (NAICS 621,622, and 623) -- Estimated Revenue for Employer Firms by Source: 2006 Through 2010” (U.S. Census Bureau, 2010).	

<sup>7</sup> Social Security Act. [http://www.socialsecurity.gov/OP\\_Home/ssact/title18/1861.htm#act-1861-ii](http://www.socialsecurity.gov/OP_Home/ssact/title18/1861.htm#act-1861-ii).

<sup>8</sup> Ibid.

Therapists' Health IT Use, Clinical Utility and Barriers		
EHR Needed	Yes	
Adoption Rate	PT=28%; OT, SLP=Unknown	
Use in Practice	<ul style="list-style-type: none"> <li>- Admission, discharge and transfer (ADT)</li> <li>- Appointments</li> <li>- Clinical notes</li> <li>- Assessments</li> <li>- Care Plan</li> <li>- Condition specific documentation</li> </ul>	<ul style="list-style-type: none"> <li>- Medication and treatment records</li> <li>- Therapy information system</li> <li>- Patient Portals</li> <li>- Patient eligibility determinations</li> <li>- Billing</li> <li>- Staffing, Payroll, and HR</li> </ul>
Clinical Utility	<ul style="list-style-type: none"> <li>- Patient Demographic, Health Information and Problem Lists</li> <li>- Clinical Decision Support</li> </ul>	<ul style="list-style-type: none"> <li>- Privacy, Security and Integrity Features</li> </ul>
Need for Information Exchange	<ul style="list-style-type: none"> <li>- Therapists coordinate care, obtain orders, report progress with physicians and other care givers.</li> </ul>	
Barriers to Adoption	<ul style="list-style-type: none"> <li>- Lack of capital</li> <li>- Lack of awareness of the need to implement an EHR</li> <li>- Lack of demand for an EHR</li> <li>- Lack of a certified vendor for provider specialty</li> </ul>	<ul style="list-style-type: none"> <li>- EHRs available lack of alignment with MU criteria</li> <li>- Workforce limitations to implement and maintain an EHR</li> <li>- Lagging standards for clinical processes</li> </ul>

### **Therapist References**

Bassett, J. "Wired for Success." Advance for Physical Therapy and Rehab Medicine. <http://physical-therapy.advanceweb.com/Archives/Article-Archives/Wired-for-Success.aspx>.

Health, United States, 2012. "Table 113: Health care employment and wages, by selected occupations: United States, selected years 2001-2010." <http://www.cdc.gov/nchs/data/hus/2011/113.pdf>.

U.S. Census Bureau. "Offices of Physical, Occupational and Speech Therapists, and Audiologists(NAICS 62134)" from Table 8.10 of the 2010 Service Annual Survey, "Selected Health Care Services (NAICS 621,622, and 623) -- Estimated Revenue for Employer Firms by Source: 2006 Through 2010."

## **E. Pharmacists and Pharmacies**

A pharmacist dispenses prescription medications to patients and offer advice on the safe use of medications. Pharmacists work in pharmacies, including those in grocery and drug stores. They also work in hospitals, clinics and specialty pharmacies.<sup>9</sup>

Pharmacies are establishment licensed by states and engaged in retailing prescription or nonprescription drugs and medicines.<sup>10</sup>

<sup>9</sup> See <http://www.bls.gov/ooh/Healthcare/Pharmacists.htm>.

<sup>10</sup> U.S. Census Bureau, North American Industry Classification System (NAICS). [http://www.bls.gov/oes/current/naics5\\_446110.htm](http://www.bls.gov/oes/current/naics5_446110.htm).

Pharmacists' Characteristics	
Number of providers	274,900 <sup>a</sup>
Description	Pharmacists are professionals who dispense medication to patients, and may provide input based on patient case on safe use. They can perform in private, customer-facing pharmacies or behind the scenes in hospitals.
Other names	Unknown
Number of patients	Unknown
Description of patients	Pharmacists do not have direct clinical contact with patients, however, their services touch patients of all ages and conditions.
Revenue	\$259.1 Billion spent on prescription drugs annually
Owned by eligible provider	23% work in hospital pharmacies
Medicare profit margin	Unknown
a. Midwest Pharmacy Workforce Research Consortium, 2009.	

Pharmacies' Characteristics	
Number of providers	62,892 <sup>a</sup>
Description	Pharmacies dispense and sell prescription drugs.
Other names	
Number of patients	
Description of patients	Patients belong to all age groups as well as all socioeconomic backgrounds. 90% of elderly individuals rely on prescription medication on a daily basis, as do 58% of individuals aged 18-64.
Revenue	\$259.1 Billion -- Prescription drugs <sup>b</sup>
Owned by eligible provider	Unknown; 23% hospital-based <sup>c</sup>
Medicare profit margin	Unknown
a. SK&A, 2012.	
b. "National Health Expenditures Aggregate, Per Capita Amounts, Percent Distribution, and Average Annual Percent Change, by Type of Expenditure: Selected Calendar Years 1960-2010" (CMS, National Health Expenditures Data, 2010).	
c. SK&A, 2012.	

Pharmacists' Health IT Use, Clinical Utility and Barriers		
EHR Needed	Yes	
Adoption Rate	12 <sup>a</sup>	
Use in Practice	<ul style="list-style-type: none"> <li>- Order entry and management</li> <li>- Pharmacy information system</li> </ul>	<ul style="list-style-type: none"> <li>- Patient eligibility determinations</li> </ul>
Clinical Utility	<ul style="list-style-type: none"> <li>- Patient Demographic, Health Information and Problem Lists (do not contribute)</li> <li>- Clinical Decision Support</li> <li>- Physician Order Entry</li> </ul>	<ul style="list-style-type: none"> <li>- Support Clinical Quality Measures</li> <li>- Exchange health information (send, receive and integrate)</li> <li>- Privacy, Security and Integrity Features</li> </ul>
Need for Information Exchange	Information exchange needed for e-prescribing, medication management and sharing clinical data.	
Barriers to Adoption	<ul style="list-style-type: none"> <li>- Lack of awareness of the need to implement an EHR</li> <li>- Lack of demand for an HER</li> <li>- Lack of a certified vendor for provider specialty</li> </ul>	<ul style="list-style-type: none"> <li>- Workforce limitations to implement and maintain an EHR</li> </ul>
a. Fuji, K., Galt, K., Siracuse, M., and Christofferson, J.S. "Electronic Health Record Adoption and Use by Nebraska Pharmacists." <i>Perspectives in Health Information Management</i> (Summer 2011): 1-11. <a href="http://perspectives.ahima.org/index.php?option=com_content&amp;view=article&amp;id=218:electronic-health-record-adoption-and-use-by-nebraska-pharmacists&amp;catid=42:electronic-records&amp;Itemid=88">http://perspectives.ahima.org/index.php?option=com_content&amp;view=article&amp;id=218:electronic-health-record-adoption-and-use-by-nebraska-pharmacists&amp;catid=42:electronic-records&amp;Itemid=88</a> .		

Pharmacies' Health IT Use, Clinical Utility and Barriers		
EHR Needed	No (health IT needed to interface with EHR)	
Adoption Rate	N/A	
Use in Practice	<ul style="list-style-type: none"> <li>- Order entry and management</li> <li>- Pharmacy information system</li> </ul>	<ul style="list-style-type: none"> <li>- Patient eligibility determinations</li> </ul>
Clinical Utility	<ul style="list-style-type: none"> <li>- Patient Demographic, Health Information and Problem Lists (Do Not Contribute)</li> <li>- Clinical Decision Support</li> <li>- Physician Order Entry</li> </ul>	<ul style="list-style-type: none"> <li>- Support Clinical Quality Measures</li> <li>- Exchange health information (send, receive and integrate)</li> <li>- Privacy, Security and Integrity Features</li> </ul>
Need for Information Exchange	Information exchange needed for e-prescribing, medication management and sharing clinical data.	
Barriers to Adoption	<ul style="list-style-type: none"> <li>- Lack of awareness of the need to implement an EHR</li> <li>- Lack of a certified vendor for provider specialty</li> </ul>	<ul style="list-style-type: none"> <li>- Workforce limitations to implement and maintain an EHR</li> </ul>

### **Pharmacist and Pharmacy References**

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Pharmacists, on the Internet at <http://www.bls.gov/ooh/healthcare/pharmacists.htm> (visited September 07, 2012).

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[http://perspectives.ahima.org/index.php?option=com\\_content&view=article&id=218:electronic-health-record-adoption-and-use-by-nebraska-pharmacists&catid=42:electronic-records&Itemid=88](http://perspectives.ahima.org/index.php?option=com_content&view=article&id=218:electronic-health-record-adoption-and-use-by-nebraska-pharmacists&catid=42:electronic-records&Itemid=88).

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<http://www.aacp.org/resources/research/pharmacymanpower/Documents/2009%20National%20Pharmacist%20Workforce%20Survey%20-%20FINAL%20REPORT.pdf>.

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<http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/tables.pdf>.

SK&A. National Pharmacy Market Summary (June 2012).  
[http://www.skainfo.com/health\\_care\\_market\\_reports/pharmacy\\_list\\_national\\_summary.pdf](http://www.skainfo.com/health_care_market_reports/pharmacy_list_national_summary.pdf).

## F. Laboratories

Laboratories provide biological, microbiological, serological, chemical, immuno-hematological, hematological, biophysical, cytological, pathological, or other examination of materials derived from the human body for analytic or diagnostic services to the medical profession or to the patient on referral from a health practitioner.<sup>11, 12</sup> State law defines who can request a lab service and some states allow direct consumer access to testing (no provider referral or requisition required) for at least some testing.

Laboratories' Characteristics	
Number of providers	232,996 <sup>a</sup>
Description	A facility that provides biological, microbiological, serological, chemical, immuno-hematological, hematological, biophysical, cytological, pathological, or other examination of materials for the purpose of providing information for the diagnosis, prevention, or treatment of injury or illness. These facilities are typically independent of an institution or physician's office.
Other names	Clinical Laboratory
Number of patients	Unknown
Description of patients	Patients utilize laboratory services under a variety of circumstances, and may come from all age groups and with a variety of conditions.
Revenue	\$61 Billion <sup>b</sup>
Owned by eligible provider	55% Hospital-based in 1995 <sup>c</sup>
Medicare profit margin	Unknown
<p>a. CMS CLIA Update, July 2012. The number on the CMS website is 225,000 (CMS, CLIA website).</p> <p>b. RNCOS, 2012.</p> <p>c. Ahn et al., 1997.</p>	

Laboratories' Health IT Use, Clinical Utility and Barriers		
EHR Needed	No (health IT applications needed to interface with an EHR)	
Adoption Rate	24.2% can post to an EHR via interface <sup>a</sup>	
Use in Practice	<ul style="list-style-type: none"> <li>- Order entry and management</li> <li>- Lab information system</li> </ul>	<ul style="list-style-type: none"> <li>- Patient eligibility determinations</li> </ul>
Clinical Utility	<ul style="list-style-type: none"> <li>- Patient Demographic, Health Information and Problem Lists</li> </ul>	<ul style="list-style-type: none"> <li>- Exchange health information (send, receive and integrate)</li> <li>- Privacy, Security and Integrity Features</li> </ul>
Need for Information Exchange	Lab orders and results require sharing with hospitals, other providers, professionals and specialists.	
Barriers to Adoption	<ul style="list-style-type: none"> <li>- Lack of awareness of the need to implement an EHR</li> <li>- Lack of demand for an EHR</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of a certified vendor for provider specialty</li> </ul>
<p>a. Winsten, D. and Weiner, H. "Improve Outreach Performance by Leveraging the Internet." CLMA Thinklab '10 Session 504 (May 2010). <a href="http://www.clma.org/resource/resmgr/Professional_Development_-_Past_ThinkLabs/504_Dennis_Winsten_Hal_Wei.pdf?hhSearchTerms=emr">http://www.clma.org/resource/resmgr/Professional_Development_-_Past_ThinkLabs/504_Dennis_Winsten_Hal_Wei.pdf?hhSearchTerms=emr</a>.</p>		

<sup>11</sup> U.S. Census Bureau, North American Industry Classification System (NAICS). <http://stds.statcan.gc.ca/naics-scian/2007/cs-rc-eng.asp?criteria=62151>.

<sup>12</sup> Definition Laboratories. 42 U.S.C. 263a Section 353.

## Laboratory References

CMS CLIA Database, July 2012. The number on the CMS website is 225,000. (Centers for Medicare and Medicaid Services. Clinical Laboratory Improvement Amendments (CLIA) [website]) <https://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/downloads/factype.pdf>; <http://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/index.html?redirect=/CLIA/>; <http://www.rncos.com/Report/IM442.htm>.

“Electronic Health Records Now Permitted by CLIA.” U.S. Department of Health and Human Services, Health IT Buzz. <http://www.healthit.gov/buzz-blog/privacy-and-security-of-ehrs/electronic-health-records-ehrs-permitted-clia/>.

ELINCS: The National Lab Data Standard for Electronic Health Records, California Health Care Foundation. <http://www.chcf.org/projects/2009/elincs-the-national-lab-data-standard-for-electronic-health-records>.

Winsten, D. and Weiner, H. “Improve Outreach Performance by Leveraging the Internet.” CLMA Thinklab '10 Session 504 (May 2010). [http://www.clma.org/resource/resmgr/Professional\\_Development\\_-\\_Past\\_ThinkLabs/504\\_Dennis\\_Winsten\\_Hal\\_Wei.pdf?hhSearchTerms=emr](http://www.clma.org/resource/resmgr/Professional_Development_-_Past_ThinkLabs/504_Dennis_Winsten_Hal_Wei.pdf?hhSearchTerms=emr).

## G. Emergency Medical Service Providers

Emergency medical service providers primarily engaged in providing transportation of patients by ground or air, along with medical care. These services are often provided during a medical emergency but are not restricted to emergencies. The vehicles are equipped with lifesaving equipment operated by medically trained personnel.<sup>13</sup>

Emergency Medical Service Providers' Characteristics	
Number of providers	19,971 <sup>a</sup>
Description	Emergency Medical Services provide first-response care to individuals to evaluate and manage acute traumatic and medical conditions in a pre-hospital setting. Emergency Medical Services is the intersection of public health, public safety, and acute patient care.
Other names	Ambulance
Number of patients	36,700,000 events; 28,000,000 transports
Description of patients	Patients utilizing Emergency Medical Services are of all age groups, and may suffer from a variety of illnesses or conditions
Revenue	\$16.7 Billion <sup>b</sup>
Owned by eligible provider	9% hospital-based
Medicare profit margin	2%
a. National Highway Traffic Safety Administration, 2011.	
b. CMS. National Health Expenditures Accounts: Definitions, Sources, and Methods, 2009.	

<sup>13</sup> U.S. Census Bureau, North American Industry Classification System (NAICS). [http://www.bls.gov/oes/current/naics5\\_621910.htm](http://www.bls.gov/oes/current/naics5_621910.htm).

<b>Emergency Medical Service Providers' Health IT Use, Clinical Utility and Barriers</b>		
EHR Needed	No (require health IT to exchange information with EHR)	
Adoption Rate	Unknown	
Use in Practice	- Clinical notes	
Clinical Utility	- Patient Demographic, Health Information and Problem Lists - Support Clinical Quality Measures	- Privacy, Security and Integrity Features
Need for Information Exchange	Access past medical history and exchange information with emergency department or other care giver.	
Barriers to Adoption	- Lack of capital - Lack of a certified vendor for provider specialty - EHRs available lack of alignment with MU criteria	- Limited decision support for complex clinical condition - Lack of consent management

### **Laboratory References**

CMS Data Compendium, December 2010.

Grant to Enhance EMS/Hospital Data Exchange. Journal of Emergency Medical Services. <http://www.jems.com/article/technology/grant-enhance-emshospital-data>.

National Health Expenditures Accounts: Definitions, Sources, and Methods, 2009.

National Highway Traffic Safety Administration (NHTSA). 2011 National EMS Assessment. [http://www.ems.gov/pdf/2011/National\\_EMS\\_Assessment\\_Final\\_Draft\\_12202011.pdf](http://www.ems.gov/pdf/2011/National_EMS_Assessment_Final_Draft_12202011.pdf).

## **H. Blood Centers**

Blood centers primarily engaged in collecting, storing, and distributing blood and blood products.<sup>14</sup>

<sup>14</sup> U.S. Census Bureau, North American Industry Classification System (NAICS). <http://www.census.gov/epcd/ec97/def/621991.HTM>.

<b>Blood Centers' Characteristics</b>	
Number of providers	2628
Description	Blood Centers include manufacturers of blood and blood components, blood banks, blood product testing laboratories, transfusion services, and plasmapheresis centers. These facilities are subject to FDA compliance measures under Section 510 of the Food, Drug, and Cosmetic Act.
Other names	Unknown
Number of patients	15,014,000
Description of patients	Patients are of all ages and may require blood or blood products as a result of illness or injury.
Revenue	Unknown
Owned by eligible provider	34% hospital-based <sup>a</sup>
Medicare profit margin	Unknown
a. FDA Blood Establishment Registration Database.	

<b>Blood Centers' Health IT Use, Clinical Utility and Barriers</b>		
EHR Needed	No	
Adoption Rate	Unknown	
Use in Practice	Unable to determine	
Clinical Utility	<ul style="list-style-type: none"> <li>- Patient Demographic , Health Information and Problem Lists</li> <li>- Support Clinical Quality Measures</li> </ul>	<ul style="list-style-type: none"> <li>- Privacy, Security and Integrity Features</li> </ul>
Need for Information Exchange		
Barriers to Adoption	<ul style="list-style-type: none"> <li>- Lack of a certified vendor for provider specialty</li> </ul>	

### ***Blood Center References***

FDA Blood Establishment Registration Database. Filtered by an establishment status of "Active." More than one category may apply to a facility.

<http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/EstablishmentRegistration/BloodEstablishmentRegistration/default.htm>.

Number of Transfusions (2008). U.S. Department of Health and Human Services. The 2009 National Blood Collection and Utilization Survey Report.

<http://www.aabb.org/programs/biovigilance/nbcus/Documents/09-nbcus-report.pdf>.

# EHR PAYMENT INCENTIVES FOR PROVIDERS INELIGIBLE FOR PAYMENT INCENTIVES AND OTHER FUNDING STUDY

## Files Available for This Report

- Main Report <http://aspe.hhs.gov/daltcp/reports/2013/EHRPI.shtml>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI.pdf>
- APPENDIX A. Medicare and Medicaid EHR Incentive Programs  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendA>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendA.pdf>
- APPENDIX B. Definitions and Certification of EHR Technology  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendB>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendB.pdf>
- APPENDIX C. Public Health Service Act Section 3000(3) as Added by HITECH  
Section 13101 -- Provider Analysis  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendC>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendC.pdf>
- APPENDIX D. Ineligible Provider Characteristics  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendD>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendD.pdf>
- APPENDIX E. Long-Term and Post-Acute Care Provider Profiles  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendE>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendE.pdf>
- APPENDIX F. Behavioral Health Provider Profiles  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendF>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendF.pdf>
- APPENDIX G. Safety Net Provider Profiles  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendG>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendG.pdf>
- APPENDIX H. Other Health Care Provider Profiles  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendH>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendH.pdf>

- APPENDIX I. Table Summary of Patient Protection and Affordable Care Act Provisions with Relationship to Ineligible Providers and Health IT Use  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendI>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendI.pdf>
- APPENDIX J. Behavioral Health Provider Analysis  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendJ>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendJ.pdf>
- APPENDIX K. Grant, Demonstrations and Cooperative Agreement Programs  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendK>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendK.pdf>
- APPENDIX L. Loan Programs  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendL>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendL.pdf>
- APPENDIX M. Technical Assistance Programs  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendM>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendM.pdf>
- APPENDIX N. Administrative Infrastructure Building Programs  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendN>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendN.pdf>
- APPENDIX O. Anti-Kickback Statute EHR Safe Harbor Regulations  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendO>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendO.pdf>
- APPENDIX P. Private Sector Programs to Advance Certified EHR Technology  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendP>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendP.pdf>
- APPENDIX Q. Regulations for Medical Records  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendQ>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendQ.pdf>
- APPENDIX R. Technical Advisory Group Summary  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendR>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendR.pdf>
- APPENDIX S. Evaluating Benefits and Costs of New Incentives for EHR Adoption by Ineligible Providers  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendS>  
<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendS.pdf>

APPENDIX T. CIO Consortium EMR Cost Study Data

<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendT>

<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendT.pdf>

APPENDIX U. Abbreviations and Acronyms

<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendU>

<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendU.pdf>

APPENDIX V. References

<http://aspe.hhs.gov/daltcp/reports/2013/EHRPlap.shtml#appendV>

<http://aspe.hhs.gov/daltcp/reports/2013/EHRPI-appendV.pdf>