



Implementing Hospital-Based Dental Services in Rural and Underserved Kansas Communities



*Funded through a grant from the
Kansas Department of Health and Environment
Bureau of Oral Health
February 2013*

Implementing Hospital-Based Dental Services in Rural and Underserved Kansas Communities

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Introduction and Acknowledgements

In 2011 the Kansas Legislature revised Kansas law (KS 65-1425) to allow hospitals located in a county with a population of less than 50,000 to employ dentists and provide dental services to the citizens they serve. The purpose of this study is to assess the financial impact of providing these services in underserved areas known as "Dental Deserts" and to also develop a general checklist to be completed by a hospital when considering whether or not to add dental services. For the purpose of this project, case studies were developed for two Critical Access Hospitals, Ashland Health Center, Ashland, Kansas and Scott County Hospital Inc., Scott City, Kansas.

The Kansas Hospital Educational and Research Foundation (KHERF) would like to acknowledge Katherine Weno, DDS, JD, Director of the Office of Oral Health at the Kansas Department of Health and Environment for the grant funding to do this project. Without this assistance this project would not have been possible.

KHERF would also like to thank the following individuals for their contributions to this project and their participation as the coordinating committee for this study:

Matt Klauser, Joe Watt, Andy Kaempfe of BKD LLP, CPAs and Advisors
Jason Wesco, President and CEO of Health Partnership Clinic
Benjamin Anderson, CEO Ashland Health Center, Ashland, Kansas
Karma Huck, COO, Scott County Hospital, Scott City, Kansas
Greg Lundstrom, President, Rural Health Insights

KHERF intends to present the results of this study to hospital leaders throughout the State of Kansas and to encourage them to utilize the findings to determine if further analysis would benefit them on a local level. Although these case studies on the surface may indicate that it may not be financially feasible for many hospitals, each individual hospital should examine the impact on meeting the total health care needs of their local communities. Research should also be done on what funding resources may be available to assist such a project. KHERF will be happy to assist Kansas Hospitals in any way possible as they examine bringing dental services to their local service areas.

2012 Kansas Statutes

65-1425. Corporations not to practice dentistry; exception; employee to display name. Except as provided in K.S.A. 17-2706 et seq., and amendments thereto, no corporation shall practice, offer, or undertake to practice or hold itself out as practicing dentistry. Every person practicing dentistry as an employee of another shall cause his name to be conspicuously displayed and kept in a conspicuous place at the entrance of the place where such practice is conducted. Nothing in this section shall prohibit a licensed dentist from practicing dentistry as the agent or employee of another licensed dentist in this state, or from practicing dentistry as the agent or employee of any state hospital or state institution where such dentist's only remuneration is from the state, or from any corporation which provides dental service for its employees at no profit to the corporation. Nothing in this section shall prohibit a licensed dentist from practicing dentistry as an employee of a general hospital defined in K.S.A. 65-425, and amendments thereto, in a county with population of less than 50,000.

History: L. 1943, ch. 221, § 8; L. 1974, ch. 250, §1; L. 2011, ch. 114, § 93; June 9.

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**Assessment of the Impact of the Implementation of
Dental Services by Kansas Hospitals**



Consultants' Report

Ms. Melissa Hungerford
Kansas Hospital Education & Research Foundation
215 S.E. Eight Avenue
Topeka, Kansas 66603

At your request, we have assisted with your assessment of the financial and other impacts of a revised Kansas law (KS 65-1425) that allows hospitals located in a county with a population of less than 50,000 to employ dentists and provide dental services. Our assistance relates to the development of a general checklist to be completed by a hospital when considering whether or not to add dental services as well as case studies for Ashland Health Center (Ashland) and Scott County Hospital (Scott County).

The general checklist and related case studies were prepared with the assistance of the Kansas Hospital Education & Research Foundation (KHERF), management of Ashland and Scott County, as well as Mr. Jason Wesco, President and Chief Executive Officer of Health Partnership Clinic.

The purpose of the assessment will be to assist KHERF with its communication and presentations to hospital leaders regarding the impact of the new Kansas law. The checklist and related case study should not be referred to, distributed or used by any other party for any purpose.

We have not made management decisions or performed management functions related to our engagement. We used and relied on information furnished by KHERF, Ashland, Scott County, and Jason Wesco, and on information available from generally recognized public sources. Such information used in the case studies includes but is not limited to: initial capital costs, patient volumes and revenues, staffing and other operating expenses, etc. We are not responsible for the accuracy or completeness of this information and are not responsible to investigate or verify it.

When applicable, forecast assumptions were compared to 2011 community health center ("CHC") results for dental practices as obtained from the U.S. Health Resources and Services Administration. The amounts were averaged for the total grantees in each year, which totaled 13 facilities in Kansas and 1,128 in the United States. These reports did not segregate CHCs without dental practices from those with dental practices, so the overall averages were used in this analysis.

The accompanying case studies are not intended to represent a prospective financial statement forecast or projection. We have not compiled or examined the accompanying case studies and express no assurance on them. Further, there will usually be differences between the case studies and actual results, and those differences may be material.



January 7, 2013

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Dental Service Checklist

Assessment of Demand

1. Identify the need for dental services in your service area based upon the September 2011 study, *Mapping the Rural Kansas Dental Workforce*, completed by the University of Kansas Medical Center and the Center for Community Health Improvement.
2. Estimate the total demand for dental services in your service area based upon demographics and average use rates.
3. Analyze other dentists located in your service area, including the proximity of other providers to your facility and to the communities with the largest populations.
4. Based upon the results above, estimate the market share your facility could expect to obtain. Given this is a new service, it is recommended varying market share levels be evaluated to understand the sensitivity of this assumption.

Revenues

5. Estimate payer mix.
6. Determine average charges and collection percentages.
7. Research any additional grants or other sources of revenue that may be available.

Operating Expenses

8. Identify the additional employees that will be required based upon the expected volumes determined above and industry statistics on visits per employee.
9. Determine the amounts that will be paid to the new employees.
10. Estimate the amount of overhead that will be incurred, such as supplies, professional fees, rent, utilities, repairs/maintenance, etc.

Facility

11. Is there existing space to house the dental services? If so, what type of improvements/renovations will need to be made? If not, what type of construction project will need to be completed?
12. How much equipment will need to be purchased?
13. How much debt will need to be absorbed to meet the facility needs?

Cost Report Impact

14. Based upon the results above, estimate the impact on annual reimbursement rates.

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Case Study – Ashland Health Center



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Case Study – Ashland Health Center

Summary of Pro Forma Impact

Operating Revenues

Patient service revenue (net of contractual discounts and allowances)	\$ 462,000
Provision for uncollectible accounts	(23,100)
Net patient service revenue less provision for uncollectible accounts	<u>438,900</u>

Operating Expenses

Salaries and wages	274,064
Employee benefits	71,269
Supplies and other	35,025
Depreciation and amortization	<u>44,533</u>
	<u>424,891</u>

Operating Income 14,009

Impact of Dental Services on Cost Report (42,199)

Pro Forma Impact on Hospital Profitability \$ (28,190)

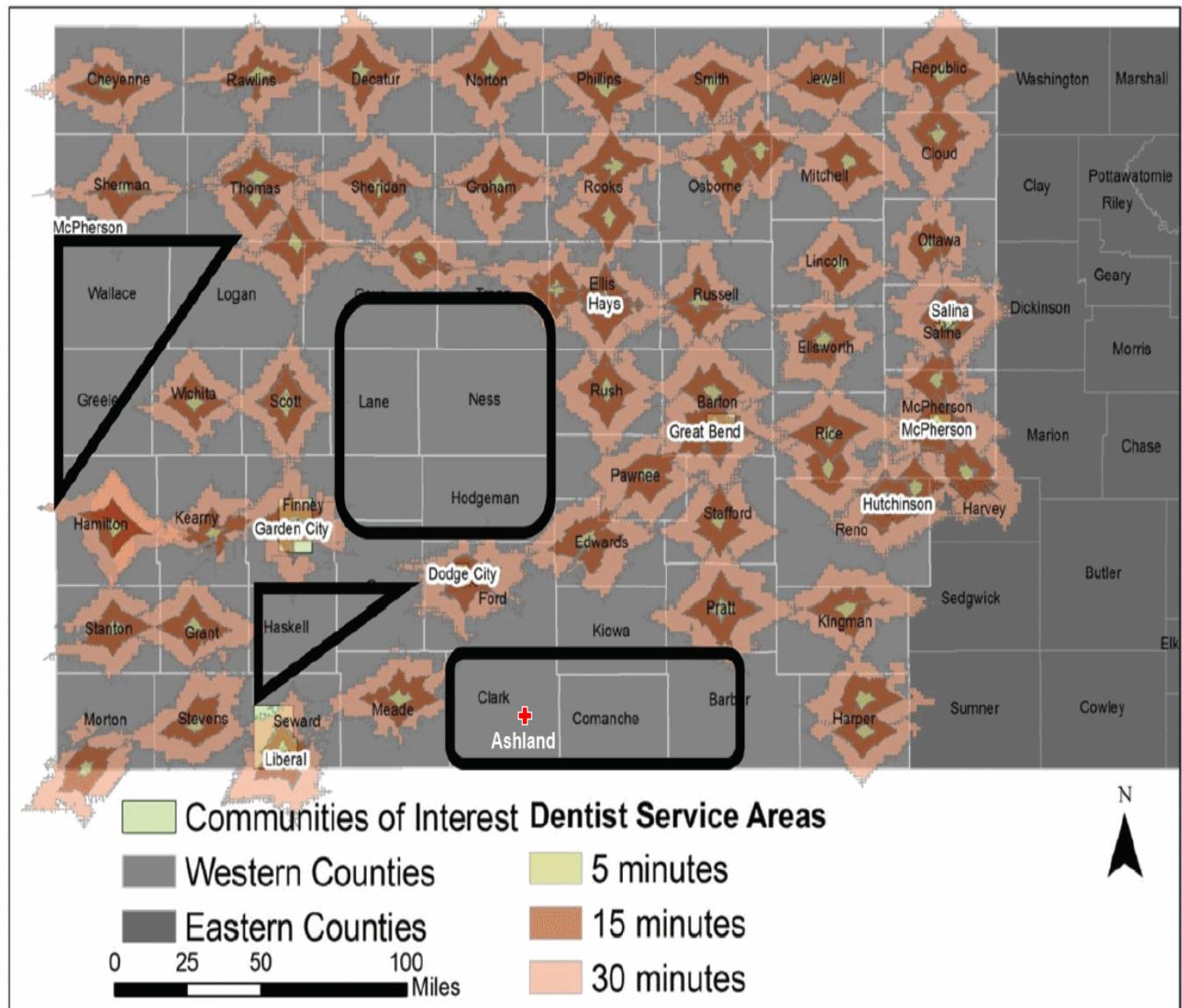
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Case Study – Ashland Health Center

Assessment of Demand

Identification and Description of Geographical Service Area

The September 2011 study *Mapping the Rural Kansas Dental Workforce* (“Study”) used geographic information systems to pinpoint locations in Kansas where there are the fewest dental providers serving their communities and oral health care is needed most urgently. Of the 703 ZIP codes designated in Kansas, the Study identified 483, or 68.7 percent, have no dentist located in the ZIP code. In addition, the Study identified four distinct areas in western Kansas that do not have access to a primary care dentist within a drive time of 30 minutes, and referred to these four areas as “Dental Care Service Deserts” (shown in the map below). The Study concluded at least 57,000 Kansans live in a Dental Care Service Desert, and this number is projected to increase as the current primary care dentist rural workforce retires, and as currently forecast, is not fully replaced.

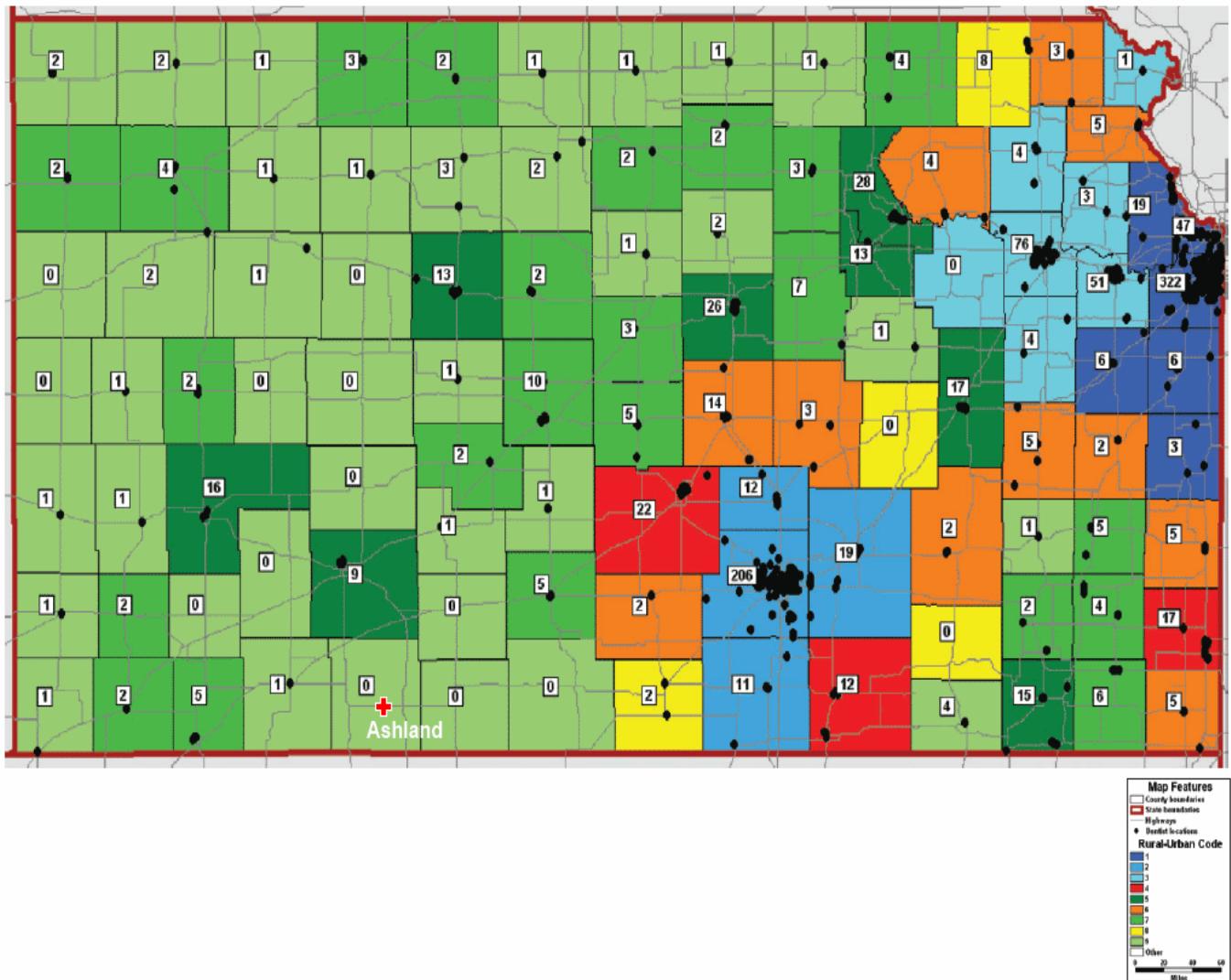


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Case Study – Ashland Health Center

Distribution of Primary Care Dentists

The following map outlines the distribution of primary care dentists by county, with each county color coded using the USDA rural-urban codes. The small white box with a number represents the number of primary care dentists (not necessarily all dentists) in the county. The black dots are the actual geographical locations of the primary care dentists.



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Case Study – Ashland Health Center

Demographics and Socioeconomic Characteristics

The following schedule shows the estimated population of Ashland's geographical service area:

County	2012 Population Estimates							Total
	0 - 1	2 - 17	18 - 44	45 - 54	55 - 64	65 - 74	75 and older	
Clark County	71	465	570	333	287	185	281	2,192
Comanche County	46	370	462	265	304	217	221	1,885
Total	117	835	1,032	598	591	402	502	4,077

Clark County	3.2%	21.2%	26.0%	15.2%	13.1%	8.4%	12.8%	100.0%
Comanche County	2.4%	19.6%	24.5%	14.1%	16.1%	11.5%	11.7%	100.0%
Total	2.9%	20.5%	25.3%	14.7%	14.5%	9.9%	12.3%	100.0%

Source: U.S. Bureau of the Census Estimates

The following schedule shows the estimated income levels in the geographical service area, the state of Kansas and the United States.

	Geographical Service Area	Kansas	United States
Total Households			
2000	1,856	1,038,940	105,539,122
2012	1,746	1,127,021	118,582,568
2017	1,735	1,162,902	123,450,982
Median Household Income			
2000	\$ 32,338	\$ 41,046	\$ 42,729
2012	\$ 36,944	\$ 47,714	\$ 49,581
2017	\$ 37,901	\$ 48,794	\$ 50,850

2012 Household Distribution by Household Income

Less than \$15,000	15.2%	12.1%	13.0%
\$15,000 - \$24,999	15.9%	11.4%	10.8%
\$25,000 - \$34,999	16.5%	12.1%	11.1%
\$35,000 - \$49,999	18.6%	17.0%	15.5%
\$50,000 - \$74,999	20.0%	20.8%	19.5%
\$75,000 - \$99,999	6.5%	11.9%	11.9%
Greater than \$100,000	7.3%	14.7%	18.2%

Source: U.S. Bureau of the Census

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Case Study – Ashland Health Center

Geographical Service Area Analysis

In order to estimate the required number of total dental visits, the average dental use rate for the area was estimated by utilizing several resources. The following schedule shows the percentage of the population who visited the dentist within the last year according to several different sources.

Percentage Who Visited Dentist in the Last Year	KS	U.S.
2002 National Health and Nutrition Examination Study ⁽¹⁾	-	59.1%
2007 Medical Expenditure Panel Survey ⁽¹⁾	-	44.7%
2008 National Health Interview Study ⁽¹⁾	-	63.9%
2008 Behavioral Risk Factor Surveillance Survey ⁽¹⁾	-	70.0%
2010 Kaiser Family Foundation (Adults Only) ⁽²⁾	72.9%	69.7%

(1) Obtained from the Department of Health and Human Services Dental, Oral and Craniofacial Data Resource Center

(2) Obtained from www.statehealthfacts.org

As shown by the schedule above, there was variation among the surveys with respect to the average percentage of patients using the dentist in a given year. The median value of the national amounts is 63.9% from the 2008 National Health Interview Study, which will be utilized for purposes of this analysis.

The 2007 Medical Expenditure Panel Survey indicated an overall annual use rate of approximately 2.3 among those who visited the dentist, which was slightly less than the use rate of 2.5 referenced in the Study. The lower income in the geographical service area compared with the rest of the state was considered by multiplying the resulting use rate by a 95% conservative factor. The following schedule details the estimation of the overall dental use rate in the geographical service area:

Age (in Years)	Use Rate, Visiting Dentist ⁽¹⁾	% Visiting Dentist Within Last Year	Conservative Factor	Overall Use Rate
2 - 17	2.36	63.9%	95.0%	1.43
18 - 44	2.02	63.9%	95.0%	1.23
45 - 54	2.30	63.9%	95.0%	1.40
55 - 64	2.62	63.9%	95.0%	1.59
65 - 74	2.73	63.9%	95.0%	1.66
75 and older	2.63	63.9%	95.0%	1.60
Overall	2.30			1.40

(1) Obtained from the Department of Health and Human Services Dental, Oral and Craniofacial Data Resource Center

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Case Study – Ashland Health Center

The dental use rates shown on the previous page were multiplied by the estimated population in the geographical service area to determine the estimated number of required dental visits, as shown in the schedule below:

County	Estimated Required Dental Visits							Total
	0 - 1	2 - 17	18 - 44	45 - 54	55 - 64	65 - 74	75 and older	
Clark County	-	665	701	466	456	307	450	3,045
Comanche County	-	529	568	371	483	360	354	2,665
Total	-	1,194	1,269	837	939	667	804	5,710

Source: U.S. Bureau of the Census Estimates, Department of Health and Human Services

The following schedule displays Ashland's annual dental visits. As the PSA percentage of total is less than 100%, Ashland must make up the additional patients living in the counties surrounding the PSA. The schedule also displays the market share necessary to achieve the volumes shown among Ashland's primary service area. Refer to the sensitivity analyses on page 13, which quantify the impact of differences in market shares on the forecast.

County	Market Share	Ashland Dental Visits
Clark County	65.0%	1,979
Comanche County	22.0%	586
	44.9%	2,565
% of total		80.2%
Other		635
% of total		19.8%
Total visits		3,200

Source: Management

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Case Study – Ashland Health Center

Revenues

	Ashland Estimate	CHC Average ⁽¹⁾	
		Kansas	U.S.
<u>Dental Volumes</u>			
Total dental visits	3,200	7,178	8,858
<u>Payer Mix</u>			
Medicare	0.0%		
Medicaid	10.0%		
Private insurance and self-pay	90.0%		
Total	<u>100.0%</u>		

	Charges Per Visit	Contractual Percentage	Net Revenue Per Visit
<u>Revenue Build</u>			
Medicaid	\$ 175.00	40.0%	\$ 105.00
Private insurance and self-pay	175.00	15.0%	148.75
<i>Overall</i>	<i>175.00</i>	<i>17.5%</i>	<i>144.38</i>

Note: This analysis excludes the impact of any additional grants or other sources of revenue that may be available, given the uncertainty of this assumption.

Refer to the sensitivity analyses on page 13, which quantify the impact of differences in Ashland's payer mix, charges per visit and contractual percentage on the forecast.

Operating Expenses

	Ashland Estimate ⁽¹⁾	FQHC Average ⁽²⁾	
		Kansas	U.S.
<u>Staffing - FTEs</u>			
Dentist	1.00	1.91	2.74
Dental assistant	2.00	4.11	5.28
Dental hygienist	1.00	2.11	1.14
Receptionist	-	N/A	N/A
<i>Total</i>	<u>4.00</u>	<u>8.13</u>	<u>9.16</u>
Average visits per dental FTE	800.0	882.6	966.5

(1) Estimated using data from www.dentalclinicmanual.com

(2) 2011 U.S. Health Resources & Services Administration Unified Data System Community Health Center Report

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Case Study – Ashland Health Center

	Total FTEs	Average Salary ⁽¹⁾	Total Salaries
<u>Salary Build</u>			
Dentist	1.00	\$ 140,658	\$ 140,658
Dental assistant	2.00	33,985	67,970
Dental hygienist	1.00	65,436	65,436
Total	<u>4.00</u>	<u>68,516</u>	<u>\$ 274,064</u>

Refer to the sensitivity analyses on page 13, which quantify the impact of differences in Ashland's average salaries on the forecast.

	Per FTE	% of Salaries	Total
Employee Benefits	\$ 17,817	26.00%	\$ 71,269

	Ashland Estimate ⁽¹⁾	CHC Average ⁽²⁾	
		Kansas	U.S.
<u>Non-Labor Operating Expenses</u>			
Utilities	\$ 9,467		
Dental supplies	22,947		
Other	2,611		
	<u>\$ 35,025</u>		

Total Expenses

Total direct dental operating expenses	\$ 424,891	\$ 734,216	\$ 948,879
Number of dental visits	3,200	7,178	8,858
Total cost per visit	<u>\$ 132.78</u>	<u>\$ 102.29</u>	<u>\$ 107.13</u>

(1) Estimated using data from www.dentalclinicmanual.com

(2) 2011 U.S. Health Resources & Services Administration Unified Data System Community Health Center Report

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Case Study – Ashland Health Center

Facility

It is assumed Ashland will construct 1,800 square feet of additional space to house the dental services. The following table outlines the estimated project costs:

Sources and Uses of Funds		
<i>Sources</i>		
Grants and gifts	\$	650,000
Total sources	\$	<u>650,000</u>
<i>Uses (I)</i>		
Construction and related costs	\$	387,000
Large equipment		185,234
Supplies, instruments and small equipment		52,218
Contingency and other		12,548
Financing fees		<u>13,000</u>
Total uses	\$	<u>650,000</u>
Total dental practice square footage		<u>1,800</u>
Total uses per square foot	\$	<u>361.11</u>

(I) Project costs estimated using data from www.dentalclinicmanual.com

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Case Study – Ashland Health Center

Cost Report Impact

The addition of dental services to Ashland's service offering causes certain overhead costs to be allocated to dental. Since dental services are not reimbursed by Medicare, Ashland's total Medicare reimbursement is negatively impacted by this change. The following schedule estimated the pro forma impact on Medicare reimbursement of the additional dental expenses on Ashland's cost report.

	2011 Actual	Pro Forma	Difference
<u>Medicare Reimbursement</u>			
CAH Part A	\$ 393,049	\$ 385,406	\$ (7,643)
CAH Part B	623,255	614,585	(8,670)
CAH Swing-Bed Part A	1,204,165	1,179,965	(24,200)
RHC	<u>105,151</u>	<u>103,465</u>	<u>(1,686)</u>
Total Medicare reimbursement	<u>\$ 2,325,620</u>	<u>\$ 2,283,421</u>	<u>\$ (42,199)</u>

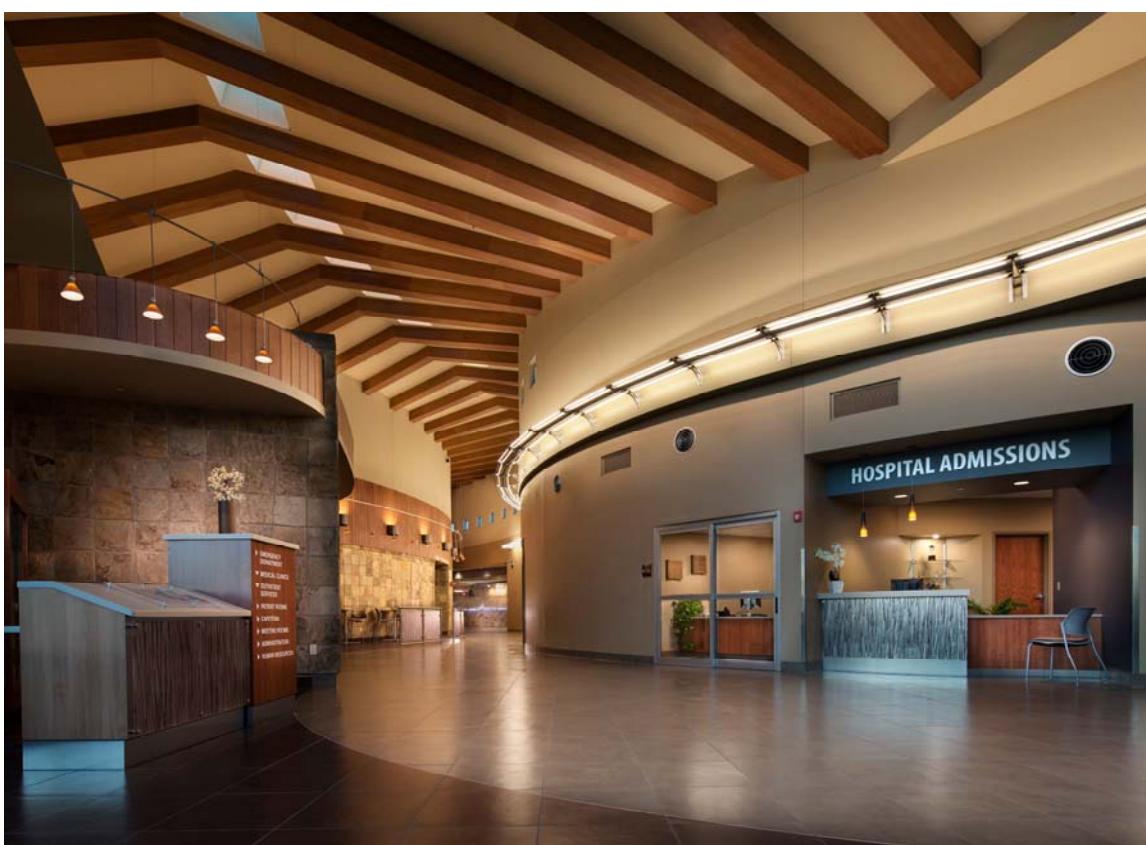
Sensitivity Analyses

In order to evaluate the sensitivity of the assumptions used in the pro forma analysis, we have prepared several sensitivity analyses, as shown in the following schedule:

Assumption	Operating Income	Cost Report Impact	Pro Forma Impact
Base Model	\$ 14,009	\$ (42,199)	\$ (28,190)
Reduce market share by 10%	(29,739)	(42,199)	(71,938)
Increase market share by 10%	58,041	(42,199)	15,842
Increase Medicaid payer mix from 10.0% to 20.0%	709	(42,199)	(41,490)
Reduce Medicaid payer mix from 10.0% to 5.0%	20,659	(42,199)	(21,540)
Reduce charges per visit by 10%	(29,868)	(42,199)	(72,067)
Increase charges per visit by 10%	57,912	(42,199)	15,713
Increase contractual percentage by 10%	(39,191)	(42,199)	(81,390)
Reduce contractual percentage by 10%	67,209	(42,199)	25,010
Increase average salaries by 10%	(16,866)	(45,266)	(62,132)
Reduce average salaries by 10%	52,253	(38,401)	13,852

Kansas Hospital Education & Research Foundation

Case Study – Scott County Hospital



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Case Study – Scott County Hospital

Summary of Pro Forma Impact

Operating Revenues

Patient service revenue (net of contractual discounts and allowances)	\$ 462,000
Provision for uncollectible accounts	<u>(23,100)</u>
Net patient service revenue less provision for uncollectible accounts	<u>438,900</u>

Operating Expenses

Salaries and wages	274,064
Employee benefits	71,269
Supplies and other	35,025
Depreciation and amortization	44,533
Interest	<u>39,000</u>
	<u>463,891</u>

Operating Loss	(24,991)
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Impact of Dental Services on Cost Report	<u>(41,316)</u>
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Pro Forma Impact on Hospital Profitability	<u>\$ (66,307)</u>
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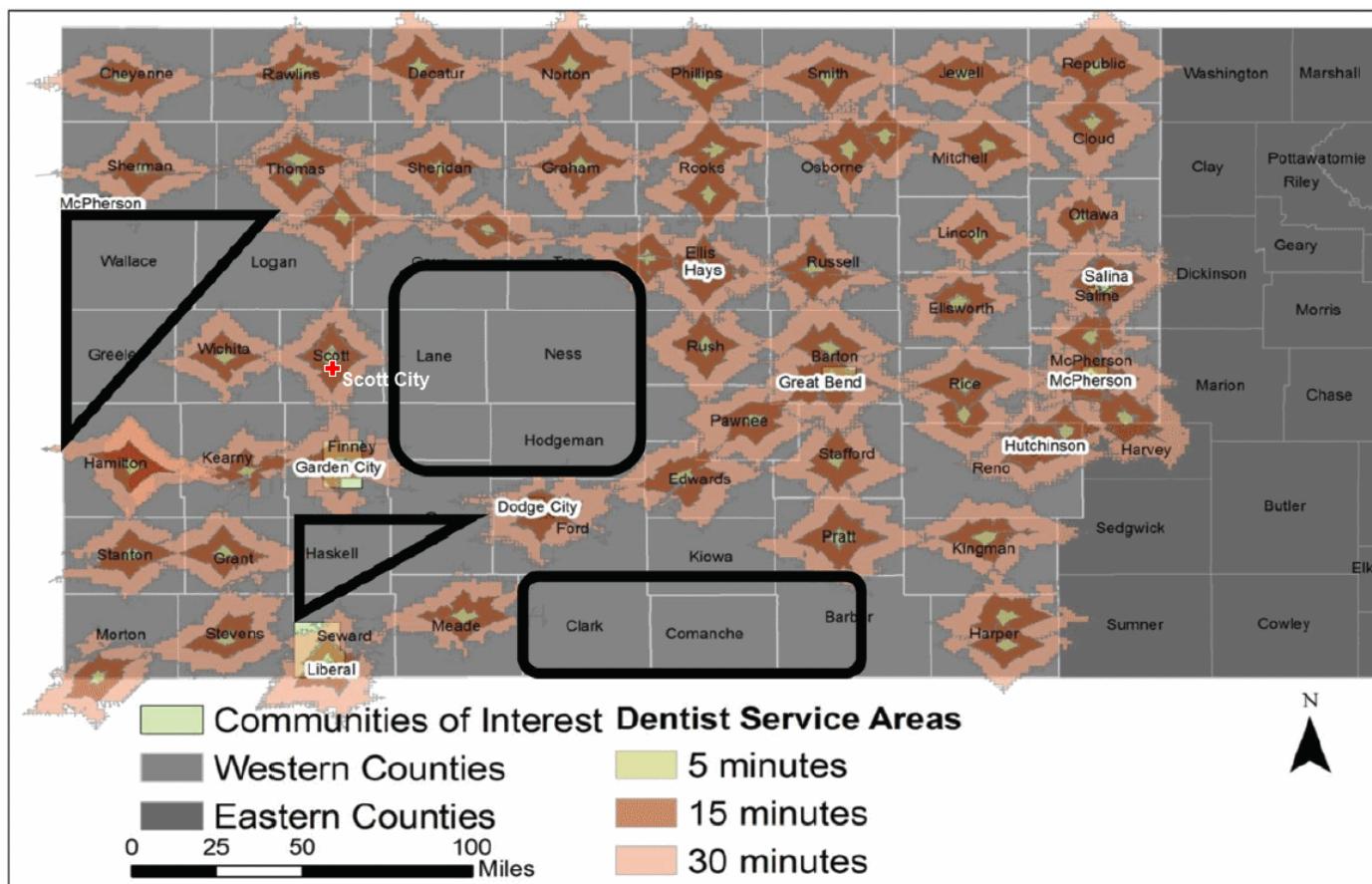
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Case Study – Scott County Hospital

Assessment of Demand

Identification and Description of Geographical Service Area

The September 2011 study *Mapping the Rural Kansas Dental Workforce* (“Study”) used geographic information systems to pinpoint locations in Kansas where there are the fewest dental providers serving their communities and oral health care is needed most urgently. Of the 703 ZIP codes designated in Kansas, the Study identified 483, or 68.7 percent, have no dentist located in the ZIP code. In addition, the Study identified four distinct areas in western Kansas that do not have access to a primary care dentist within a drive time of 30 minutes, and referred to these four areas as “Dental Care Service Deserts” (shown in the map below). The Study concluded at least 57,000 Kansans live in a Dental Care Service Desert, and this number is projected to increase as the current primary care dentist rural workforce retires, and as currently forecast, is not fully replaced.

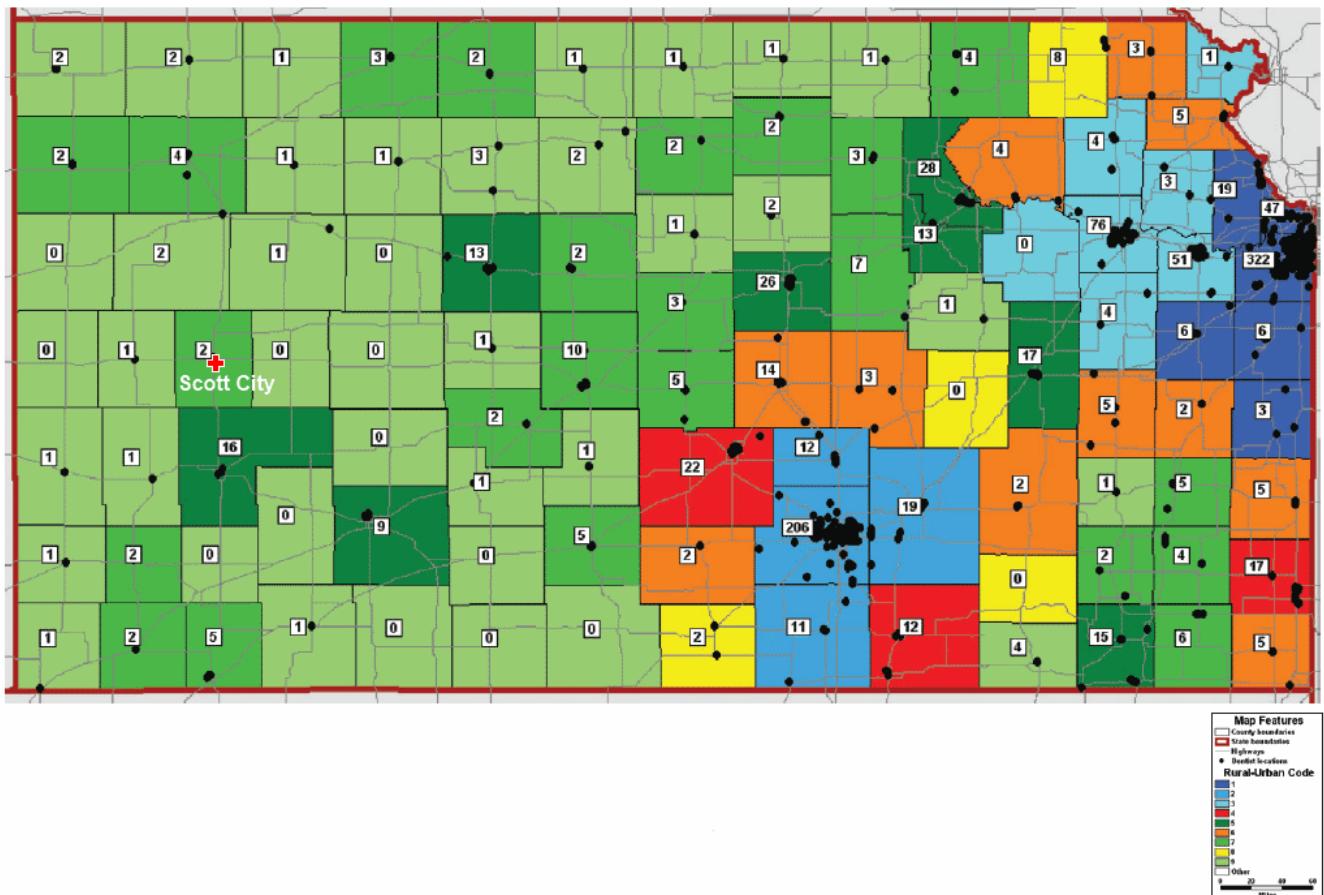


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Case Study – Scott County Hospital

Distribution of Primary Care Dentists

The following map outlines the distribution of primary care dentists by county, with each county color coded using the USDA rural-urban codes. The small white box with a number represents the number of primary care dentists (not necessarily all dentists) in the county. The black dots are the actual geographical locations of the primary care dentists.



Kansas Hospital Education & Research Foundation

Case Study – Scott County Hospital

Demographics and Socioeconomic Characteristics

The following schedule shows the estimated population of Scott County's service area:

County	2012 Population Estimates							Total
	0 - 1	2 - 17	18 - 44	45 - 54	55 - 64	65 - 74	75 and older	
Scott County	183	1,102	1,335	783	675	467	411	4,956
Lane County	48	344	454	258	272	171	163	1,710
Ness County	72	593	604	543	424	397	431	3,064
Gove County	82	529	572	416	398	283	378	2,658
Logan County	74	544	715	459	354	259	318	2,723
Total	459	3,112	3,680	2,459	2,123	1,577	1,701	15,111
Scott County	3.7%	22.2%	26.9%	15.8%	13.6%	9.4%	8.3%	100.0%
Lane County	2.8%	20.1%	26.5%	15.1%	15.9%	10.0%	9.5%	100.0%
Ness County	2.3%	19.4%	19.7%	17.7%	13.8%	13.0%	14.1%	100.0%
Gove County	3.1%	19.9%	21.5%	15.7%	15.0%	10.6%	14.2%	100.0%
Logan County	2.7%	20.0%	26.3%	16.9%	13.0%	9.5%	11.7%	100.0%
Total	3.0%	20.6%	24.4%	16.3%	14.0%	10.4%	11.3%	100.0%

Source: U.S. Bureau of the Census Estimates

The following schedule shows the estimated income levels in the geographical service area, the state of Kansas and the United States.

	Geographical Service Area	Kansas	United States
Total Households			
2000	4,477	1,038,940	105,539,122
2012	4,173	1,127,021	118,582,568
2017	4,177	1,162,902	123,450,982
Median Household Income			
2000	\$ 36,102	\$ 41,046	\$ 42,729
2012	\$ 43,872	\$ 47,714	\$ 49,581
2017	\$ 45,201	\$ 48,794	\$ 50,850
2012 Household Distribution by Household Income			
Less than \$15,000	12.2%	12.1%	13.0%
\$15,000 - \$24,999	14.7%	11.4%	10.8%
\$25,000 - \$34,999	13.3%	12.1%	11.1%
\$35,000 - \$49,999	16.6%	17.0%	15.5%
\$50,000 - \$74,999	19.9%	20.8%	19.5%
\$75,000 - \$99,999	11.0%	11.9%	11.9%
Greater than \$100,000	12.3%	14.7%	18.2%

Source: U.S. Bureau of the Census

Kansas Hospital Education & Research Foundation

Case Study – Scott County Hospital

Geographical Service Area Analysis

In order to estimate the required number of total dental visits, the average dental use rate for the area was estimated by utilizing several resources. The following schedule shows the percentage of the population who visited the dentist within the last year according to several different sources.

Percentage Who Visited Dentist in the Last Year	KS	U.S.
2002 National Health and Nutrition Examination Study ⁽¹⁾	-	59.1%
2007 Medical Expenditure Panel Survey ⁽¹⁾	-	44.7%
2008 National Health Interview Study ⁽¹⁾	-	63.9%
2008 Behavioral Risk Factor Surveillance Survey ⁽¹⁾	-	70.0%
2010 Kaiser Family Foundation (Adults Only) ⁽²⁾	72.9%	69.7%

(1) Obtained from the Department of Health and Human Services Dental, Oral and Craniofacial Data Resource Center

(2) Obtained from www.statehealthfacts.org

As shown by the schedule above, there was variation among the surveys with respect to the average percentage of patients using the dentist in a given year. The median value of the national amounts is 63.9% from the 2008 National Health Interview Study, which will be utilized for purposes of this analysis.

The 2007 Medical Expenditure Panel Survey indicated an overall annual use rate of approximately 2.3 among those who visited the dentist, which was slightly less than the use rate of 2.5 referenced in the Study. The lower income in the geographical service area compared with the rest of the state was considered by multiplying the resulting use rate by a 95% conservative factor. The following schedule details the estimation of the overall dental use rate in the geographical service area:

Age (in Years)	Use Rate, Visiting Dentist ⁽¹⁾	% Visiting Dentist Within Last Year	Conservative Factor	Overall Use Rate
2 - 17	2.36	63.9%	95.0%	1.43
18 - 44	2.02	63.9%	95.0%	1.23
45 - 54	2.30	63.9%	95.0%	1.40
55 - 64	2.62	63.9%	95.0%	1.59
65 - 74	2.73	63.9%	95.0%	1.66
75 and older	2.63	63.9%	95.0%	1.60
Overall	2.30			1.40

(1) Obtained from the Department of Health and Human Services Dental, Oral and Craniofacial Data Resource Center

Kansas Hospital Education & Research Foundation

Case Study – Scott County Hospital

The dental use rates shown on the previous page were multiplied by the estimated population in the geographical service area to determine the estimated number of required dental visits, as shown in the schedule below:

County	Estimated Required Dental Visits							75 and older	Total
	0 - 1	2 - 17	18 - 44	45 - 54	55 - 64	65 - 74			
Scott County	-	1,576	1,642	1,096	1,073	775	658	6,820	
Lane County	-	492	558	361	432	284	261	2,388	
Ness County	-	848	743	760	674	659	690	4,374	
Gove County	-	756	704	582	633	470	605	3,750	
Logan County	-	778	879	643	563	430	509	3,802	
Total	-	4,450	4,526	3,442	3,375	2,618	2,723	21,134	

Source: U.S. Bureau of the Census Estimates, Department of Health and Human Services

The following schedule displays Scott County's annual dental visits. As the PSA percentage of total is less than 100%, Scott County must make up the additional patients living in the counties surrounding the PSA. The schedule also displays the market share necessary to achieve the volumes shown among Scott County's primary service area. Refer to the sensitivity analyses on page 24, which quantify the impact of differences in market shares on the forecast.

County	Scott County	
	Market Share	Dental Visits
Scott County	25.0%	1,705
Lane County	20.0%	478
Ness County	10.0%	437
Gove County	5.0%	188
Logan County	5.0%	190
	14.2%	2,998
% of total		93.7%
Other		202
% of total		6.3%
Total visits		3,200

Source: Management

Kansas Hospital Education & Research Foundation

Case Study – Scott County Hospital

Revenues

	Scott County Estimate	CHC Average ⁽¹⁾	
		Kansas	U.S.
<u>Dental Volumes</u>			
Total dental visits	3,200	7,178	8,858
<u>Payer Mix</u>			
Medicare	0.0%		
Medicaid	10.0%		
Private insurance and self-pay	90.0%		
Total	<u>100.0%</u>		

	Charges Per Visit	Contractual Percentage	Net Revenue Per Visit
<u>Revenue Build</u>			
Medicaid	\$ 175.00	40.0%	\$ 105.00
Private insurance and self-pay	175.00	15.0%	148.75
<i>Overall</i>	<i>175.00</i>	<i>17.5%</i>	<i>144.38</i>

Note: This analysis excludes the impact of any additional grants or other sources of revenue that may be available, given the uncertainty of this assumption.

Refer to the sensitivity analyses on page 24, which quantify the impact of differences in Scott County's payer mix, charges per visit and contractual percentage on the forecast.

Operating Expenses

	Scott County Estimate ⁽¹⁾	FQHC Average ⁽²⁾	
		Kansas	U.S.
<u>Staffing - FTEs</u>			
Dentist	1.00	1.91	2.74
Dental assistant	2.00	4.11	5.28
Dental hygienist	1.00	2.11	1.14
Receptionist	-	N/A	N/A
<i>Total</i>	<u>4.00</u>	<u>8.13</u>	<u>9.16</u>
Average visits per dental FTE	800.0	882.6	966.5

(1) Estimated using data from www.dentalclinicmanual.com

(2) 2011 U.S. Health Resources & Services Administration Unified Data System Community Health Center Report

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	Total FTEs	Average Salary ⁽¹⁾	Total Salaries
Salary Build			
Dentist	1.00	\$ 140,658	\$ 140,658
Dental assistant	2.00	33,985	67,970
Dental hygienist	1.00	65,436	65,436
Total	<u>4.00</u>	<u>68,516</u>	<u>\$ 274,064</u>

Refer to the sensitivity analyses on page 24, which quantify the impact of differences in Scott County's average salaries on the forecast.

	Per FTE	% of Salaries	Total
Employee Benefits	\$ 17,817	26.00%	\$ 71,269

	Scott County Estimate ⁽¹⁾	CHC Average ⁽²⁾	
		Kansas	U.S.
Non-Labor Operating Expenses			
Utilities	\$ 9,467		
Dental supplies	22,947		
Other	<u>2,611</u>		
	<u>\$ 35,025</u>		

Total Expenses			
Total direct dental operating expenses	\$ 463,891	\$ 734,216	\$ 948,879
Number of dental visits	3,200	7,178	8,858
Total cost per visit	<u>\$ 144.97</u>	<u>\$ 102.29</u>	<u>\$ 107.13</u>

(1) Estimated using data from www.dentalclinicmanual.com

(2) 2011 U.S. Health Resources & Services Administration Unified Data System Community Health Center Report

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Case Study – Scott County Hospital

Facility

It is assumed Scott County will construct 1,800 square feet of additional space to house the dental services. The following table outlines the estimated project costs:

Sources and Uses of Funds	
<i>Sources</i>	
Loan proceeds	\$ 650,000
Total sources	<u><u>\$ 650,000</u></u>
<i>Uses (1)</i>	
Construction and related costs	\$ 387,000
Large equipment	185,234
Supplies, instruments and small equipment	52,218
Contingency and other	2,798
Interest during construction	9,750
Financing fees	<u><u>13,000</u></u>
Total uses	<u><u>\$ 650,000</u></u>
Total dental practice square footage	<u><u>1,800</u></u>
Total uses per square foot	<u><u>\$ 361.11</u></u>

(1) Project costs estimated using data from www.dentalclinicmanual.com

Kansas Hospital Education & Research Foundation

Case Study – Scott County Hospital

Cost Report Impact

The addition of dental services to Scott County's service offering causes certain overhead costs to be allocated to dental. Since dental services are not reimbursed by Medicare, Scott County's total Medicare reimbursement is negatively impacted by this change. The following schedule estimated the pro forma impact on Medicare reimbursement of the additional dental expenses on Scott County's cost report.

	2011 Actual	Pro Forma	Difference
<u>Medicare Reimbursement</u>			
CAH Part A	\$ 1,279,299	\$ 1,270,393	\$ (8,906)
CAH Part B	2,172,603	2,157,944	(14,659)
CAH Swing-Bed Part A	1,819,482	1,806,641	(12,841)
RHC	<u>690,940</u>	<u>686,030</u>	<u>(4,910)</u>
Total Medicare reimbursement	<u>\$ 5,962,324</u>	<u>\$ 5,921,008</u>	<u>\$ (41,316)</u>

Sensitivity Analyses

In order to evaluate the sensitivity of the assumptions used in the pro forma analysis, we have prepared several sensitivity analyses, as shown in the following schedule:

Assumption	Operating Income	Cost Report Impact	Pro Forma Impact
Base Model	\$ (24,991)	\$ (41,316)	\$ (66,307)
Reduce market share by 10%	(68,739)	(41,316)	(110,055)
Increase market share by 10%	18,757	(41,316)	(22,559)
Increase Medicaid payer mix from 10.0% to 20.0%	(38,291)	(41,316)	(79,607)
Reduce Medicaid payer mix from 10.0% to 5.0%	(18,341)	(41,316)	(59,657)
Reduce charges per visit by 10%	(68,868)	(41,316)	(110,184)
Increase charges per visit by 10%	18,912	(41,316)	(22,404)
Increase contractual percentage by 10%	(78,191)	(41,316)	(119,507)
Reduce contractual percentage by 10%	28,209	(41,316)	(13,107)
Increase average salaries by 10%	(55,866)	(44,067)	(99,933)
Reduce average salaries by 10%	5,883	(38,565)	(32,682)

Kansas Hospital Education & Research Foundation

Assessment of the Impact of the Implementation of Dental Services by Kansas Hospitals

Consultant Comments - Jason Wesco¹

In its report, BKD, was asked to create a profile of how implementing dental services in Kansas hospitals (particularly Critical Access Hospitals in identified “dental deserts”) would impact the fiscal position of two Kansas Critical Access Hospitals. Though I was involved throughout the project, a request was made by the Kansas Hospital Education and Research Foundation that a formalized set of comments and reactions to the study be prepared. The following observations should not be construed to be in order of importance. They should also not be interpreted as critical of the study in any way. This is a dynamic topic and the final report created by BKD has my endorsement.

Given the comments below and based on my experience operating dental programs, I believe that a CAH operating a dental program would be a excellent strategic risk and that over time (perhaps a short period of time) could become a profit center for a CAH.

1. Data Limitations

Given the nature of this project, reliable and targeted data was a consistent challenge. For example:

- There are no Critical Access Hospitals currently offering dental services, so no data of this nature was available.
- There is not good generally available data on private practice dental productivity, so Community Health Center data was used. CHCs serve a very different patient population than CAHs, generally speaking, and so productivity will be somewhat different.
- Service (or Market) Areas for dental are difficult to assess in rural areas and are very different (i.e. much larger) than a rural hospital would experience.
- Expected utilization data was based on the best available data – though that data was for broad populations groups, not rural and frontier Kansas where access to dental care has been more restricted than it is for the general population, which may indicate higher overall needs and greater utilization.

2. Conservative Assumptions

Estimates of revenues and provider productivity were necessarily conservative given that no CAH has offered dental services before and that there will be a ramp up period as the programs get underway. Over time, though as both productivity and reimbursement increase there are clear opportunities to make dental programs revenue centers for CAHs.

¹ Jason Wesco is President and CEO of Health Partnership Clinic, a federally funded Community Health Center with sites in Johnson and Miami counties. For the past ten years, he has operated and consulted directly with Kansas safety-net dental clinics and served as a consultant for the Kansas Bureau of Oral Health. Jason is the architect of the Kansas Dental Hub program, a public-private partnership that infused more than \$6 Million into safety-net dental clinics over three years.

- Productivity: An estimate of 3,200 was made for annual visits with a staffing pattern of one dentist and one hygienist.

According to the 2011 Uniform Data Set report, the average Kansas Community Health Center Dentist provided 2,557 visits annually and the average hygienist 1,083 for a total of 3,640. Its important to keep in mind that CHC patients tend to have more significant needs (health, social, language barriers, etc) and have gone longer without care than the proposed population to be served by CAHs, which may tend to make CHC dentists less productive (at least in the number of patient visits annually) than a provider caring for a population with assumed lower needs.

While BKDs assumption of 3,200 visits may be accurate for the first year given startup and new program development, it should be noted that over time a practice should be expected to exceed Community Health Center productivity standards. Arriving at exact numbers difficult given the lack of data on private practice provider productivity. But even assuming meeting CHC averages, another 440 visits would be provided annually, resulting in greater revenues with the same costs.

- Revenue: A conservative \$175.00 in average gross charges per procedures was used in this analysis.

According to the *Survey of Dental Practice – Income from the Private Practice of Dentistry (American Dental Association, 2010)* the average in annual billings per owner dentist per year was \$727,630. Again, because we don't have good private practice productivity numbers, we are left to use a 2010 national CHC average of 2,672 visits per year equals a average charge per visit of \$272.31.

One very busy and productive private practice in rural (not frontier) Kansas shared its per visit, per dentist average charge of \$234.42.

Again, due to lack of solid broad-based data we are left to make best guesses and in a study such as this, conservative estimates are indeed wise. However, it would appear that the average charge of 175.00 is low.

3. Availability of Grant Funds

In general, Kansas is resource rich when it comes to private foundations with a focus on improving access to healthcare. While the Ashland study does assume grant funding for capital and equipment, there are opportunities for operational support – at least in the short term. Foundations that fund in Kansas with a health focus include:

United Methodist Health Ministry Fund – Hutchinson
 Kansas Health Foundation – Wichita
 Sunflower Foundation – Topeka
 Delta Dental of Kansas Foundation – Overland Park

There are many other sources of funding (local, national, public and private) for a dynamic and groundbreaking project such as this that should be fully explored.

Biographies

Benjamin Anderson

CEO

Ashland Health Center

Benjamin Anderson attended Drury University, earning a Bachelor of Arts degree in English in 2001 and a Master in Business Administration degree in 2007. In January of 2009, Benjamin became the CEO of Ashland Health Center. During each of his first three years in Ashland, he helped to orchestrate a charity women's basketball game that was featured in *Sports Illustrated*, on [ESPN.COM](#) and *Hospitals and Health Networks Magazine*. Fox Sports Network won an Emmy Award in 2009 for its broadcast of the game. With the support of his leadership team, he also implemented a mission-focused recruiting model, which was featured on the cover of the 2011 edition of *Rural Roads Magazine*.

Prior to moving to Ashland, Benjamin was a Marketing Consultant for The Delta Companies, a medical staffing firm in Dallas, Texas. During his time at Delta, he assisted dozens of rural hospitals in the Pacific Northwest with finding physicians for their communities.

Benjamin is currently a member of the American College of Healthcare Executives, a Board Member for the Kansas Health Service Corporation and the Kansas Hospital Education and Research Foundation. He and Dr. Daniel Shuman, AHC's Chief Medical Officer were featured speakers at the 2011 National Rural Health Association Critical Access Hospital Conference in Kansas City.

Karma Huck, RD., LD.

Chief Ancillary Services Officer
Scott County Hospital

Karma Huck administers Outpatient Services, Facilities, Support Services, Home Health, Customer Relations and Marketing at Scott County Hospital. Prior to joining the hospital, she owned her own nutrition and foodservice consulting business. Her ability to recognize opportunities and develop creative solutions benefits her industry, organization and community. She developed and led a six month marketing campaign which resulted in the support of a county bond and sales tax levy for a 24 million dollar replacement hospital. She has served on the Kansas Dietetic Association Board of Directors, is Chairman of the Scott Community Foundation Board of Directors, and is involved in numerous regional and local initiatives.

Andrew S. Kaempfe, CPA

Senior Consultant
BKD

As a member of the strategic planning and financial forecasting team, as well as the transaction services team, Andy provides consulting services to businesses and organizations across multiple industries. He has experience planning and completing feasibility studies, financial forecasts and other consulting engagements for critical access and prospective payment system hospitals as well as long-term care and assisted-living facilities. In addition, he has provided planning, forecasting and transaction services consulting on projects ranging in cost from \$5 million dollars to more than \$175 million. Andy is a member of the American Institute of Certified Public Accountants. He is a 2009 graduate of Drury University, Springfield, Missouri, with a B.A. degree in accounting.

Mathew Klauser, CPA, CM&AA®

Managing Consultant
BKD

Matt Klauser has more than six years of experience providing financial planning, consulting and advisory services to clients across multiple industries, including health care, manufacturing and distribution, construction and real estate and financial services.

He assists clients with feasibility studies and financial forecasts, as well as strategic plans and budgets. These feasibility studies are prepared in accordance with expected bond offerings as well as loans from banks and governmental entities, including the United States Department of Agriculture and the United States Department of Housing and Urban Development.

Matt also assists private equity groups and corporate acquirers during investment decisions and post-acquisition integrations. Matt provides guidance in structuring and negotiating letters of intent, completes in-depth due diligence procedures and performs net working capital adjustments post-closing. In addition, he completes sell-side due diligence to help companies expedite the sale process and avoid negative feedback from buyers, which reduces the stress and anxiety of the sale process.

He is a Certified Merger & Acquisition Advisor (CM&AA®) and a member of the Alliance of Merger & Acquisition Advisors, an international organization serving the educational and resource needs of the middle-market merger and acquisition profession. He is a member of the Heart of America chapter of the Healthcare Financial Management Association (HFMA), the American Institute of Certified Public Accountants and Missouri Society of Certified Public Accountants.

Matt is a graduate of Drury University, Springfield, Missouri, with a B.A. degree in accounting, and an M.B.A. degree.

Gregory S. Lundstrom

President

Rural Health Insights

Greg Lundstrom formed Rural Health Insights, a consulting and interim management firm in 2007 after completing 16 years at the Lindsborg Community Hospital and Rural Health Clinic, located in Lindsborg, Kansas.

While serving as CEO of the hospital, Lundstrom was active on a number of health-related boards, both within the state and on a national level. In 2001, Lundstrom was appointed by the Governor to serve on the Kansas Health Care Stabilization Fund and also served on the Kansas Hospital Association Board of Directors and the Board of Directors of the Kansas Hospital Association Workers Compensation Fund.

On a national level, Lundstrom served terms as an alternate delegate and a full delegate on the American Hospital Association's Regional Policy Board representing Small and Rural Hospitals. In 2000, Lundstrom was named by the American Hospital Association as the national recipient of the "Shirley Ann Munroe Award" which is given annually to a leader in a small or rural hospital executive management position who has improved health care delivery in their communities through innovative and progressive steps.

Joseph M. Watt, CPA

Partner

BKD

Joe Watt has served the health care industry since 1991. He is a member of BKD National Health Care Group and is the chief recruiting partner in BKD's Kansas City office. Joe serves as the engagement executive for a large practice of hospital, physician and long-term care facility clients.

He provides financial statement audit services, Medicare and Medicaid consulting services and corporate integrity services. He manages a large number of audit engagements, which entails supervising audit engagement teams, presenting recommendations for improving operations and accounting systems and communicating the results to senior management and the board of directors. Joe also is involved in identifying reimbursement opportunities and communicating the strategies to senior management. Joe specializes in providing corporate integrity solutions to BKD clients throughout the country, and he provides independent review organization assistance for Office of Inspector General and Department of Justice audits, including assistance with corporate integrity agreements. He assists in developing and redesigning compliance programs, conducting compliance effectiveness reviews, facilitating compliance retreats and consulting with compliance officers on a wide array of compliance matters.

Joe is a nationally known author whose articles have been published in national magazines. He has authored or co-authored articles published in various publications, including hfm Magazine, Nursing Homes and Compliance Today. Joe also is an accomplished speaker who has presented at conferences across the country.

He is past president of the Sunflower Chapter of the Healthcare Financial Management Association (HFMA). He is an advanced member of HFMA and has earned the Follmer and Reeves outstanding achievement awards. Joe also is a member of the American Institute of Certified Public Accountants, Missouri Society of Certified Public Accountants, Health Care Compliance Association and Kansas Hospital Association. He is a licensed CPA in Arizona, Iowa, Missouri, Nebraska and Kansas.

Joe is a graduate of Rockhurst University, Kansas City, Missouri, with a B.S. degree in accounting.

Katherine Weno, D.D.S., J.D.
Director of the Bureau of Oral Health
Kansas Department of Health and Environment

A native Iowan, Katherine Weno received her dental and law degrees at the University of Iowa and practiced dentistry and health law (specializing in Medicaid and CHIP advocacy) in Iowa, Wisconsin, Missouri and Kansas. In April of 2006 Dr. Weno joined KDHE as the Health Officer at the Bureau of Oral Health. The Bureau administers several public oral health programs including: School Sealant and Screening programs, a Dental Workforce Recruitment Center, Fluoride Varnish Instruction for Medical Providers, and a program to increase oral health access for Children with Special Health Care Needs. The Bureau has authored several reports on the oral health of Kansas children and the sufficiency of Kansas' dental workforce. Dr. Weno is an Ad Hoc Graduate Faculty Member of the Department of Preventive Medicine at the University of Kansas Medical Center. Dr. Weno currently serves as Treasurer of the Association of State and Territorial Dental Directors, and has been a member of the Board of Oral Health Kansas (the state oral health coalition) and the Kansas Public Health Association.

Jason Wesco
President and CEO
Health Partnership of Johnson County

Jason Wesco has worked for years to support health care in Kansas. Jason has extensive experience in safety net clinic operations and is familiar with the needs of underserved populations. Before joining Health Partnership Clinic, he served as Deputy Director at KAMU, where he provided technical and operational assistance for 41 member clinics that include Community Health Centers, primary care clinics and free clinics. Prior to KAMU, he served as Chief Operations Officer at the Community Health Center of Southeast Kansas. During his tenure at the Community Health Center of Southeast Kansas, he assisted in the construction of three clinics, developed a full-service in-house pharmacy and helped to expand the dental program. At his departure, annual patient visits averaged 75,000.

Mr. Wesco holds an M.A. in American Culture Studies from Bowling Green State University and a B.S. in American History from Ball State University.