Trends in the Use of Contract Labor among Hospitals

A study by:

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Summary

Personnel expense typically consumes more than half of a hospital's operating revenue. This expense includes the use of contract labor to supplement scarce resources such as nurses. Over a recent five-year period the use of such contract labor has grown steadily and increased from 4.7% of personnel expense in 1997 to 8.1% in 2002. This trend may indicate that hospitals are substituting more expensive contract labor for salaried staff.

Since contract labor is more expensive, reversing the trend may be a significant opportunity to reduce personnel expense. Nationwide, short term acute care hospitals in the United States spent more than $16 billion on contract labor during 2002. Since rates paid for contract labor are often twice what staff employees are paid, the opportunity for improvement in staffing costs may approximate $8 billion.

This study examines Medicare cost report data and provides comparative information that can be used to identify opportunities to reduce staffing costs. It also provides a case study of how an integrated healthcare system achieved remarkable reductions in personnel expense by more closely managing the use the contract labor.

Background

Health care delivery is a labor-intensive process involving a wide range of clinical skills. In short-term general and specialty hospitals personnel expense typically represents slightly more than half of operating revenue. Recruiting and retaining the right mix of qualified personnel has always been a challenge and has become even more difficult in recent years. The available workforce is diminishing as experienced workers age and as fewer young people enter health careers.

In the face of this skilled labor shortage, solutions are rare and complex. Financial incentives for workers are not always possible because of economic pressures on hospitals. In an aging workforce with competitive dynamics, more workers want flexibility in the hours and times that they work. Quality health care delivery requires adequate levels of qualified staffing that generally cannot be safely reduced, substituted with less skilled personnel, or replaced by technology.

During recent years hospitals have been challenged to reduce expenses in response to declining revenues. Restrictions in reimbursement from Medicare and Medicaid have been relentless and the proliferation of managed care and contractual discounts has dramatically reduced payments in most major markets. Because of these pressures, most hospitals have trimmed operations and staffing to the point where any personnel vacancies are problematic. The situation is sometimes

critical. As a result, many hospital executives today feel that shortages of qualified personnel are among their chief concerns.

Using contracted staffing is an obvious solution to temporary shortages in the workforce. When the use of contracted staffing becomes widespread and continuous, however, the increased costs can be significant.

This study focuses on trends in personnel expense and the use of contract labor. It also provides comparative information for hospitals that may wish to examine their own operations. Lastly, a brief case study is presented of one hospital system that achieved remarkable savings through an innovative approach for resolving its high costs of contract labor.

The Data

This study is based on Medicare cost report data for hospital fiscal years ending in 1997 through 2002. Data for years prior to 1997 are not readily available from federal sources. Data for more recent years are not yet available for most hospitals.

Hospitals that participate in Medicare are required to submit annual financial reports that detail their operations. These reports are subsequently made available in electronic form by the Centers for Medicare and Medicaid Services (CMS). The Healthcare Cost Report Information System (HCRIS) dataset contains data elements from the most recent version (i.e. as submitted, settled, or reopened) of each cost report filed since federal fiscal year 1996.

Though hospitals that participate in Medicare are legally required to submit accurate and timely cost reports, data are sometimes incorrect or incomplete. 960 cost reports were excluded from the study because of missing revenue data and an additional six were excluded due to missing salary data. Data for hospitals in Puerto Rico and Guam also were excluded due to differences in wage rates and other operational factors.

Trends in Personnel Expense and Contract Labor Usage

For purposes of this study, total personnel expense is defined as the sum of salary expense, benefits, and contract labor. Though some hospitals appear to combine the cost of benefits in the salary expense reported, the practice does not interfere with the calculation of total personnel expense as defined.

As shown in Table 1, the use of contract labor is most prevalent in short term acute care hospitals. Furthermore, the rate of use does not seem to be increasing for most other types. One exception, however, is long term hospitals in which contract labor represented less than 1% of overall personnel expense during 1997-1999 but has been 2.7%, 2.5%, and 3.7% during 2000, 2001, and 2002 respectively.

Table 1 –Personnel Expense and Contract Labor By Type of Facility During 2002 ($millions)

Type of Facility	Number Facilities	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
Short Term	4,137	$159,685	$16,197	$24,278	$389,845	51.3%	8.1%
Critical Access	629	$1,936	$25	$331	$4,311	53.2%	1.1%
Long Term	262	$2,186	$96	$314	$4,619	56.2%	3.7%
Rehabilitation	190	$1,590	$30	$249	$3,630	51.5%	1.6%
Childrens	48	$4,186	$24	$398	$9,047	50.9%	0.5%
Psychiatric	340	$4,015	$9	$410	$5,027	88.2%	0.2%
TOTALS	5,606	$173,598	$16,381	$25,981	$416,478	51.9%	7.6%

Notes: [1]Total operating revenue is the net patient revenue after contractual allowances and discounts.
[2]Personnel expense as a percent of operating revenue
[3]Contract labor as a percent of personnel expense

This study focuses on short term acute care hospitals. Total personnel expense for such hospitals has averaged about 51% of total operating revenue during the period 1997 – 2002. During this same period, however, contract labor expense as a percentage of total personnel expense increased 72%.

Table 2 – Trends in Personnel Expense and Contract Labor (short term hospitals)

Hospital Fiscal Years	Number of Hospitals (all types)	Personnel Expense as percentage of Total Operating Revenue	Contract Labor as percentage of Total Personnel Expense
1997	5,036	50.7%	4.7%
1998	4,990	50.9%	5.5%
1999	4,959	51.7%	6.3%
2000	4,742	51.0%	6.9%
2001	4,478	51.5%	8.0%
2002	4,137	51.3%	8.1%

There are several factors that might influence levels of personnel expense. These include ownership, teaching status, size, and intensity of services. In order to test the influence of these factors on short term acute care hospitals, several analyses were conducted.

Effects of Ownership / Type of Control

Staffing and management practices may differ among hospitals according to ownership or type of control. For example, a hospital that is operated for profit may be more aggressive in managing staffing levels. The following table examines the effects of ownership:

Table 3 –Personnel Expense and Contract Labor By Type of Control During 2002 ($millions)

Type of Facility	Number Facilities	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
Voluntary (Not-For-Profit)	2,535	$118,575	$11,480	$18,650	$288,367	51.6%	7.7%
Proprietary (For-Profit)	628	$12,561	$2,050	$1,511	$40,198	40.1%	12.7%
Governmental	974	$28,549	$2,667	$4,117	$61,280	57.7%	7.5%
TOTALS	4,137	$159,685	$16,197	$24,278	$389,845	51.3%	8.1%

Notes: [1]Total operating revenue is the net patient revenue after contractual allowances and discounts.
[2]Personnel expense as a percent of operating revenue
[3]Contract labor as a percent of personnel expense

Even though proprietary hospitals seem to have the highest use of contract labor, their overall personnel expense is considerably less than voluntary or government operated hospitals. This may indicate that the use of contract labor is higher when staffing levels are more aggressively managed.

Effects of Teaching Programs

There is no substantive difference between hospitals with teaching programs and those without. Further, there are no substantive differences among hospitals with varying levels of teaching programs.

Table 4 – Personnel Expense and Contract Labor Utilization By Teaching Status During 2002 ($millions)

Teaching Status	Number Facilities	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
Major	432	$16,359	$1,579	$2,630	$40,247	51.1%	7.7%
Limited	485	$16,986	$1,814	$2,660	$41,279	52.0%	8.5%
Graduate	192	$6,689	$763	$1,162	$16,871	51.1%	8.9%
SUB-TOTAL	1,109	$40,033	$4,156	$6,452	$98,398	51.5%	8.2%
No Affiliation	3,028	$119,652	$12,041	$17,826	$291,448	51.3%	8.1%
TOTALS	4,137	$159,685	$16,197	$24,278	$389,845	51.3%	8.1%

Notes: [1]Total operating revenue is the net patient revenue after contractual allowances and discounts.
[2]Personnel expense as a percent of operating revenue
[3]Contract labor as a percent of personnel expense

These finding were somewhat surprising due to the widely held belief that costs are higher for hospitals with teaching programs.

Effects of Hospital Size

In order to measure the effects of hospital size, all hospitals were ranked by total operating revenue and then divided into five equal-sized groups ranging from the lowest revenues (first quintile) to the highest revenues (fifth quintile).

Table 5 – Personnel Expense and Contract Labor Utilization By Hospital Size During 2002 ($millions)

Quintile	Highest Revenue	Number Facilities	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1	$13.6	827	$2,954	$242	$481	$6,078	60.5%	6.6%
2	$32.7	827	$8,021	$638	$1,340	$18,694	53.5%	6.4%
3	$70.1	827	$16,456	$1,431	$2,746	$40,483	51.0%	6.9%
4	$144.9	827	$33,939	$3,263	$5,566	$84,426	50.7%	7.6%
5	$1,837.6	828	$98,315	$10,623	$14,144	$240,165	51.2%	8.6%
TOTALS		4136	$159,685	$16,197	$24,278	$389,845	51.3%	8.1%

Notes: [1]Total operating revenue is the net patient revenue after contractual allowances and discounts.
[2]Personnel expense as a percent of operating revenue
[3]Contract labor as a percent of personnel expense

There appear to be economies of scale in personnel expense for all except the largest hospitals in the fifth quintile. Quintiles 1 – 4 show personnel expense decreasing from 60.5% to 50.7%. Quintile 5, however, has personnel expense of 51.2%. The more intense services generally associated with larger hospitals may cause the higher personnel expense.

The use of contract labor appears to increase with hospital size. Quintiles 1-3 range from 6.4% to 6.9% but increase to 7.6% for quintile 4 and 8.6% for quintile 5. Larger hospitals offering more specialized services may require a higher use of contract labor, perhaps due to the difficulty of managing and retaining staff in a more complex environment. Additionally, larger hospitals tend to be located in larger communities where the workforce is more competitive for scarce resources.

Effects of Service Intensity

The Medicare case mix index (CMI) for federal fiscal year 2002 was used to rank hospitals according to the intensity of services provided. All hospitals were ranked according to their CMI and then divided into five equal-sized groups with the lowest CMIs in the first quintile and the highest CMIs in the fifth quintile.

Table 6 – Personnel Expense and Contract Labor Utilization By Medicare CMI During 2002 ($millions)

Quintile	Highest CMI	Number Facilities	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1	1.0402	820	$5,433	$401	$886	$11,247	59.7%	6.0%
2	1.1661	820	$11,688	$912	$2,119	$26,838	54.8%	6.2%
3	1.2713	821	$22,978	$2,130	$4,081	$55,280	52.8%	7.3%
4	1.4565	821	$39,947	$3,933	$6,602	$95,150	53.1%	7.8%
5	2.9589	821	$79,474	$8,808	$10,569	$200,982	49.2%	8.9%
TOTAL		4,103	$159,519	$16,183	$24,257	$389,496	51.3%	8.1%

Notes: [1]Total operating revenue is the net patient revenue after contractual allowances and discounts.
[2]Personnel expense as a percent of operating revenue
[3]Contract labor as a percent of personnel expense

In general, personnel expense as a percentage of operating revenue declined as the intensity of services increased. This is most likely due to the higher revenues generated by more intense services. In contrast, however, contract labor expense increased as the intensity of services

increased. The more specialized skills associated with more intense services may result in a greater need for contract labor, as do the more complex workplace issues surrounding more intense care levels. Since hospitals with more intense services are most often located in larger cities, there may also be more competitive labor markets for those hospitals.

It is difficult to separate the issues of size and intensity since larger hospitals typically offer more intense services. Not surprisingly, data for the two are similar. Both tables are presented, however, since some smaller specialty hospitals (e.g. cardiac, surgical, etc.) have high intensities.

Conclusions

Personnel expense typically consumes more than half of a hospital's operating revenue. During the five-year period from 1997 to 2002 personnel expense as a percentage of operating revenue remained around 51%. Contract labor as a percentage of total personnel expense, however, increased steadily from 4.7% to 8.1%. This trend may indicate that hospitals are substituting more expensive contract labor for salaried staff.

Since contract labor is more expensive than salaried staff, reversing this trend may be a significant opportunity to reduce personnel expense. Nationwide, short term acute care hospitals spent more than $16 billion on contract labor in 2002. This may indicate a savings opportunity of up to $8 billion that may be realized if contract labor use can be curtailed or eliminated.

Attachment provides comparative data that hospitals can use to compare their own personnel costs with that of their peers based on factors such as ownership, teaching status, size, and intensity of services. It is especially noteworthy that the lower personnel costs measured for proprietary hospitals may indicate opportunities for other types of hospitals to reduce their personnel costs.

Attachment B is a case study describing the innovative approach used by Norton Healthcare in Louisville, Kentucky to reduce their high costs of contract labor. Their experience illustrates the significant improvements that may be possible.

Attachment A

Trends in Personnel Expense and the Use of Contract Labor By Type of Facility ($millions)

Short-Term General and Specialty Hospitals

Year	Count	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1996	2,845	$69,984	$3,582	$11,047	$159,960	52.9%	4.2%
1997	5,036	$127,492	$7,246	$18,098	$301,720	50.7%	4.7%
1998	4,990	$133,934	$8,852	$18,874	$317,637	50.9%	5.5%
1999	4,959	$139,703	$10,754	$19,672	$329,181	51.7%	6.3%
2000	4,742	$145,703	$12,346	$20,420	$349,750	51.0%	6.9%
2001	4,478	$152,648	$15,117	$21,728	$367,633	51.5%	8.0%
2002	4,137	$159,685	$16,197	$24,278	$389,845	51.3%	8.1%
2003	1,207	$46,889	$5,476	$6,646	$121,590	48.5%	9.3%
TOTAL	32,394	$976,038	$79,571	$140,763	$2,337,317	51.2%	6.7%

Critical Access Facilities

Year	Count	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1996	22	$28	$0	$4	$46	69.8%	0.0%
1997	40	$55	$0	$8	$91	70.3%	0.2%
1998	38	$62	$0	$9	$104	69.4%	0.3%
1999	62	$96	$0	$14	$182	60.4%	0.4%
2000	223	$351	$6	$51	$712	57.3%	1.4%
2001	428	$1,009	$24	$151	$2,224	53.2%	2.0%
2002	629	$1,936	$25	$331	$4,311	53.2%	1.1%
2003	253	$880	$8	$164	$1,907	55.2%	0.8%
TOTAL	1,695	$4,418	$64	$733	$9,576	54.5%	1.2%

Long Term Care

Year	Count	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1996	68	$840	$0	$115	$1,249	76.6%	0.0%
1997	210	$1,841	$1	$256	$3,482	60.3%	0.1%
1998	230	$1,607	$4	$228	$3,364	54.7%	0.2%
1999	214	$1,792	$15	$261	$3,859	53.6%	0.7%
2000	222	$1,815	$58	$251	$3,717	57.1%	2.7%
2001	234	$2,104	$63	$315	$4,179	59.4%	2.5%
2002	262	$2,186	$96	$314	$4,619	56.2%	3.7%
2003	84	$636	$0	$65	$1,418	49.4%	0.1%
TOTAL	1,524	$12,822	$238	$1,806	$25,886	57.4%	1.6%

Trends in Personnel Expense and the Use of Contract Labor By Type of Facility ($millions) (continued)

Rehabilitation

Year	Count	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1996	93	$672	$1	$102	$1,497	51.7%	0.1%
1997	196	$1,498	$1	$175	$3,224	51.9%	0.0%
1998	198	$1,472	$3	$182	$3,092	53.6%	0.2%
1999	189	$1,465	$3	$184	$3,113	53.1%	0.2%
2000	187	$1,512	$6	$210	$3,247	53.2%	0.4%
2001	249	$1,753	$5	$256	$3,811	52.9%	0.3%
2002	190	$1,590	$30	$249	$3,630	51.5%	1.6%
2003	37	$378	$1	$57	$773	56.4%	0.2%
TOTAL	1,339	$10,339	$50	$1,415	$22,387	52.7%	0.4%

Children's

Year	Count	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1996	28	$1,777	$0	$128	$3,758	50.7%	0.0%
1997	46	$2,855	$0	$243	$5,895	52.5%	0.0%
1998	46	$3,000	$1	$234	$6,113	52.9%	0.0%
1999	42	$2,851	$16	$222	$6,067	50.9%	0.5%
2000	42	$3,272	$20	$269	$6,845	52.0%	0.6%
2001	45	$3,447	$43	$288	$7,465	50.6%	1.1%
2002	48	$4,186	$24	$398	$9,047	50.9%	0.5%
2003	15	$1,241	$2	$177	$2,311	61.5%	0.2%
TOTAL	312	$22,629	$107	$1,959	$47,502	52.0%	0.4%

Psychiatric

Year	Count	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1996	210	$1,312	$1	$120	$2,071	69.2%	0.1%
1997	559	$3,900	$2	$343	$5,138	82.6%	0.1%
1998	483	$3,772	$7	$360	$5,198	79.6%	0.2%
1999	454	$3,928	$9	$345	$5,128	83.5%	0.2%
2000	417	$3,920	$11	$315	$4,922	86.3%	0.3%
2001	352	$3,759	$7	$386	$4,850	85.6%	0.2%
2002	340	$4,015	$9	$410	$5,027	88.2%	0.2%
2003	117	$1,627	$2	$219	$2,283	81.0%	0.1%
TOTAL	2,932	$26,233	$48	$2,498	$34,618	83.1%	0.2%

Trends in Personnel Expense and the Use of Contract Labor By Type of Facility ($millions) (continued)

Medical Assistance

Year	Count	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1996	1	$0	$0	$0	$1	75.0%	0.0%
1997	12	$11	$0	$2	$18	72.6%	0.0%
1998	12	$12	$0	$2	$19	72.5%	0.0%
1999	12	$12	$0	$2	$20	72.1%	0.0%
TOTAL	37	$36	$0	$6	$58	72.4%	0.0%

Religious Non-Medical

Year	Count	Salary Expense	Contract Labor	Fringe Benefits	Operating Revenue[1]	Personnel Expense[2]	Contract Labor[3]
1996	5	$10,483	$17	$827	$21,833	51.9%	0.2%
1997	7	$36,089	$199	$3,211	$75,241	52.5%	0.5%
1998	8	$51,153	$95	$4,877	$67,164	83.6%	0.2%
1999	6	$72	$0	$13	$116	72.4%	0.0%
TOTAL	26	$97,796	$311	$8,927	$164,354	65.1%	0.3%

Notes: [1]Total operating revenue is the net patient revenue after contractual allowances and discounts.
[2]Personnel expense as a percent of operating revenue
[3]Contract labor as a percent of personnel expense

Attachment B

Case Study: Norton Healthcare Recaptures Clinical Workforce

With a national health care workforce crisis in full bloom, it's no surprise that health care organizations find themselves at the mercy of clinical temporary staffing agencies for a substantial portion of their clinical workforce. Nationally, over 8% of healthcare's total labor dollars are spent on contract labor, totaling some $16 billion dollars in 2002 alone. Since typically half of those dollars are "incremental", that is the price paid to agencies over and above normal staff wages, the national cost of this dilemma may approach $8 billion annually.

Norton Healthcare, an integrated health care network in Louisville, KY, found themselves in that predicament several years ago, with contract labor spending increasing annually to a run rate of $16 million annually by mid-2002. Previous efforts to limit or control "agency use" had failed as the system's volumes grew and patient acuity continued to rise.

In mid-2002, Norton had had enough. They simply didn't have $8 million dollars to pay agencies for staff that should be working for the system. A small group of HR and clinical leaders convened to develop a solution to this out-of-control practice. The intent of that group was to recapture the flexible workforce that Norton was "renting" from agencies.

In two weeks, the group crafted what became known as the Premium Labor Action Plan, and set a goal of eliminating 95% of contract labor by June 30, 2003. The plan consisted of a focused effort to weed out contract labor in the 20% of nursing units (and ancillary areas) that research had shown were causing 80% of the system's contract labor use. A task force of HR and clinical managers was formed, who developed partnerships, created manager and unit incentives and laid out individual strategies by unit to convert or eliminate traveling nurses, per diem agency use and other contract employees on those targeted units.

This Plan received unanimous support from senior management and was implemented in September, 2002, via a widespread announcement of the purpose and goals for the group. Biweekly tracking was developed and shared across the system's seven hospitals to track success, identify problems and award incentives to units that had earned them by meeting interim goals that were set monthly.

Norton's efforts over the past several years built an impressive recruiting machine, including a very successful employee referral program, and a focused direct mail capability. These and other elements of Norton's 2000-2005 Workforce Development Plan put the system ahead of their competition in vacancy rates, but contract labor had continued to grow.

In the first thirty days of PLAP, agency use began to decline across the system. By the end of 2002, Norton was ahead of all targets and began to pay out incentives to managers and units. Ironically, all the incentive dollars were used to improve conditions on the units, rather than funding parties or individual needs, which further accelerated the progress of the plan.

Over the next several months, progress against PLAP goals continued, in spite of a major clinical systems implementation, winter census spikes and intense competition for nurses in the local market. In

June, 2003, Norton used fewer than 1,000 hours of contract labor in a pay period for the first time in years. At the system's peak in mid-2002, they were using more than 14,000 hours of agency per pay period.

Norton's use of contract labor has continued to decline over the intervening months, as proof that the results were permanent. Most recently, the system's combined use in five hospitals was less than 100 hours in a pay period.

The impact of this effort on the system has been a reduction of $9 million annually in labor costs, plus the added benefit of knowing that Norton employees provide all of the nursing care in the system's hospitals. The reaction of physicians and patients has been gratifying, as has the confidence that comes from meeting an "impossible" goal.

Attachment C
About the Authors

Douglas H. Howell
Senior Vice President, Organization and Performance
Assistant to the President
Norton Healthcare

Doug Howell currently serves as senior vice president-organization and performance and assistant to the President for Norton Healthcare. Mr. Howell is responsible for human resources, management and leadership development, organizational development and all support services for Norton Healthcare and its operating facilities. In addition , Mr. Howell serves as assistant to the President, coordinating a number of operational, strategic and organization improvement initiatives for the system.

Prior to assuming his current role, Mr. Howell was Vice President, Human Resources for Norton Healthcare, a position he assumed in October, 1999. His background also includes serving as Chief Operation Officer of MetriCor, Inc., a health information consulting firm and The American Hospital Directory, an internet-based hospital data service. He previously spent fifteen years with Humana, Inc. in both human resources and operations roles.

Mr. Howell received his B.S. in Commerce from University of Louisville and did graduate work in business administration and psychology. He has served the community as board member of several community organizations, including the Louisville Urban league, the Private Industry Council and the Spalding University School of Nursing Advisory Council.

Norton Healthcare
Norton Healthcare is the Louisville, KY area's leading hospital and health care system (45 percent market share) and third largest employer. The not-for-profit system -- the largest in Kentucky and rated one of the top 100 integrated health care delivery systems in the country -- includes five hospitals, five Immediate Care Centers, 27 physician practices, 9,400 employees and 2,000 physicians. Norton's broad range of services includes special areas of emphasis in heart care, cancer care, women's services, pediatrics, orthopedics and spine surgery.

Attachment C
About the Authors
(continued)

Paul Shoemaker, CHE
President and CEO
American Hospital Directory, Inc.

Mr. Shoemaker is a graduate of the University of Kentucky and a Certified Computing Professional (CCP). He is also a Diplomate of the American College of Healthcare Executives and active in numerous professional organizations such as the Healthcare Financial Management Association (HFMA) and the Kentucky chapter of HIMSS.

His professional experience includes sixteen years with Humana Inc. where he served as Vice President of Prospective Payment Systems. He was also co-founder and president of MetriCor Inc., a consulting company specializing in patient medical record coding and management. He has authored numerous professional articles related to health information and is a frequent public speaker. His professional career has been centered on the collection, management and analysis of health care information. He has extensive experience in the use of such information for health policy analysis, strategic planning and operational management.

<u>American Hospital Directory</u>
The American Hospital Directory (www.ahd.com) has been providing the operating details of virtually every hospital in the United States as a free on-line service since September 1997. On-line reports describe a hospital's general characteristics, services provided, financial information, volumes, average lengths of stay, average charges and much more. The free service is provided to over 5,000 users each day. AHD also offers more detailed subscription services and custom data reporting for those who need it.
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