

**MAINTAIN AND EXPAND
THE HEALTHCARE COST AND UTILIZATION PROJECT (HCUP)
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H·CUP
HEALTHCARE COST AND UTILIZATION PROJECT

**TECHNICAL SUPPORT AND OUTREACH STATISTICS REPORT
FOR JULY – SEPTEMBER 2007
DELIVERABLE #146.04: QUARTERLY STATISTICS, Q3 2007**

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INTRODUCTION

This document is the latest in a series of *Technical Support and Outreach Statistics Reports* initiated in August 2003 to track technical support provided to HCUP users and measure outcomes of the marketing and dissemination of HCUP products. The current report represents the fourth submission under the new HCUP contract and the eighteenth report since the inception of the series, formerly called *HCUP User Support Statistics and Product Feedback Quarterly Reports*. The present report summarizes the technical support and outreach provided to HCUP users from July through September 2007 (Quarter 3, 2007).

This technical report series has four main objectives: (1) to track the volume of support provided to individuals who purchase or use HCUP databases, software tools, Websites, and technical support resources; (2) to summarize the number of persons that subscribe to lists used for sending HCUP news and product information; (3) to report user comments and requests for improvements to HCUP data, tools, and other resources; and (4) to report the volume of HCUP-related publications as of the end of each reporting quarter. The quarterly statistics and trend analyses provided in these reports support AHRQ's ongoing assessment of the demand for HCUP products. In addition, they aid in project planning and development and satisfy Federal reporting requirements.

The quarterly report describes activity in six principal areas related to marketing and dissemination of HCUP products:

- (1) Technical support to users, provided through e-mail and toll-free telephone communications
- (2) Data sales and support, provided through the HCUP Central Distributor in response to general inquiries, database applications, and requests for data support
- (3) Visits to the three principal HCUP technical support Websites
- (4) Subscriptions to HCUP user lists, including the HCUP LISTSERV[®] and the HCUP mailing list
- (5) Publications using HCUP data, software tools, and products
- (6) Product feedback comments provided to the technical support staff.

This report contains six sections: an introduction; a high-level overview of quarterly statistics; a description of methods employed in the analysis; highlights of technical support utilization; detailed trends; and a summary. Tables and figures are presented separately at the end of the report. The Technical Appendix contains a complete description of all data collection methods and provides documentation of changes to the report format over time.

OVERVIEW OF QUARTERLY STATISTICS

Overall, the long-term trends in this series of quarterly reports demonstrate a continued, steady demand for HCUP technical support services. The six principal technical support areas combine to form a strong guidance and information infrastructure about HCUP data, tools, and services for public and private users. User interactions with individualized and Web-based support services, application processes, and project user lists continue to expand.

The table below summarizes activity by principal support areas and displays the percentage change between the current quarter and selected previous periods. Negative changes are indicated by italics.

HCUP Data Use and Support Services
(Including percentage change from previous quarters¹)

Technical Support Area	Two Years Ago (Q3 2005)	One Year Ago (Q3 2006)	Previous Quarter	Current Quarter Activity
Technical Support Inquiries	249 15%	322* -11%	259 10%	286
E-mail (excludes phone and other methods)	219 2%	283* -21%	204 10%	224
Central Distributor Contacts	285 13%	292 11%	236 37%	323
Data Applications	179 -1%	136 31%	97 84%	178
General Information Inquiries (excludes data support)	101 26%	129 -2%	117 9%	127
HCUP Website Visits (three principal sites)	138,358 82%	171,123 47%	238,918 5%	252,044
Subscriptions to HCUP Lists (cumulative)	2,715 36%	3,065 20%	3,541 4%	3,688
Publications (cumulative)	386 178%	618 74%	960 12%	1,074

* Note: Technical support inquiries one year ago, in Quarter 3, 2006, were over-represented due to an anomaly in the team's reporting practices. Cross-quarter comparisons should be interpreted with caution.

¹ Percentages in each cell are calculated by dividing the current quarter totals by each reference quarter.

METHODS

At the end of each reporting quarter, statistics are collected for each of the six principal activities related to HCUP data use. This includes summary statistics from three technical support teams that provide: (1) HCUP technical support through the dedicated telephone and e-mail services; (2) HCUP data sales and support through the HCUP Central Distributor; and, (3) project documentation and user support for the three HCUP Websites. Public and private users interact with these services when requesting health care databases, using HCUP-related software tools and products, and seeking technical support for using HCUP data and tools with administrative health care databases.

In addition, the report includes statistics on HCUP-related publications and user list services. The HCUP publications team collects information about the cumulative number of HCUP-related publications identified and published through the end of the reporting period (excerpted from the quarterly HCUP Publications Report, Deliverable #142.05). Similarly, AHRQ and Social & Scientific Systems (SSS) provide the total number of subscribers to the HCUP LISTSERV[®] and the HCUP mailing list, respectively, at the end of each quarter.

In the final section of the report, the technical support team reports any product feedback comments received from HCUP users that address the value of HCUP databases, software tools, and products. These comments were volunteered by users during interactions with the marketing and technical support teams.

Tables and figures are organized according to the six principal areas of support activity; an overview table is provided first, followed by detailed trend figures. The overview tables display the current quarter statistics and two previous quarters for comparison, as well as year-to-date statistics. The corresponding figures demonstrate long-term, cross-quarter trends beginning with Quarter 2, 2003 (April through June). The final table, *Product Feedback Comments*, includes the product feedback comments and suggestions received during the current reporting period.

The Technical Appendix contains detailed explanations of the methods used to collect and display statistics for each table and figure in the report. It also provides a thorough description of the process of collecting product feedback comments.

Caveats for Interpreting Current Quarter Statistics

Long term comparisons of the HCUP technical support statistics should be viewed in light of the following caveats.

First, technical support inquiries by phone and e-mail were over-represented in Quarter 3, 2006 due to an anomaly in the team's reporting practices. Consequently, the trends graphs show an apparent one-quarter spike in inquiries (reaching 322 contacts in Quarter 3). For the current reporting period, the one-year comparison statistics are not reliable indicators of trends over time due to this past anomaly. (Please refer to the Technical Appendix for a detailed description of these practices.)

Second, visits to HCUPnet in Quarter 4, 2006 showed a temporary decline relative to adjacent quarters. In September 2006, HCUPnet was moved to a new server. AHRQ suggests that this move may have inadvertently led to changes in how user visits were counted, and it is not possible to know the extent of this effect. Any examination of the long-term trends in HCUPnet visits should take into account this potential "recalibration" of visit counts.

HCUP Products and Services Introduced During the Reporting Quarter

The project team continually expands the family of HCUP databases available to public and private users, adds and updates software tools that increase the usefulness and impact of HCUP databases, releases a steady stream of new reports and other publications developed from HCUP data, and augments existing Web-based and individual technical support services.

Trends in technical support activities are frequently associated with new product releases. In particular, the continual expansion of the project documentation site, HCUP-US, has generated a steady growth in visits to the HCUP Websites.

New databases, tools, and products introduced during the current reporting quarter include:

- Release of the initial set of 2005 HCUP SID, SASD, and SEDD in early July.
- Release of the second wave of 2005 HCUP SID, SASD, and SEDD in late August.
- Four new Statistical Briefs (HCUP Statistical Briefs #34 to #37).
- One new Methods Series Report, titled *The Cost of "Treat and Release" Visits to Hospital Emergency Departments, 2003*.
- Release of *HCUP Facts and Figures: Statistics on Hospital-Based Care in the United States, 2005*, a report that provides an overview of national statistics on hospital stays for 2005 and trends from 1993 onward.

No new tools were released during Quarter 3, though numerous updates will be released in coming months.

Conference presentations and professional meetings highlighting HCUP data, tools, and products during this quarter included:

- In September, AHRQ staff sponsored a hands-on workshop for health services researchers that covered two primary AHRQ resources: HCUP and the Medical Expenditures Panel Survey (MEPS). Participants received information on the components and capabilities of both HCUP and MEPS products, and learned how to extract data for research purposes during this on-site workshop at AHRQ's Conference Center in Rockville, Maryland.
- On September 26-28, the Agency held the first AHRQ Annual Meeting in Bethesda, Maryland. A session on AHRQ Data Tools provided an overview of three HCUP tools and initiatives: (1) the Cost -to-Charge Ratio files, (2) adding clinical variables, and (3) linking HCUP to death certificate or birth certificate records. During the meetings, AHRQ held a HCUP Expert Meeting (by invitation) and displayed information about HCUP at an exhibit booth.

HIGHLIGHTS

Phone and E-Mail Technical Support

Requests for individualized technical assistance have leveled out to an average of about 254 telephone calls and e-mails per quarter. The volume of technical support inquiries since January 2004 ranged from approximately 230 to 290 contacts per quarter.

Trend analysis of the data demonstrated inquiry patterns similar to previous quarters:

- During the current reporting quarter, the team received 286 inquiries.
 - ▶ This figure reflects a 10% increase from the number of inquiries received last quarter, although the value falls within the expected range of incoming requests for assistance.
- The Nationwide Inpatient Sample (NIS) remained the most frequent topic of inquiry, accounting for 27 percent of all contacts and 77 inquiries overall.
 - ▶ Given the second-quarter release date of the 2005 NIS, the 30% increase in the volume of NIS-related questions from the previous quarter was not surprising to the HCUP Technical Assistance team.
- Inquiries about State Inpatient Databases (SID) increased to 28, compared to the 21 inquiries received during the previous quarter. This slight increase may be associated with the two releases of 2005 SID, SASD, and SEDD.
- Interest in HCUPnet decreased moderately to 21 inquiries, or 7% of all contacts. This reflected normal fluctuations over time.
- Questions related to the Kids' Inpatient Database (KID) remained steady, with 16 inquiries received during both Q2 and Q3 2007.
 - ▶ KID inquiries generally range from 10-30 per quarter, with an average of 17 inquiries; thus, this quarter is representative of interest in the KID over time.
- The relative ranking of product-related inquiries shifted due to the above noted fluctuations in HCUPnet and SID inquiry levels.
 - ▶ The three most frequent types of inquiries pertained to the NIS, general inquiries, and the SID. HCUPnet, Clinical Classifications Software (CCS), the KID, and Other Products occupied the next four positions. Research Publications, CCR files, AHRQ Quality Indicators (QIs), and the SASD each received a handful of inquiries.

HCUP Central Distributor

Central Distributor activity over the last year reflects a pattern of sustained requests for HCUP databases that is punctuated by increases during quarters closely associated with a NIS or KID release. The Central Distributor received an average of 259 inquiries and applications per quarter during the last two years, with Q3 2007 reaching the second highest rate of inquiries and applications since the inception of this report.

The current quarter's distribution of database requests reflects the late Q2 2007 NIS release, just prior to the reporting quarter, with more than 60% of activity focused on this database:

- Overall, the Central Distributor team received 323 applications and inquiries.

- ▶ The team's quarter-to-quarter activity increased substantially with the release of the 2005 NIS – by 37% over the previous quarter and 11% over one year ago.
- There were 127 general information inquiries and 18 requests for data support.
- The team received 178 database applications.
 - ▶ NIS and KID applications increased two-fold from the immediately preceding quarter, to 159 applications. However, applications for state databases remained steady, at 19, despite releasing the first waves of 2005 SID, SASD, and SEDD.
- Purchasers ordered 479 databases – nearly the same as the preceding quarter, however with opposite trends in NIS and SID requests.
 - ▶ NIS requests rose by 45%, to 315 units. SID requests fell by 47%, to 89 units.
 - ▶ The distribution of orders reflected strong interest in the newly released NIS and a lesser, though still significant, interest in the SID. HCUP database purchases were ranked as: NIS (315), followed by the SID (89), KID (27), SEDD (25), and SASD (23). For the second straight quarter, users requested more SEDD than SASD.
- User affiliation among the state database purchasers resembled previous quarters.
 - ▶ Most applications were received from persons at educational institutions (9), research organizations (5), and other organizations (4). One application was received from a person affiliated with a government agency. Applications for nationwide databases (NIS and KID) are not tracked by user's organizational affiliation.

HCUP Websites

Activity on the three principal HCUP Websites underscored the steady long-term growth in use of HCUP Web-based resources. This trend appears most strongly in the ever rising rate of visits to the HCUP-US home page. Visits to HCUPnet increased notably over the last two quarters; trends for AHRQ's HCUP home page remained relatively steady over time, rebounding from a six-month decline that started in Quarter 4, 2006.

Visits to HCUP Websites were distributed as follows:

- Collectively, the three HCUP Websites received more than 252,000 visits.
 - ▶ Visits to the HCUP Websites increased by 5% from the previous quarter, 47% over a year ago, and 82% compared with two years ago.
- Visits to AHRQ's HCUP home page (<http://www.ahrq.gov/data/hcup/>) were comparable to the previous quarter, receiving a total of 68,241 visits during this reporting period.
- Visits to HCUPnet (<http://hcupnet.ahrq.gov>) totaled 53,885.
 - ▶ This represents a 17% increase from Q2 2007. The site continued to show substantial increases from quarter to quarter over the past year, experiencing increases of 4,000 to 12,000 visits each period. The volume of visits was significantly higher than the two year average of 37,484 visits per quarter.
- Visits to the HCUP-US Website (<http://www.hcup-us.ahrq.gov/>) rose significantly this quarter, reaching 129,918 visits this quarter.
 - ▶ This represents an 8% rise in usage from the previous quarter and a 98% rise over a one-year period.

- The relative ranking of visits to the six tabbed public sections of HCUP-US continues to remain fairly stable.²
 - ▶ Similar to previous quarters, users were most likely to visit the HCUP Databases home page (6,810 visits), followed by the Tools & Software page (3,928 visits), Reports page (3,763 visits), and the Statistical Briefs page (2,601). Visits to the Technical Assistance page (1,037) slightly exceeded visits to the News & Events page (1,017).

Subscriptions to HCUP Web-Based Technical Support

Subscriptions to the HCUP e-mail list and HCUP postal list continued to grow steadily over successive quarters:

- HCUP LISTSERV[®] enrollment increased by 23 new subscriptions from the previous quarter, ending with a total of 972 subscriptions.
- HCUP mailing list subscriptions increased by 124 entries, totaling 2,716 subscriptions at the end of Quarter 3.

Publication Totals

The number of annual publications has risen rapidly in recent years. Under the *HCUP Publications* task, Thomson Healthcare has identified a cumulative list of 1,074 HCUP-related publications that were released through the third quarter of 2007 (ending September 30, 2007). This figure represents a 12% increase in articles published or located through citation searches during the last quarter, the majority of which were citations using the NIS, followed by HCUP data in “non-journal” formats, such as newspapers and magazines. This figure also represents a 109% increase in publications within the last year.

The following HCUP resources were used in peer-reviewed publications identified to-date:

- NIS (425), KID (76), SID (72), SASD (10), and SEDD (2)
- HCUPnet and other tools (146)
- National Healthcare Quality Report (NHQR) and National Healthcare Disparities Report (NHDR) statistics (21).

An additional 417 articles have been published in magazines, newspapers, and e-journals. The precise HCUP resource utilized in these “non-journal” formats was not specified.

Product Feedback Comments

HCUP continued to receive few unsolicited product feedback comments. During the current reporting quarter, the technical support team received five product feedback comments regarding the NIS, HCUP Highlights, HCUP Statistical Briefs, and an HCUP presentation:

- One user inquired about file specifications for the NIS.
- The release date of the next HCUP Highlights was of interest to one user.
- A researcher using the NIS asked if it was possible to gain access to the 2006 data sooner than its scheduled release.

² URLs for home pages of the “tabbed sections” on HCUP-US are provided in the technical appendix. Statistics for tabbed sections were included in this report beginning with April-June (Q2) 2006.

- Another contacted HCUP technical support to ask permission to place a link to a Statistical Brief on their company's Website, and also asked for clarification on a published statistic.
- An academic researcher who had attended the HCUP/MEPS workshop in September sought clarification on HCUPnet data regarding patients receiving two stent procedures during the same episode of care.

DETAILED TRENDS

The following section includes further discussion and background pertaining to trends in technical support activities. For additional information about tables and figures and a detailed description of data collection methods, please refer to the Technical Appendix.

Phone and E-Mail Technical Support

Statistics for technical support services are presented in Table 1 (categorized by user affiliation, product, method of contact, and response tier). Figure 1 presents quarterly trends in technical assistance and Figure 2 illustrates monthly trends.

Users posed similar types of inquiries as compared with previous quarters:

- Requests for assistance using the HCUP databases accounted for 47% of all inquiries. The majority of questions about HCUP databases were related to the NIS (77),³ followed by the SID (28), KID (16), SASD (5), and SEDD (3). In addition, there were three inquiries each concerning a combination of SID/SASD or SID/SEDD use.
- HCUP Tools and Software account for 19% of all inquiries received by the technical support team during this reporting quarter. Most inquiries focused on HCUPnet (21)⁴ and CCS (17). There were five inquiries each concerning AHRQ QIs and CCR files. Four inquiries were received regarding the Comorbidity Software, while three pertained to the Hospital Market Structure (HMS) files.
- Questions about HCUP publications made up 6% of requests for technical support, or 16 inquiries overall. Users asked about Research Publications (9), HCUP Statistical Briefs (3), Fact Books (3), and the HCUP Highlight Series (1). The volume of inquiries regarding publications was similar to that experienced during the previous quarter.
- Other types of questions, not related to a specific database, tool, or publication, continue to account for a large portion of inquiries and comprised 28% of the technical support team's activity this quarter. General Inquiries about HCUP constituted 17% of all requests for technical assistance (49 inquiries). Requests for assistance with "Other Products" increased noticeably this quarter (to 16 inquiries) due to the number of questions about HCUP DUA requirements and the online DUA training course⁵.

The profile of users contacting the technical support team was similar to previous quarters:

- Persons seeking technical assistance were most often affiliated with educational institutions (46%), research organizations and consultants (15%), health care providers (9%), and government agencies (7%).
- Another 3% of technical support inquiries were from "other" organizational affiliations and 11% had unknown affiliations. The proportion of persons with unidentified affiliations decreased substantially this quarter.

³ NIS inquiries include all mentions of the NIS; NIS and KID; and "NIS and other databases." Totals for the SID, SASD, SEDD, and KID include only inquiries directly related to a single database type.

⁴ HCUPnet totals include all mentions of HCUPnet and "HCUPnet and other databases."

⁵ Most of the inquiries about online DUA training came during the deadline week for a Healthcare Information and Management Systems Society (HIMSS) contest for student members, which challenged students to use the NIS for data analysis.

- E-mail remained the preferred method of contacting the HCUP technical support team (224 e-mails, as compared with 35 telephone calls). During this quarter, we continued receiving e-mails forwarded by AHRQ staff from the Webform for Communicating Online with AHRQ (<http://info.ahrq.gov>). These additional 27 inquires were separately classified in Table 1 as “AHRQ-only e-mails” to indicate that they were not initially sent to the dedicated technical support address (hcup@ahrq.gov).

HCUP Central Distributor Team

Statistics for HCUP Central Distributor services are presented in Table 2 (categorized by reason for contact, HCUP database, and user affiliation), Figure 3 (quarterly trends in reason for contact), and Figure 4 (quarterly trends in type of database purchased).

Generally, the type of data requested each quarter tends to reflect recent HCUP Central Distributor releases. During this reporting quarter, the Central Distributor released two waves of SID, SASD, and SEDD for the 2005 data year. The 2005 NIS, released late in Quarter 2, strongly affected Central Distributor activity in this quarter (refer to Figure 4A).

The profile of databases requested during this reporting quarter reflects these releases:

- The Central Distributor received 178 applications for either the NIS or KID (159 applications combined) or SID, SASD, and SEDD (19 applications).
- The number of units requested remained steady at 479. This figure decreased only slightly from the 492 units requested last quarter.
- The NIS was the most frequently requested database (with 315 requests, or 66% of all units requested), followed by the SID (89 requests, or 19% of requested units). The KID was the third most popular database at 27 requests.
- The SEDD continued to show a higher level of sales – at 25 units – as first seen in Quarter 2 when requests doubled, reaching an all-time high of 28 units per quarter.
- SASD sales have slowed to 23 units – similar to the preceding quarter – although requests for this database ranged widely from 8 to 56 units each quarter over the last two years.

Trends in purchases (payments received) and user affiliation are as follows:

- The NIS and KID accounted 89% of all applications, and increased to 66% of all database units requested (from 34% and 44% in the preceding two quarters, respectively). Trends in Figure 4 underscore the great interest in this year’s NIS, visually demonstrating the sharp increase to a new single-quarter high of 334 purchased units.
- As in most reporting quarters, universities and research organizations hold the top two positions among purchaser organizational affiliations relative to the number of database units requested (reported for SID, SASD, and SEDD applications, but not for the NIS and the KID⁶). Due to the high number of NIS requests, trend analyses of purchaser affiliation over time – which do not include NIS and KID purchasers – should be interpreted with caution.

⁶ The Profile of Purchasers section of Table 2 excludes NIS and KID applicants because user affiliation is not collected on these data applications.

- The overall distribution of user affiliation for State database requests during Quarter 3 was as follows:
 - ▶ Universities, colleges, and teaching institutions accounted for 56% of requests (77 state databases, compared with 210 in the previous quarter). This category, which includes student purchasers, submitted nine applications, for a total of 41 SID, 21 SASD, and 15 SEDD units.
 - ▶ Research organizations placed 12% of the requests (five applications for 11 SID, 3 SEDD, and 2 SASD units).
 - ▶ Government agencies submitted 1% of the requests (one application for one SID).
 - ▶ “Other” organizations” accounted for 31% of the requests (four applications for 36 SID and 7 SEDD units).

HCUP Websites

Statistics for HCUP-related Website visits are presented in Table 3 (categorized by user affiliation) and Figure 5 (quarterly trends in visits by site).

Trends in visits to the HCUP technical support sites underscore the continued shift towards using HCUP-US as the predominant location of HCUP-related materials, rather than the AHRQ HCUP home page (refer to Figure 5). The team providing technical support to users suggests that this trend could be related to an increased level of outreach activities designed to familiarize the public with the HCUP-US Website, where the vast majority of HCUP materials are available. In addition, AHRQ instituted an online HCUP Data Use Agreement Training Tool on HCUP-US in July 2006 and added an Online HCUP Overview Course in March 2007.

Users' organizational affiliation continues to be difficult to determine, given the prevalence of Internet utilities that block information about Internet Protocol (IP) addresses and domain types. The high rates of unknown or unresolved IP addresses continues to affect all three HCUP Websites. During this reporting quarter, the following trends in user affiliation were noted:

- Nearly half of visits to AHRQ's HCUP home page (49%) and almost one-third of visits to HCUPnet (31%) did not resolve to a known organization type.⁷ Thirty-three percent of visits to the HCUP-US Website were from unknown or unresolved addresses.
- Discounting the unknown/unresolved/reserved user affiliations, the top three most common affiliations for visits to the HCUP Websites were from persons at commercial, network, and educational organizations, respectively. This overall finding is identical to previous quarters.
- HCUP-US visits reached an all-time high of 129,918 during Quarter 3. HCUPnet also reached an all-time high of 53,885 visits.

⁷ The rate of unresolved, unknown, and reserved (private network) addresses remains high for the AHRQ HCUP home page, and we suspect that it may be possible to improve user tracking. The phenomenon of unresolved addresses was raised with AHRQ as an area of possible further investigation by AHRQ's technical staff.

Subscribers to HCUP Web-Based Technical Support

Statistics for HCUP user lists are presented in Table 4 (categorized by type of list).

Approximately 74% of HCUP subscriptions are contained in the postal mailing list maintained by Social & Scientific Systems, Inc. (SSS) as part of the HCUP Central Distributor tracking system. Approximately 26% are found in the HCUP LISTSERV[®] that supports distribution of e-mail announcements and newsletters. Highlights of these subscriber-based services include:

- The HCUP LISTSERV[®] and HCUP mailing list grew collectively by 4% in the last quarter to 3,688 subscribers.
- The total number of subscribers to HCUP user lists increased 20% in the last year and 36% in the last two years.

Publications Using HCUP Data

Statistics for HCUP publications are presented in Table 5 (categorized by HCUP database) and Figure 6 (publications by year issued).

The technical support team located HCUP publications by searching RefWorks, an online reference management tool. Each publication was categorized by type of publication and, for peer-reviewed journals, type of HCUP data product or tool used. Publications in peer-reviewed journals may use multiple sources of HCUP data, so a single publication may be counted under more than one data type. The total number of “peer-reviewed publications” in Table 5 represents the absolute number of journal citations, without duplicating the multiple data sources.

Beginning in Quarter 3, 2006, Thomson Healthcare enhanced the search for non-journal articles with citations from the daily AHRQ News Clips produced by the AHRQ librarian. This change in search strategy, coupled with increasing news coverage of the HCUP Statistical Briefs, continues to result in a notable increase in the number of non-journal articles referencing HCUP data that are cataloged and reported each quarter.

Key findings from these citation searches include the following:

- Overall, there is a strong upward trend in the number of publications using HCUP data, tools, and products. An additional 114 HCUP-related publications were newly identified during Quarter 3, which represents a 12% increase during the three-month reporting period.
- The majority of the newly identified publications were released in formats other than academic, peer-reviewed journals (70 articles, or 68% of all new publications), including references to HCUP data in e-journals, magazines, and newspapers.
- Among the 114 new publications in peer-reviewed journals, the HCUP resources most often cited were the NIS (34), KID (8), HCUPnet and other tools (7), and SID (3).

Product Feedback

Product feedback comments from HCUP users are presented in Table 6 (categorized by topic).

The technical support team continued to receive few product feedback comments from users of HCUP data, tools, and products. In January 2005, the team implemented several new strategies to actively solicit feedback from users and potential users of the HCUP data. To date, these strategies have not yielded a significant increase in the volume of product feedback.

During the current reporting quarter, the technical support team received five product feedback comments regarding topics such as the NIS, the HCUP Highlights series, HCUP Statistical Briefs, and an AHRQ-sponsored workshop:

- A biostatistician advised that the file specifications for the NIS Trends Supplemental ASCII files were not available on either the Central Distributor CDs or on the HCUP-US Website.
- A researcher asked how frequently the HCUP Highlights would be published, and when the next edition would be available.
- The President of a consumer health information and ratings Website wrote that they have placed a link to Statistical Brief #35 on their Website, and requested clarification on a statistic.
- A researcher working with orthopedic ICD-9 codes that were instituted near the end of 2005 was having difficulty obtaining sample sizes larger than 10. He inquired if there was a way for him to gain access to 2006 data before its expected release date.
- An academic researcher who attended the HCUP/MEPS presentation at AHRQ asked User Support to confirm that patients receiving two stent procedures during the same episode of care are not separately represented on HCUPnet.

SUMMARY

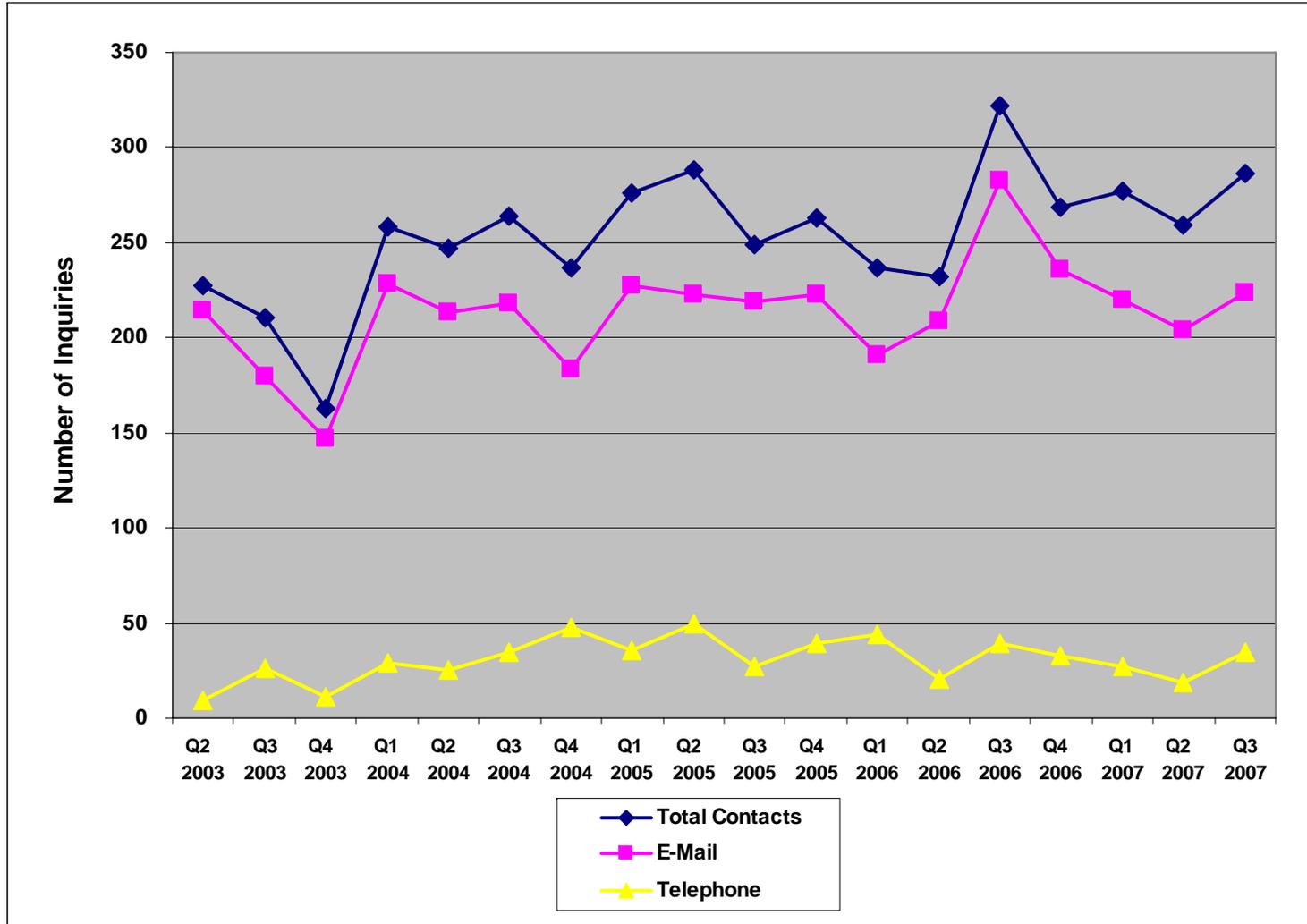
Thomson Healthcare has provided this series of HCUP *Technical Support and Outreach Statistics Reports* to help AHRQ assess the value of HCUP products and to fulfill required reporting mandates, such as the requirements of the Government Performance and Results Act (GPRA). This information is also intended to aid planning and development decisions for the project.

The current report, covering July through September 2007, continues to underscore the demand for HCUP technical support services. In particular, strong interest exists in the HCUP databases available through the Central Distributor: database sales of the NIS and KID remained higher than expected, continuing a pattern of sustained requests for HCUP databases that is punctuated during periods closely associated with a NIS or KID release. We hope this foreshadows a continuing trend. In addition, utilization of the HCUP-related Websites has increased substantially over the last few years, especially in relation to HCUP-US. Finally, the number of publications using HCUP data is increasing exponentially, particularly because the HCUP Statistical Briefs have garnered broad attention from the media which is reflected in more frequent citations of HCUP data in non-journal formats. We anticipate that future *Quarterly Technical Support and Outreach Statistic Reports* will continue to demonstrate the value of HCUP products and the impact of HCUP technical support services.

TABLE 1: TECHNICAL SUPPORT BY PHONE AND E-MAIL (Thomson Healthcare)

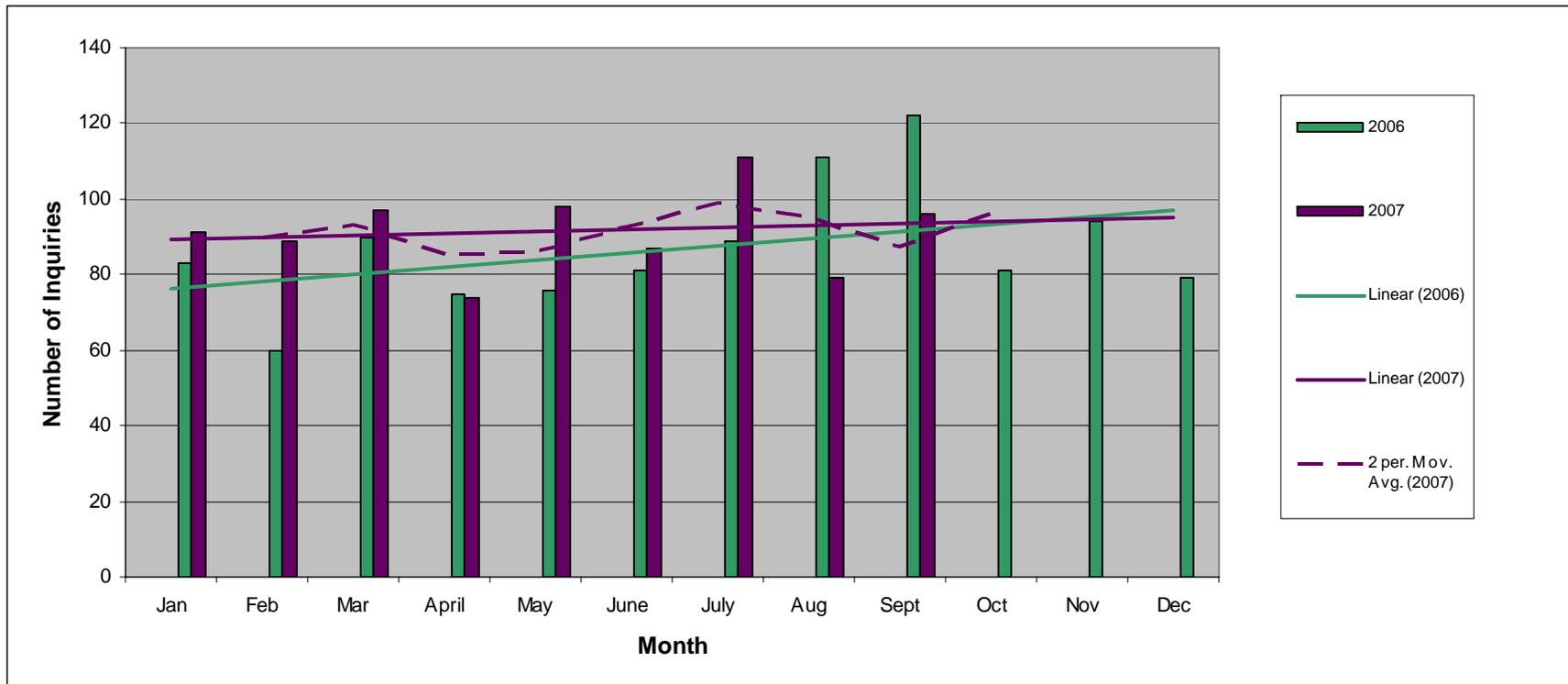
	Q1 2007 Jan-Mar	Q2 2007 Apr-June	Q3 2007 July-Sept	Year-to-Date 2007	Percent This Quarter
TOTAL CONTACTS	277	259	286	536	
USER AFFILIATION	277	259	286	822	
University, College, Teaching Institution	93	96	132	321	46%
Government Agency	24	29	20	73	7%
Managed Care, Insurer	5	1	1	7	0%
Health Care Provider	17	21	27	65	9%
Pharmaceutical, Biotech., Medical Product Firm	3	1	12	16	4%
Trade Assoc., Lobbying Group, Consortium	-	-	8	8	3%
Research Organization, Consultant	29	25	44	98	15%
Other	26	13	8	47	3%
Unknown	76	70	32	178	11%
HCUP Partner	4	3	2	9	1%
PRODUCTS	277	259	286	822	
Databases	114	106	135	224	47%
NIS	59	57	74	59	26%
SID	19	21	28	68	10%
SASD	3	4	5	12	2%
SEDD	2	3	3	8	1%
KID	25	16	16	57	6%
NIS & KID	2	2	-	4	
NIS & State Database	3	2	3	8	1%
SID & SASD	-	-	3	3	1%
SID & SEDD	1	1	3	5	1%
Tools and Software	75	82	55	212	19%
HCUPnet	23	36	21	80	7%
HCUPnet & Database	-	-	-	-	
Clinical Classifications Software (CCS)	24	22	17	63	6%
CCS for ICD-10	2	-	-	2	
CCS-Services and Procedures	-	6	-	6	
CCS-MHSA	3	2	-	5	
AHRQ Quality Indicators (QIs)	3	7	5	15	2%
Comorbidity Software	5	5	4	14	1%
Cost-to-Charge Ratio (CCR) Files	13	4	5	22	2%
Hospital Market Structure (HMS) Files	-	-	3	3	1%
Procedure Classes	-	-	-	-	
Chronic Condition Indicator	2	-	-	2	
Utilization Flags	-	-	-	-	
Publications	11	18	16	45	6%
Fact Books	6	7	3	16	1%
Brochures	-	-	-	-	
HCUP Statistical Briefs	4	4	3	11	1%
HCUP Highlight Series	-	1	1	2	
Research Publications	1	6	9	16	3%
Other	77	53	80	209	28%
General Inquiries	71	40	49	160	17%
Presentations/Conferences	-	4	1	5	
Partner Tools and Publications	1	-	-	-	
Other Product	3	4	16	23	6%
Unknown/Non-HCUP Inquiries	2	5	14	21	5%
METHODS OF CONTACT	277	259	286	822	
E-Mail	220	204	224	648	78%
Telephone	27	19	35	81	12%
In-Person (comments from conferences)	-	-	-	-	
Fax	-	-	-	-	
AHRQ-only E-Mail	30	36	27	93	9%
RESPONSE TO INQUIRY BY TIER	277	259	286	822	
Tier 0 – SSS	18	7	6	31	2%
Tier 1 – Front-line Support Staff	1	2	1	4	
Tier 2 – TA Team Managers	215	247	249	711	87%
Tier 3 – Sr. Medstat Research Staff	30	2	16	48	6%
Tier 4 – AHRQ Involvement	13	1	14	28	5%
Notes:					
The sum of the subgroups for each break-out section equals the number of "Total Contacts" for each quarter.					
In the "Percent This Quarter" column, values of less than 1% are not listed.					
*Technical support inquiries by phone and e-mail were over-represented in Quarter 3, 2006 due to an anomaly in the team's reporting practices.					

FIGURE 1: TRENDS IN CONTACTS WITH HCUP TECHNICAL SUPPORT TEAM



*Trends should be interpreted in light of the following caveat: Technical support inquiries by phone and e-mail were over-represented in Quarter 3, 2006 due to an anomaly in the team's reporting practices.

FIGURE 2: COMPARISON OF MONTHLY TRENDS IN INCOMING TECHNICAL ASSISTANCE INQUIRIES, 2003 – 2007



- (1) In February 2006, during AHRQ’s transition to a new e-mail system, mail sent to the Technical Assistance mailbox was rejected by the AHRQ e-mail server for a period of a little more than a week. This resulted in a temporary decline in Technical Assistance contacts.
- (2) In Q3 2006, technical support inquiries by phone and e-mail were over-represented due to an anomaly in the team’s reporting practices.
- (3) Due to the complexity of the graph, beginning in with the Quarter 2, 2007 report, Figure 2 no longer includes trends for 2003 to 2005.

**TABLE 2: HCUP CENTRAL DISTRIBUTOR TEAM (SSS)
INFORMATION AND DATA INQUIRIES**

	Q1 2007 Jan-Mar	Q2 2007 Apr-Jun	Q3 2007 July-Sept	Year-to-Date 2007	Percent This Quarter
TOTAL CONTACTS	263	236	323	822	
General Information Inquiries	129	117	127	373	39%
Data Support Inquiries	22	22	18	62	6%
Applications Received	112	97	178	387	55%
INQUIRIES COMPLETED					
GENERAL INFORMATION INQUIRIES	129	117	127	373	
NIS	36	50	49	135	39%
SID / SASD/ SEDD	79	63	71	213	56%
KID	14	4	7	25	6%
DATA SUPPORT INQUIRIES	22	22	18	62	
NIS	13	14	9	36	50%
SID / SASD/ SEDD	6	6	7	19	39%
KID	3	2	2	7	11%
APPLICATIONS					
APPLICATIONS RECEIVED	112	97	178	387	
SID / SASD/ SEDD Applications Received	21	18	19	58	11%
NIS / KID Applications Received	91	79	159	329	89%
DATABASES REQUESTED	478	492	479	1,449	
NIS	163	218	315	696	66%
SID	211	191	89	491	19%
SASD	42	20	23	85	5%
SEDD	14	28	25	67	5%
KID	48	35	27	110	6%
TOTAL DATABASES PURCHASED (PAYMENTS REC'D)*	491	547	500	1,538	
NIS	157	198	334	689	67%
SID	261	247	88	596	18%
SASD	22	42	17	81	3%
SEDD	11	30	29	70	6%
KID	40	30	32	102	6%
TOTAL DATABASES SHIPPED	603	517	491	1,611	
NIS	185	197	344	726	70%
SID	324	230	67	621	14%
SASD	31	32	23	86	5%
SEDD	17	28	25	70	5%
KID	46	30	32	108	7%

Notes:

* *Total Databases Purchased* includes complimentary databases distributed to HCUP Partners.
 Statistics were available for SEDD beginning Quarter 4, 2004.
 In the "Percent This Quarter" column, values of less than 1% are not listed.

**TABLE 2: HCUP CENTRAL DISTRIBUTOR TEAM (SSS)
INFORMATION AND DATA INQUIRIES - continued**

	Q1 2007 Jan-Mar	Q2 2007 Apr-Jun	Q3 2007 July-Sept	Year-to-Date 2007	Percent This Quarter
PROFILE OF PURCHASERS (SID, SASD & SEDD ONLY*)					
APPLICATIONS RECEIVED BY USER AFFILIATION	20	18	19	57	
University, College, Teaching Institution	14	14	9	37	47%
Government Agency	1	-	1	2	5%
Managed Care, Insurer	-	-	-	-	
Health Care Provider	1	-	-	1	
Pharmaceutical, Biotech., Medical Product Firm	-	-	-	-	
Trade Assoc., Lobbying Group, Consortium	-	-	-	-	
Research Organization, Consultant	2	3	5	10	26%
Other	1	1	4	6	21%
Unknown	1	-	0	1	
DATABASES REQUESTED BY USER AFFILIATION**	267	239	137	643	
University, College, Teaching Institution	180	210	77	467	56%
NIS	-	-	-	-	
SID	142	173	41	356	53%
SASD	30	16	21	67	27%
SEDD	8	21	15	44	19%
KID	-	-	-	-	
Government Agency	42	0	1	43	1%
NIS	-	-	-	-	
SID	30	-	1	31	5%
SASD	12	-	-	12	
SEDD	-	-	-	-	
KID	-	-	-	-	
Managed Care, Insurer	8	0	0	8	0%
NIS	-	-	-	-	
SID	8	-	-	8	
SASD	-	-	-	-	
SEDD	-	-	-	-	
KID	-	-	-	-	
Health Care Provider	0	0	0	0	0%
NIS	-	-	-	-	
SID	-	-	-	-	
SASD	-	-	-	-	
SEDD	-	-	-	-	
KID	-	-	-	-	
Pharmaceutical, Biotech., Medical Product Firm	6	0	0	6	0%
NIS	-	-	-	-	
SID	-	-	-	-	
SASD	-	-	-	-	
SEDD	6	-	-	6	
KID	-	-	-	-	
Notes:					
**Statistics are not available for NIS and KID. No application is required, therefore user affiliation is not collected.					
Note: Statistics were available for SEDD beginning Quarter 4, 2004.					
In the "Percent This Quarter" column, values of less than 1% are not listed.					

**TABLE 2: HCUP CENTRAL DISTRIBUTOR TEAM (SSS)
INFORMATION AND DATA INQUIRIES - continued**

	Q1 2007 Jan-Mar	Q2 2007 Apr-Jun	Q3 2007 July-Sept	Year-to-Date 2007	Percent This Quarter
DATABASES REQUESTED BY USER AFFILIATION**					
Trade Assoc., Lobbying Group, Consortium	0	0	0	0	0%
NIS	-	-	-	-	
SID	-	-	-	-	
SASD	-	-	-	-	
SEDD	-	-	-	-	
KID	-	-	-	-	
Research Organization, Consultant	22	16	16	54	12%
NIS	-	-	-	-	
SID	22	11	11	44	69%
SASD	-	4	2	6	13%
SEDD	-	1	3	4	19%
KID	-	-	-	-	
Other	0	13	43	56	31%
NIS	-	-	-	-	
SID	-	7	36	43	84%
SASD	-	-	-	-	
SEDD	-	6	7	13	16%
KID	-	-	-	-	
Unknown	9	0	0	9	0%
NIS	-	-	-	-	
SID	9	-	-	9	
SASD	-	-	-	-	
SEDD	-	-	-	-	
KID	-	-	-	-	

Notes:

**Statistics are not available for NIS and KID. No application is required, therefore user affiliation is not collected.

Note: Statistics were available for SEDD beginning Quarter 4, 2004.

In the "Percent This Quarter" column, values of less than 1% are not listed.

FIGURE 3: TRENDS IN CONTACTS WITH HCUP CENTRAL DISTRIBUTOR TEAM

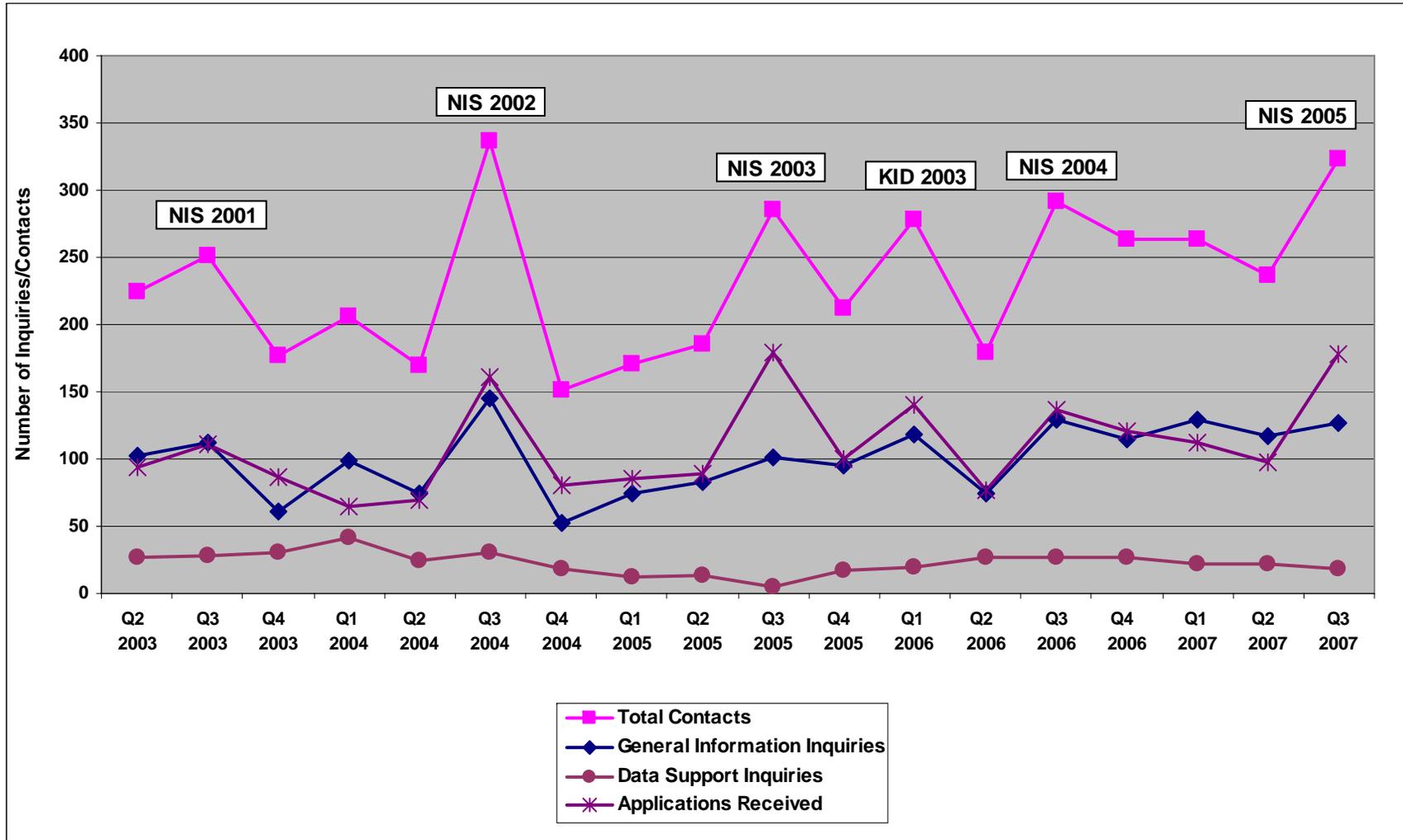
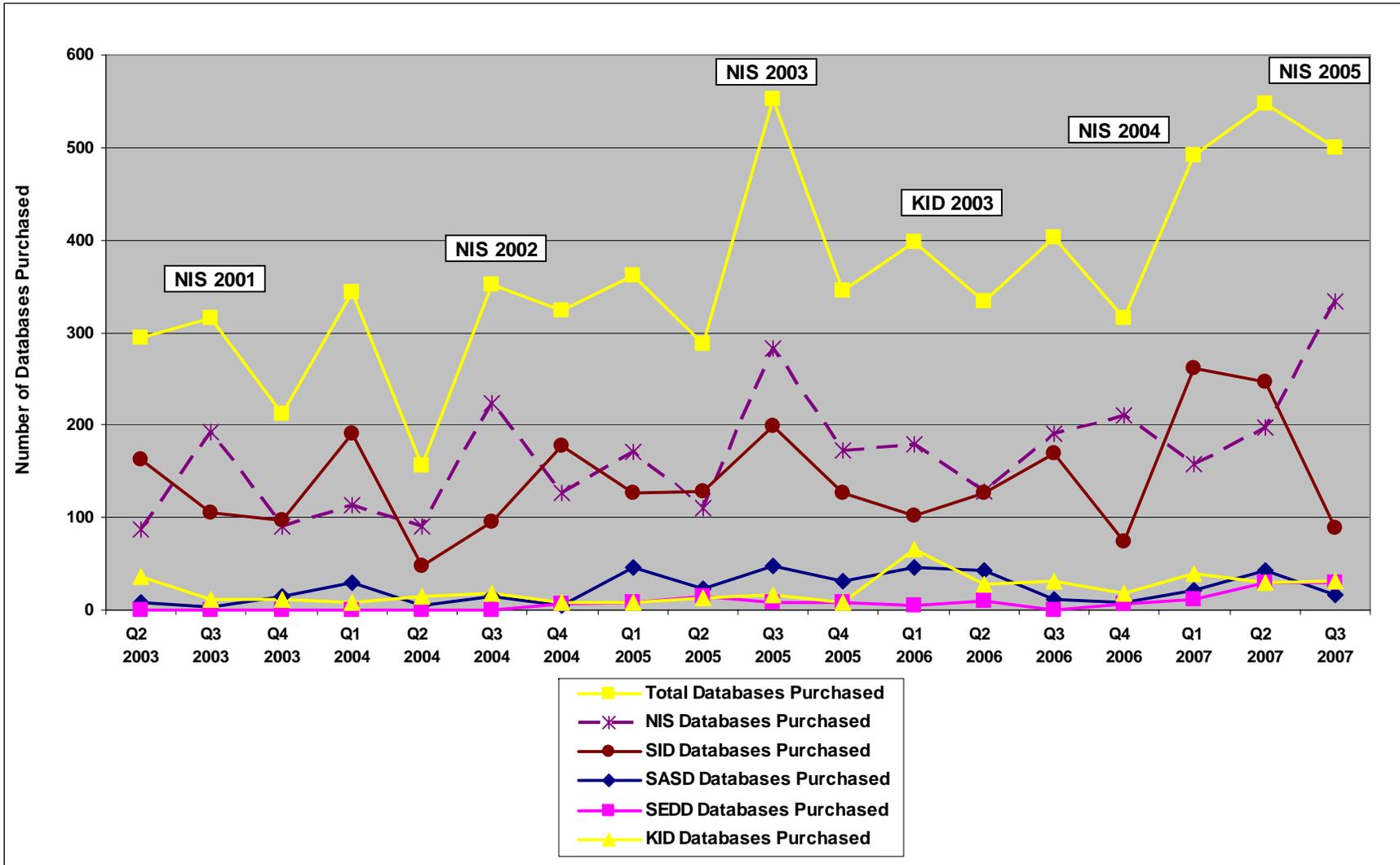


FIGURE 4: DATABASE PURCHASES (PAYMENTS RECEIVED) SINCE Q2, 2003



**FIGURE 4A: CENTRAL DISTRIBUTOR RELEASE DATES
(APRIL 2003 THROUGH PRESENT)**

<i>2001 Databases</i>	<i>2002 Databases</i>	<i>2003 Databases</i>	<i>2004 Databases</i>	<i>2005 Databases</i>
June 2003	June 2004	June 2005	August 2006	June 2007
		December 2005		
July 2003	May 2004	April 2005	May 2006	July 2007
October 2003	July 2004	August 2005	July 2006	August 2007
	October 2004	October 2005	April 2007	
	December 2004	December 2005		
July 2003	May 2004	April 2005	May 2006	July 2007
October 2003	July 2004	August 2005	July 2006	August 2007
	October 2004	October 2005	April 2007	
	December 2004	May 2006		
	October 2004	April 2005	May 2006	July 2007
	April 2005	October 2005	July 2006	August 2007
		May 2006	April 2007	

Note: Cells marked with yellow highlighting indicate databases released during the current reporting quarter.

TABLE 3: VISITS TO HCUP WEBSITES

	Q1 2007 Jan-Mar	Q2 2007 Apr-Jun	Q3 2007 July-Sept	Year-to-Date 2007	Percent This Quarter*
TOTAL VISITS TO WEBSITES	190,549	238,918	252,044	681,511	
HCUP HOME PAGE, AHRQ SITE (www.ahrq.gov/data/hcup)	61,301	72,624	68,241	202,166	27%
Commercial	19,965	27,646	21,536	69,147	32%
Network	7,115	10,099	11,472	28,686	17%
Education	318	702	603	1,623	1%
Organization	52	220	311	583	
Government	45	202	209	456	
Military	5	20	11	36	
International	1	-	-	1	
ARPANET	746	842	396	1,984	1%
Business	-	-	-	-	
Informational	-	1	-	1	-
Unknown/Unresolved	33,054	32,892	33,703	99,649	49%
HCUPnet HOME PAGE, AHRQ SITE† (www.hcup.ahrq.gov/hcupnet.asp)	34,765	46,095	53,885	134,745	21%
Commercial	14,644	18,135	21,265	54,044	39%
Network	7,068	12,260	12,328	31,656	23%
Education	1,969	1,880	1,760	5,609	3%
Organization	826	884	1,033	2,743	2%
Government	702	764	712	2,178	1%
Military	112	117	121	350	
International	-	-	1	1	
ARPANET	1	-	10	11	
Business	-	1	3	4	
Informational	20	10	21	51	
Unknown/Unresolved	9,423	12,044	16,631	46,616	31%
HCUP USER SUPPORT SITE (HCUP-US) (www.hcup-us.ahrq.gov)	94,483	120,199	129,918	344,600	52%
Commercial	40,668	39,876	36,339	116,883	28%
Network	13,805	33,497	43,249	90,551	33%
Education	4,002	3,842	4,253	12,097	3%
Organization	1,837	2,029	2,366	6,232	2%
Government	614	841	954	2,409	1%
Military	204	199	186	589	
International	1	3	-	4	
ARPANET	17	19	14	50	
Business	1	1	1	3	
Informational	15	19	40	74	
Unknown/Unresolved	33,319	39,873	42,516	115,708	33%
VISITS TO HCUP-US BY PAGE	18,401	18,359	19,156	55,916	
HCUP-US Databases	6,110	6,109	6,810	37,009	36%
HCUP-US Tools & Software Page	3,851	4,005	3,928	22,537	21%
HCUP-US Reports	3,461	3,547	3,763	20,300	20%
HCUP-US Statistical Briefs	3,058	2,719	2,601	18,493	14%
HCUP-US Technical Assistance	946	974	1,037	6,196	5%
HCUP-US News & Events	975	1,005	1,017	6,108	5%

*In the "Percent This Quarter" column, values of less than 1% are not listed.

† During Q3 2006, September visits counts to HCUPnet were unavailable. The total number of visits to HCUPnet during Q3 was extrapolated based on utilization information available from the rest of the quarter. The extrapolated visits have been distributed across categories.

TABLE 3: VISITS TO HCUP WEBSITES - continued

<p>Notes:</p> <p>(1) In Q2 2006, a breakout of the number of visits to each page on HCUP-US was made available. (2) In Q3 2005, the top-level domain for "Personal" e-mail addresses was added to the report; As of Q3, 2007, this domain no longer occurs in WebTrends reports and was removed from Table 3. (3) In Q4 2004, the Business and Informational top-level domains were added. (4) In Q3 2003, the HCUP User Support Website (www.hcup-us.ahrq.gov) was launched. (5) The statistics for HCUP Website usage include visits from the HCUP project team (AHRQ & Medstat). Beginning with the Q4 2003 report, we are unable to break-out the project team's usage rates with confidence for AHRQ's HCUP home page and HCUPnet; however, an exploratory analysis at that time indicated that the team visited HCUP sites at approximately these levels:</p> <table border="0"> <tr> <td>AHRQ HCUP home page:</td> <td>1% of all visits</td> </tr> <tr> <td>HCUPnet:</td> <td>1% of all visits</td> </tr> <tr> <td>HCUP User Support:</td> <td>5-7% of all visits</td> </tr> </table>	AHRQ HCUP home page:	1% of all visits	HCUPnet:	1% of all visits	HCUP User Support:	5-7% of all visits
AHRQ HCUP home page:	1% of all visits					
HCUPnet:	1% of all visits					
HCUP User Support:	5-7% of all visits					
<p>Definitions:</p> <p>Visits - Number of visits to your site from the specified top-level domain. A visit is a series of actions that begins when a visitor views their first page from the server, and ends when the visitor leaves the site or remains idle beyond the idle-time limit. The default idle-time limit is thirty minutes. This time limit can be changed by the system administrator.</p> <p>Definition of Top-Level Domain - The suffix of a domain name. A top-level domain can be based on the type of organization (.com, .edu, .museum, .name, etc) or it can be a country code (.uk, .de, .jp, .us, etc.). The top-level domain can be used to identify the type of Website. The following is a partial list of how this report categorizes top-level domains.</p>						
<p>Top-Level Domains:</p> <p>Commercial: .com .co .com.[country code] .co.[country code] .firm.co .firm.ve .ltd.uk .info .biz</p> <p>Network: .net .ad.jp .ne.kr .net.[country code]</p> <p>Education: .edu .edu.[country-code] .ed.[country code] .ac.[country code] .school.[country code] .k12.[country code] .re.kr .sch.uk .edunet.tn</p> <p>Organization: .org .or .org.[country code] .or.[country code]</p> <p>Government: .gov .gov.[country code] .gove.[country code] .go.[country code]</p> <p>Military: .mil .mil.[country code]</p> <p>International: .int .int.co .int.ve .intl.tn</p> <p>ARPANET: .arpa</p> <p>Business: .biz</p> <p>Informational: .info</p>						

FIGURE 5: TRENDS IN HCUP WEBSITE VISITS

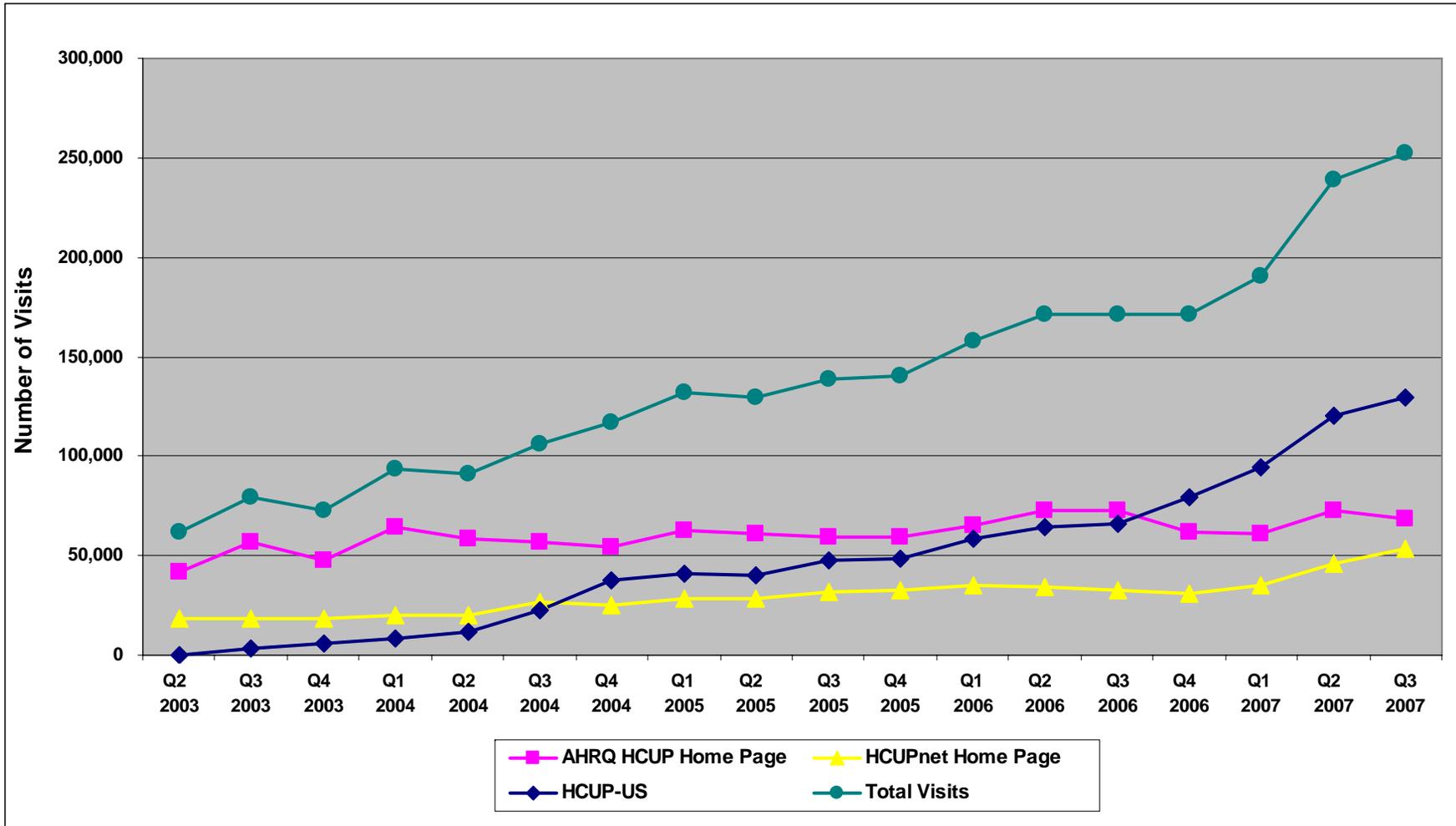


TABLE 4: SUBSCRIBERS TO HCUP WEB-BASED TECHNICAL SUPPORT

(Cumulative totals at end of reporting quarter)

	Q1 2007 Jan-Mar	Q2 2007 Apr-Jun	Q3 2007 July-Sept	Percent Change This Quarter
TOTAL SUBSCRIBERS (cumulative)	3,415	3,541	3,688	4%
HCUP LISTSERV® SUBSCRIPTIONS	919	949	972	2%
HCUP MAILING LIST SUBSCRIPTIONS¹	2,496	2,592	2,716	5%
CHANGE IN SUBSCRIPTION TOTALS²				
HCUP LISTSERV® SUBSCRIPTIONS	23	30	23	--
HCUP MAILING LIST SUBSCRIPTIONS	214	96	124	--
Notes:				
<p>(1) Subscriptions to the HCUP mailing list are recorded in the HCUP Central Distributor database. The total number of subscribers includes two groups: (1) persons who contact the HCUP Central Distributor for information about HCUP database sales and technical support, and (2) persons who complete a form on the AHRQ Website submitting their name and address for the HCUP mailing list. The AHRQ Website form was inactivated in mid-2003. Consequently, growth in the HCUP mailing list now represents HCUP Central Distributor contacts only.</p> <p>(2) <i>Change in Subscription Totals</i> represents the difference between the current quarter and the previous quarter. New subscribers may be underreported because some users may unsubscribe during the quarter, reducing the overall, end-of-quarter subscriber rates.</p> <p>(3) For Q3 2003, the number of new subscriptions to the HCUP mailing list was unavailable.</p> <p>(4) At the end of Q1 2005, the HCUP Central Distributor team conducted an address verification process and consequently removed outdated entries from the mailing list. This accounts for the large decrease in HCUP Mailing List subscriptions in Q1 2005.</p>				

TABLE 5: ARTICLES PUBLISHED USING HCUP DATA

(Cumulative totals at end of reporting quarter)

	Previous Year	Q1 2007 Jan-Mar	Q2 2007 Apr-June	Q3 2007 July-Sept	Change from Previous Quarter	Change from Previous Year
TOTAL ARTICLES PUBLISHED* (AHRQ & External Authors)	618	851	960	1,074	114	456
PEER-REVIEWED PUBLICATIONS**	488	552	588	632	44	144
NIS	314	361	391	425	34	111
SID	63	68	69	72	3	9
SASD	9	10	10	10	-	1
SEDD	2	2	2	2	-	-
KID	49	64	68	76	8	27
HCUPnet and other tools	109	130	139	146	7	37
OTHER PUBLICATIONS***	130	299	372	442	70	312
NHQR and NHDR	20	21	21	21	-	1
HCUP-2	4	4	4	4	-	-
Non-journal formats†	106	274	347	417	70	311
CLASSIFICATION PENDING	0	0	0	0	0	0

Notes:

* Total articles published represents the number of publications identified by Medstat using RefWorks and other Internet search engines. Publication numbers are extracted directly from the quarterly HCUP Publications Report (Deliverable #142.xx under the current contract; Deliverables #385 and #386 under the previous HCUP contract).

** The total number of articles in peer-reviewed journals may not reflect the sum of the individual categories as some articles use multiple HCUP databases or tools. The number of "peer-reviewed" publications is shown as reported in the quarterly HCUP Publications Report. The total number of peer-reviewed articles is an unduplicated count.

***The total number of "Other Publications" (published outside of peer-reviewed sources) is an unduplicated

† Non-journal formats include e-journals, magazines, and newspapers.

(1) Publication counts were unavailable for the first four reporting quarters (April 2002 through March 2004).

(2) Search parameters for the first two publication reports (Deliverable #385 and Deliverable #386.1) did not include "Statewide Emergency Department Databases" or "SEDD" because these databases were not yet available in restricted access public release format. Consequently, the publication count for SEDD is not reported. No AHRQ-sponsored publications using the SEDD were identified through informal searches.

FIGURE 6: HCUP PUBLICATIONS BY YEAR PUBLISHED, 1996 – PRESENT

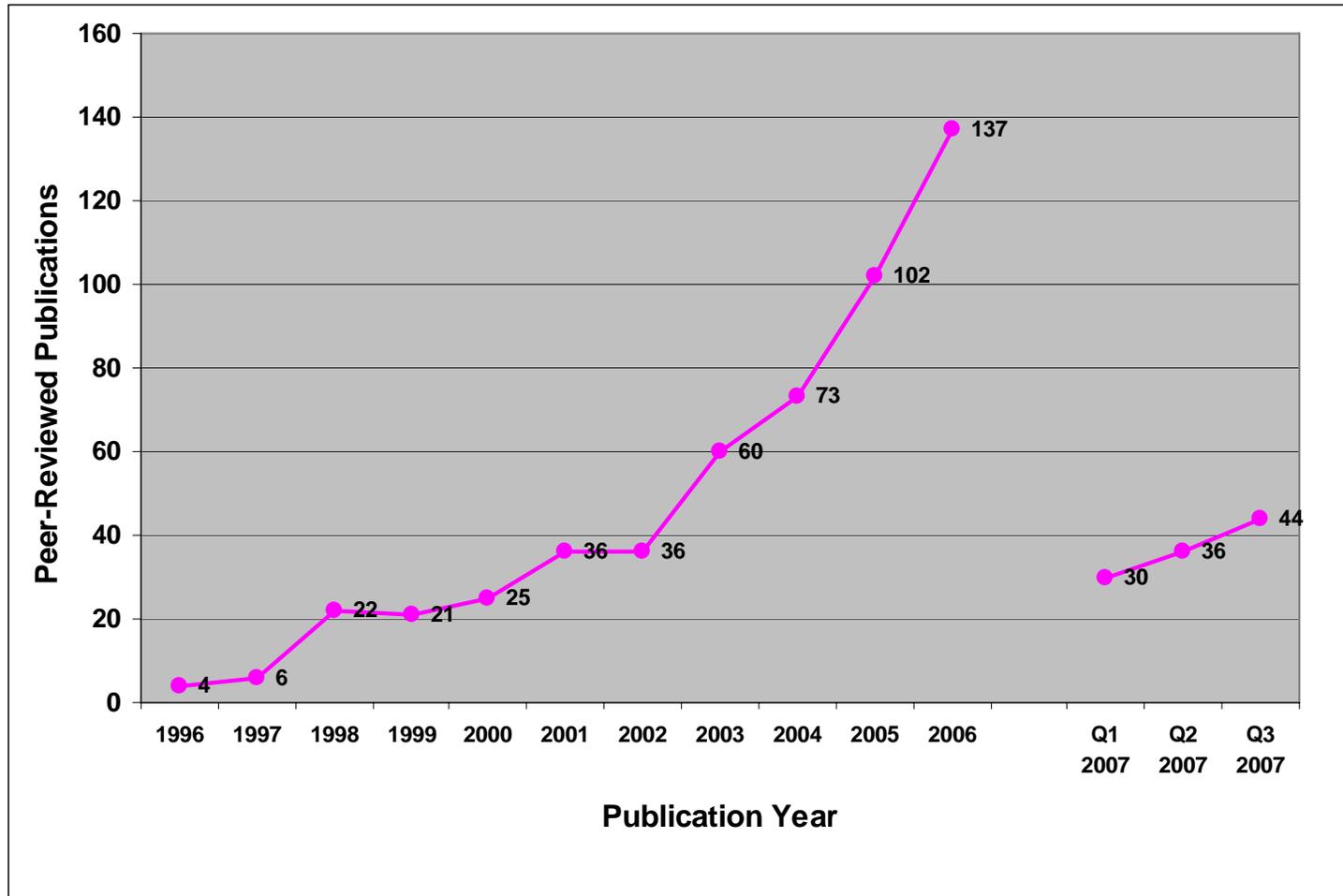


TABLE 6: PRODUCT FEEDBACK COMMENTS

Reporting Period:	07/01/2007 to 09/30/2007
Topic	NIS
Product Feedback Date	07/16/2007
Product Feedback	A biostatistician advised that the file specifications for the NIS Trends Supplemental ASCII files are not available on either the Central Distributor CDs or on the HCUP-US Website. This problem has been resolved for all NIS data through 2002.
Topic	HCUP Highlights
Product Feedback Date	07/17/2007
Product Feedback	A researcher asked how frequently the HCUP Highlights are published, and when the next one would be available. User Support informed that the HCUP Statistical Briefs series has come to replace the HCUP Highlights.
Topic	HCUP Statistical Briefs
Product Feedback Date	07/27/2007
Product Feedback	The President of a consumer health information and ratings Website wrote to say that they have placed a link to HCUP Statistical Brief #35 on its corporate Website, and requested clarification on a statistic from this Brief. A response was issued directly from AHRQ.
Topic	NIS
Product Feedback Date	08/13/2007
Product Feedback	A researcher working with orthopedic ICD-9-CM codes that were instituted near the end of 2005 was having difficulty finding sufficient cases to obtain cell sizes larger than 10. He inquired if it would be possible to gain access to 2006 data sooner than the projected release date so as to not delay his study. User Support responded that HCUP is exploring ways to speed up the release time of HCUP data.
Topic	HCUP/MEPS Workshop
Product Feedback Date	10/02/2007
Product Feedback	An academic researcher who attended the HCUP/MEPS workshop at AHRQ in September compared procedure frequency data run on coronary stent codes from NIS results presented at the conference to HCUPnet results, and the numbers did not precisely match. He believes this is because patients receiving two stent procedures during the same episode of care are not divided out on HCUPnet. User Support confirmed that it is not possible to perform an HCUPnet query that distinguishes two or more specific procedures or diagnoses on the same record, and that it would be better to use NIS data on this type of query.

TECHNICAL APPENDIX: DETAILED DESCRIPTION OF METHODS

The tables included in this report display current quarter statistics and two previous quarters for comparison, as well as year-to-date statistics. Graphs are provided to demonstrate long-term technical support trends that span all reporting quarters beginning with April–June 2003 (Quarter 2, 2003).

Tables

Table 1, *Phone and E-Mail Technical Support*, summarizes contacts with the HCUP technical support team through e-mails (hcup@ahrq.gov) and phone calls (1-866-290-HCUP). In addition, AHRQ staff forward HCUP-related inquiries that are received via a Webform for communicating online with AHRQ (<http://info.ahrq.gov>). The HCUP technical support team was established in January 2003 to provide guidance to public users regarding HCUP databases, tools, and products, and to direct users to pertinent written documentation. Each user contact is recorded in a customer relations database. Under the previous HCUP contract, Thomson Healthcare used the ACT customer relations database.

Table 2, *Information and Data Inquiries to the HCUP Central Distributor Team*, summarizes contacts with the HCUP Central Distributor (maintained at Social & Scientific Systems, Inc.) regarding data applications, database purchases, and technical support requests from users of the HCUP databases. Each user contact is recorded in the HCUP Central Distributor tracking system.

Table 3, *Visits to HCUP Websites*, reports the number of visits to three principal HCUP Websites: AHRQ's HCUP home page (www.ahrq.gov/data/hcup), the HCUPnet home page (<http://hcupnet.ahrq.gov>),⁸ and the HCUP User Support home page (www.hcup-us.ahrq.gov).⁹ Each visit is classified by the domain type associated with the user's Internet Protocol (IP) address (e.g., commercial, educational institution, government, etc.).

Beginning with the April to June 2006 (Quarter 2) report, Website usage tracking was expanded beyond the three principal HCUP Websites. Visit statistics are now available for all six tabbed sections in the public access area of HCUP-US, as well as for the HCUP Statistical Briefs page.

The updated list of pages tracked for the HCUP-US Website includes:

- HCUP-US Home page (<http://www.hcup-us.ahrq.gov/home.jsp>)
- Databases (<http://www.hcup-us.ahrq.gov/databases.jsp>)
- Tools & Software (http://www.hcup-us.ahrq.gov/tools_software.jsp)
- Reports (<http://www.hcup-us.ahrq.gov/reports.jsp>)
- News & Events (<http://www.hcup-us.ahrq.gov/news.jsp>)
- Technical Assistance (<http://www.hcup-us.ahrq.gov/techassist.jsp>)
- HCUP Statistical Briefs (<http://www.hcup-us.ahrq.gov/reports/statbriefs.jsp>).

⁸ The two AHRQ Websites (HCUP and HCUPnet) were established prior to initiating the quarterly user statistics reports. HCUPnet was redesigned in June 2004 to make access easier for both lay users and more experienced researchers and medical professional users.

⁹ The *HCUP-US* Website was launched in July 2003 for the purpose of providing technical assistance and support to the HCUP user community. Additional information about the site is provided in the appendix section titled, *Information About Tracking HCUP Website Visits*.

Additional descriptions of Website statistics are provided in the appendix section titled, *Information About Tracking HCUP Website Visits*.

Table 4, *Subscribers to HCUP Web-Based Technical Support*, includes simple totals for the number of subscriptions to two lists: (1) the HCUP LISTSERV[®] — an e-mail notification list maintained on the AHRQ Website (www.ahrq.gov/data/hcup/hcuplist.htm) and accessible through HCUP-US beginning July 2004; and (2) the HCUP mailing list — a postal address mailing list maintained by Social & Scientific Systems, Inc. (SSS). The HCUP LISTSERV[®] is used to distribute the quarterly HCUP e-News publication, initiated in December 2004, and other announcements. The HCUP mailing list is used for sending postcard announcements of NIS releases and other Central Distributor news.

AHRQ and SSS provide “snapshots” of subscription counts at the end of each quarter. SSS notes that the HCUP mailing list currently consists of persons who contacted the HCUP Central Distributor for database purchases and support, unless these persons asked to be excluded from the list. There are no other mechanisms at present for subscribing to the HCUP mailing list. Prior to the January–March 2005 reporting period, the HCUP Central Distributor team reports that they conducted an address-verification process and consequently removed outdated entries from the mailing list. In Table 4, subscriptions to technical support lists are described in two ways: (1) the total number of subscribers at the end of each quarter, and (2) the increase or decrease in subscription totals between the previous and current reporting quarter.

Table 5, *Articles Published Using HCUP Data*, is designed to describe publications by AHRQ and external authors that utilized the HCUP intramural or restricted access public release databases. The table contains publication statistics extracted directly from the quarterly HCUP Publications Report (Deliverable #142.xx under the current contract; Deliverables #385 and #386.x under the previous HCUP contract).¹⁰ Publication totals represent the cumulative list of HCUP-related articles and reports in peer-reviewed journals and public release format that were catalogued by Thomson Healthcare by the end of each reporting quarter. Information is classified by the type of HCUP data utilized in the publication (i.e., NIS, SID, SASD, SEDD, KID, HCUPnet, NHQR/NHDR, or HCUP-2 data). Publications that did not fit the above classifications were placed in the “classification pending” category, although this category is no longer used. Articles published in “non-journal” formats (e.g., newspapers, magazines, etc.) are reported separately.

Publication counts were documented for the first time in the April–June 2004 report (Quarter 2, 2004).¹¹ In Quarter 1, 2005, the publications team added search terms to identify HCUP-related articles that reference the National Healthcare Quality Report (NHQR) and the National Healthcare Disparities Report (NHDR).

¹⁰ In February 2004, Thomson Healthcare began to collect and maintain a list of HCUP publications under a new special analysis task, *Maintain HCUP Publications*. In July 2004, Thomson Healthcare delivered an *Initial HCUP Publications Report* (Deliverable #385) to AHRQ. In October 2004, Thomson Healthcare initiated a regular quarterly publications report (Deliverable #386.x).

¹¹ Preliminary publication totals were reported in the Quarter 4, 2003 report, using an earlier methodology. These preliminary figures included all articles and reports utilizing HCUP data that were published in 2002 and 2003 and catalogued by AHRQ as of the reporting date. It is important to note that gaps existed in the publications lists at that time. In addition, the Quarter 4, 2003 report included only the overall total number of publications; information was not reported by the type of HCUP database used in the analysis. The 35 publications reported for Quarter 4, 2003 are included in subsequent publications reports (Deliverables #385 and #386.x); therefore, the preliminary counts are no longer included in Table 5.

Beginning with the July to September (Quarter 3) 2006 publications report, Thomson Healthcare enhanced the search for non-journal articles with citations from the daily AHRQ News Clips produced by the AHRQ librarian. This change in search strategy, coupled with increasing news coverage of the HCUP Statistical Briefs, continues to result in a notable increase in the number of non-journal articles referencing HCUP data identified in subsequent quarterly reports.

Table 6, *Product Feedback Comments*, includes narrative comments and suggestions about HCUP databases, software tools, and publications offered by users during the current reporting quarter. Users may provide remarks through e-mails, phone calls, and interactions with the HCUP technical support team at conferences, presentations, and workshops. When the team receives direct recommendations from users, a coordinator logs the comments into a tracking database. Under the previous HCUP contract, product feedback comments were recorded in the customer relationship database (ACT). Under the current HCUP contract, the team records comments in a Word document, pending selection of a new customer relations database.

The HCUP technical support team may also encounter specific questions or challenges from users that reveal indirect product feedback. When this occurs, the team logs the issue and recommendation into a separate tracking sheet (a Word document designed for this purpose). Both the ACT database and tracking sheet for indirect recommendations are sources for the quarterly report.¹²

Figures

Figure 1 and Figures 3-5 present longitudinal trend comparisons of high-level statistics for each major function of the technical support team across quarters. Figure 1 displays the number of phone and e-mail contacts with the technical support team. Figure 3 shows HCUP Central Distributor activity at an overall level and within three functional areas: general information inquiries, database support inquiries, and applications received. Figure 4 breaks out the HCUP Central Distributor database sales into HCUP data types (i.e., NIS, SID, SASD, SEDD, and KID). In addition, this figure contains a calendar of the HCUP Central Distributor's database releases. Figure 5 illustrates trends in visits to three principal HCUP technical support Websites.

Figure 2 presents a side-by-side comparison of the volume of monthly inquiries across successive years beginning in January 2003.¹³ With each new quarter, monthly totals will be added to the graph. In this figure, vertical bars reflect monthly inquiry volume. The two solid lines represent the overall trends for each annual period. The dashed lines illustrate the two-month moving averages within each year.

¹² In an effort to increase feedback volume, AHRQ directed Thomson Healthcare to employ several additional approaches for soliciting feedback from HCUP data users. Four new strategies were introduced beginning in January 2005: (1) modify the banner on outgoing technical assistance responses to invite user feedback; (2) modify the standard text message in outgoing technical assistance responses to request feedback; (3) for select users (as identified by AHRQ and Thomson Healthcare), send tailored invitations to provide comments and suggestions; and (4) include a feedback form in future conference booth materials. The last strategy – providing feedback forms during in-person contacts at meetings and conferences – was initiated in June 2005, when the team began distributing feedback forms at conference presentations and workshops. During future conferences, the team will also begin providing feedback forms at exhibit booths. Thomson Healthcare expects that implementing these strategies will have a positive influence on user feedback volume.

¹³ Figure 2 was first included in the October–December 2004 (Quarter 4, 2004) report.

Figure 6 illustrates the number of articles using HCUP data that were published each year, beginning with 1996. On the right-hand side of the graph, publications in the current year are further broken out by quarter.¹⁴

Information About Tracking HCUP Website Visits

Data collection is performed by the technical staff that maintain each HCUP-related Website. Thomson Healthcare, AHRQ, and SSS collect usage statistics for each Website server continually throughout the quarter and then use WebTrends software to generate quarterly Website analysis reports. WebTrends statistics indicate the number of “visits” to the site, rather than the number of individuals making the visits. Reporting at the visit level is necessary because the Websites lack registration forms to collect names, e-mail addresses, or other information to differentiate individual users. Consequently, each visit is defined as a series of actions that begins when a visitor first views the site and ends when the visitor leaves or remains idle beyond a specified time limit. Therefore, individuals can log more than one visit per session or per day.

Initially, visits from the AHRQ and Thomson Healthcare project team were separately classified when their IP addresses resolved to either “medstat.com” or “ahrq.gov.” These categories were established to account for Website usage from the AHRQ HCUP project team and Thomson Healthcare’s database development team. Beginning with Quarter 4, 2003, the WebTrends reports supplied by AHRQ could no longer separately classify visits from the project team to either AHRQ’s HCUP home page or HCUPnet. Therefore, this distinction was no longer reported for these two sites. Beginning with January 2007, the separate categories for visits to HCUP-US from AHRQ and Thomson Healthcare-affiliated users are also no longer reported because project staff at AHRQ and Thomson Healthcare represent a diminishing proportion of visits from these entities.

Over the course of this report series, a proportion of visits could not be classified by users’ organizational affiliation, given the prevalence of Internet utilities that block information about Internet Protocol (IP) addresses and domain types. In Table 3, these visits are listed as “Unknown/Unresolved.” The high rates of unknown or unresolved IP addresses continues to affect all three HCUP Websites.

Activity on HCUP-US, the principal project documentation site, has been driven by development of new content and, at least in the initial stages, transfer of HCUP database documentation and reports from the AHRQ Website to this dedicated location. The project team has continually expanded the content of the HCUP-US Website since its inception. The site contains:

- Documentation of publicly available HCUP databases
- Links to HCUP tools and products on the AHRQ Website
- Technical resources and project documentation for HCUP Partners
- Internal project documentation in password-protected areas accessible to HCUP Partners and the HCUP project team.

Specific enhancements include migrating documentation from the AHRQ Website and adding new tools and resources:

¹⁴ Figure 6 was added beginning with the July–September 2004 (Quarter 3, 2004) report.

- In March 2004, several HCUP tools were migrated to HCUP-US from the AHRQ Website, including the Clinical Classifications Software (CCS), Comorbidity Software, and Procedure Classes.
- In July 2004, database documentation was migrated to HCUP-US for all public and intramural databases, including the NIS, SID, SASD, SEDD, and KID.
- In February 2005, a News and Events section was added to HCUP-US, which includes quarterly issues of *HCUP e-News*.
- In April 2005, a Highlight Series section was added to the Reports page.
- In July 2005, a search function (using the snowflake icon) was added to the site and the Cost-to-Charge Ratio Files were released under the HCUP-US Tools page for use with the NIS and SID.
- In September 2005, the CCS for Mental Health/Substance Abuse was posted.
- In October 2005, the CCS for Physicians' Current Procedural Terminology (CPT) tool was posted.
- In November 2005, the Chronic Condition Indicator was added to the Website.
- In December 2005, national statistics were migrated to HCUP-US from the AHRQ Website; this includes statistics for the NIS and KID from 1988-1997.
- In February 2006, Thomson Healthcare reorganized and augmented the Partners page on the HCUP-US Website, adding tools and technical resources for the HCUP Partnership.
- In March 2006, a Statistical Brief Series was added to the Reports page and an alphabetic Index for HCUP-US was added under Technical Assistance.
- In July 2006, the first release of the Clinical Classifications Software (CCS) for ICD-10 software tool.
- In July 2006, AHRQ instituted an online HCUP Data Use Agreement Training Tool on HCUP-US.
- In March 2007, AHRQ added an online HCUP Overview Course to HCUP-US.

Caveats

Technical Support Team

Trends in technical support contacts that include Quarter 3, 2006 should be interpreted with caution. The team's standard process for recording inquiries is as follows. When an individual re-contacts the technical support team, any back-and-forth correspondence is recorded as one "inquiry," as long as subsequent contacts are related to the original question and occur within a limited span of time. During a portion of Quarter 3, 2006, each e-mail from a user was logged as a separate contact, counting as more than one "inquiry" to the team, regardless of whether the correspondence addressed the original question.

HCUP Website Visits

(1) Visits to HCUPnet in Quarter 3, 2006 were under-reported in the last *Technical Support and Outreach Statistics Report* because of missing data for the month of September. The raw reported counts, which reflect the incomplete quarterly visit summary, were replaced with an adjusted count that extrapolates the full-quarter results from the utilization information for the rest of the quarter. The adjustment method used available data for the two months that were included in the WebTrends report – July and August. Adjusting for the missing month, HCUPnet

would have received approximately 32,668 visits (compared with 34,628 in the previous quarter). Overall, the HCUP Websites would have received approximately 171,123 visits (versus 171,709 visits in the previous quarter). Using this revised estimate, the adjusted number of visits to HCUPnet for Quarter 3, 2006 was consistent with the surrounding quarters.

(2) Initially, visits from the AHRQ and Thomson Healthcare project team were separately classified when their IP addresses resolved to either “medstat.com” or “ahrq.gov”. These categories were established to account for Website usage from the AHRQ HCUP project team and Thomson Healthcare’s database development team.

Beginning with the October–December 2003 report (Quarter 4, 2003), the WebTrends reports supplied by AHRQ could no longer separately classify visits from the project team to either AHRQ’s HCUP home page or HCUPnet. Therefore, this distinction was no longer reported for these two sites.

Beginning with January 1, 2007, visits from the project team to the third site, HCUP-US, were also no longer reported separately. Over time, the project team has come to represent a diminishing proportion of the overall usage of HCUP-US by AHRQ and Thomson Healthcare users. Separating the AHRQ visits from the overall “government” users and Thomson Healthcare visits from overall “commercial” users is now viewed as a distortion of the original intention because we can no longer reasonably assume that all AHRQ and all Thomson Healthcare activity is related to project management purposes. Therefore, at this time, visits from AHRQ and Thomson Healthcare-affiliated users are not separated and are instead grouped with “government” and “commercial” users, respectively.

(3) Visits to HCUPnet in Quarter 4, 2006 declined relative to previous quarters. AHRQ suggested that the relocation of the HCUPnet server may have inadvertently led to changes in how user visits were counted, however it was not possible to know the extent of this effect. Any examination of the long-term trends in HCUPnet visits should take into account this potential “recalibration” of visit counts. Beginning with Q2, 2007, HCUPnet once again received the level of visits seen prior to relocating the server.