RESEARCH PAPER

THOMSON REUTERS HEALTHCARE INDEXES™: CONSUMER CONFIDENCE

AUGUST 2009

GARY PICKENS, PHD
GEORGE POPA
GENE RAY, M.S, A.B.D.

CENTER FOR HEALTHCARE IMPROVEMENT

THOMSON REUTERS™

TABLE OF CONTENTS

Introduction 3
Methodology 4
Results 5
Summary 15

LIST OF FIGURES

Figure 1: Thomson Reuters Healthcare Index: Consumer Confidence 5
Figure 2: Healthcare Consumer Confidence Index Components 6
Figure 3: Differences in Overall Confidence by Age Group 7
Figure 4: Change in Overall Confidence by Age Group 8
Figure 5: Differences in Overall Confidence by Household Income Level 9
Figure 6: Changes in Overall Confidence by Income Level 10
Figure 7: Differences in Overall Confidence by Education Level 11
Figure 8: Changes in Overall Confidence by Education Level 12
Figure 9: Differences in Overall Confidence by Insurance Coverage Status 13
Figure 10: Changes in Overall Confidence by Insurance Coverage Status 14

INTRODUCTION

The Thomson Reuters Healthcare Indexes™: Consumer Confidence

With the difficulties presented in this unique economic climate, it is more important than ever to track healthcare consumers' behaviors, attitudes, and anticipated use of healthcare services. To that end, Thomson Reuters created the Healthcare Indexes: Consumer Confidence based on PULSE™ Healthcare Survey data collected since March 2009.

This research brief presents healthcare consumer confidence indexes that measure how economic factors are affecting consumers' expected use of and ability to pay for healthcare services, providing valuable insights for healthcare providers, payers, and policymakers.

Survey respondents were asked whether they expected to postpone various types of care or experience payment difficulty over the next three months. Based on these responses, an overall index was created to reflect healthcare consumers' confidence in their expected use of and payment for care. Separate indexes for payment and service use were also created.

METHODOLOGY

The PULSE™ Healthcare Survey is the nation's largest and longest running, privately funded household survey of health behavior, attitudes, and utilization. Each year, more than 100,000 households participate in this nationally representative survey. The study has nine waves (each a standalone market research study) conducted sequentially throughout the year. A wide range of healthcare topics is covered, including health status, insurance coverage, physician and ambulatory care services, hospital inpatient services, health behaviors and attitudes, and current healthcare topics and issues.

This research paper focuses on PULSE™ Healthcare Survey data tracked since March 2009. Each month, 3,000 consumers were asked questions regarding their expected ability to pay for care and the likelihood they would postpone or cancel care, due to the current economic climate.

Respondents were asked whether, in the next three months, they expected to:

- Have difficulty paying for healthcare services
- Delay or cancel a:
  - routine physician visit
  - physician visit for minor illness or injury
  - diagnostic test
  - elective surgery
  - therapy

Expectations were expressed on a 5-point scale, with 1 being "Not at All Likely" and 5 being "Very Likely."

The survey data were collected monthly in two-week time periods during 2009:

- March 16 – 30
- April 21 – May 3
- May 28 – June 8
- June 29 – July 5

Demographic information obtained about the survey respondents includes respondent age, household income, respondent level of education, and whether the household has insurance coverage.

The Thomson Reuters Healthcare Indexes™: Consumer Confidence was created by first assigning a confidence score to each of the six questions noted above and for each survey respondent. These scores were then combined to create an overall confidence index, as well as indexes for payment and service use. See the appendix to this paper for more information about creation of the index.

RESULTS

An analysis of trends between March and July 2009 indicates improving healthcare consumer confidence. The Thomson Reuters Healthcare Index: Consumer Confidence increased by 12 percent between March and July 2009, following increases in the two previous survey periods (Figure 1). All components of the index increased. The payment confidence index moved up approximately 18 percent (Figure 2), while service indexes for routine care, urgent care, testing, elective surgery, and therapies increased between 8 percent and 15 percent. All improvements are statistically significant (p-value < .05).

FIGURE 1: Thomson Reuters Healthcare Index: Consumer Confidence

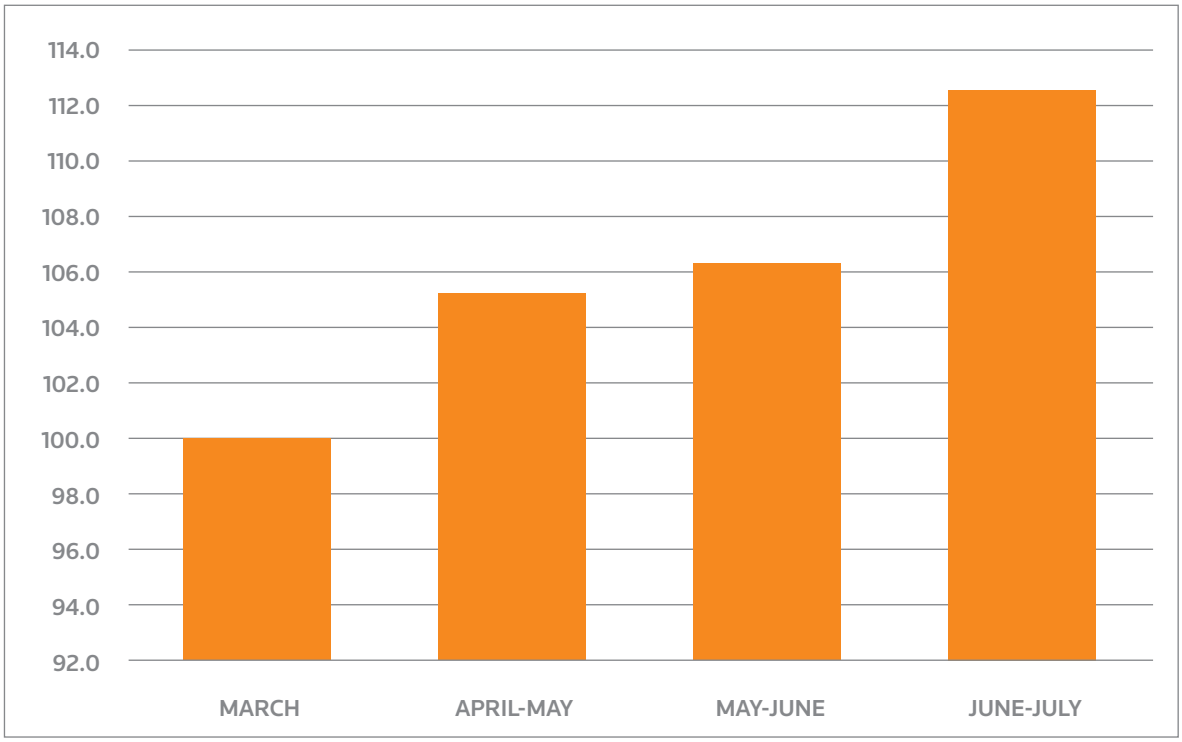
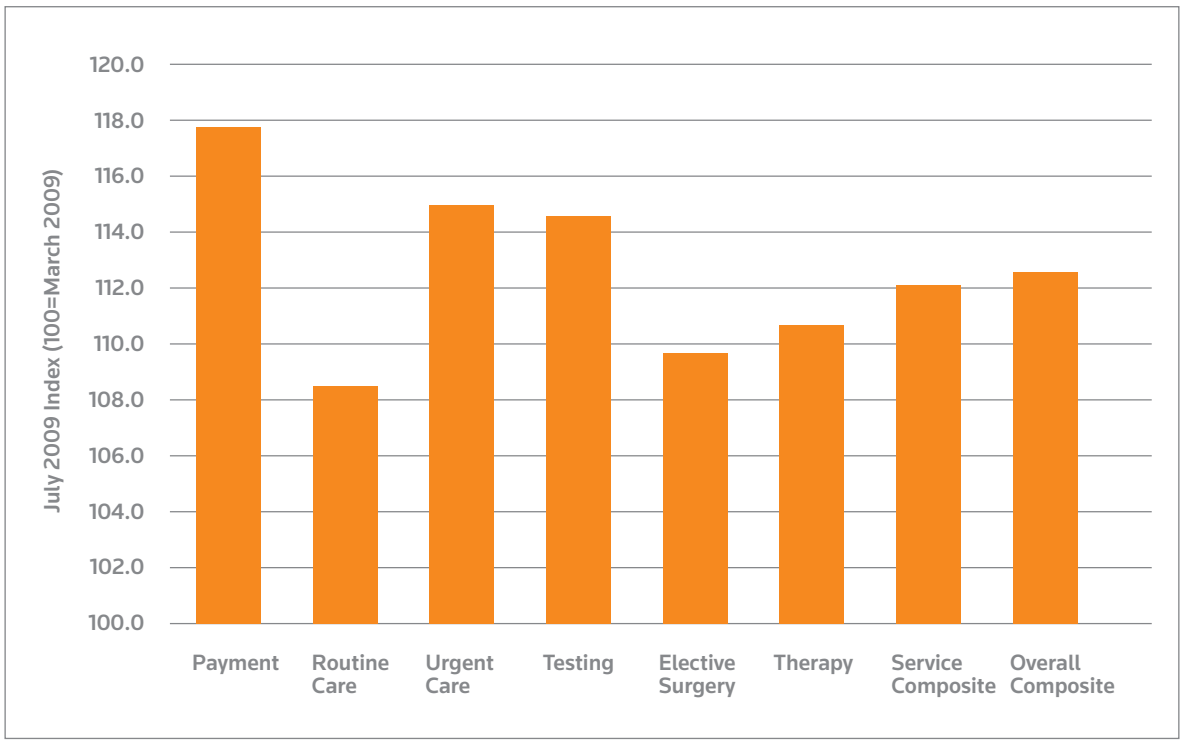


FIGURE 2: Healthcare Consumer Confidence Index Components



Is improvement in healthcare consumer confidence uniform across various demographic segments? We analyzed variation in the overall index for selected demographic factors likely to be associated with healthcare consumer confidence:

- Age
- Income
- Education
- Insurance coverage

FIGURE 3: Differences in Overall Confidence by Age Group

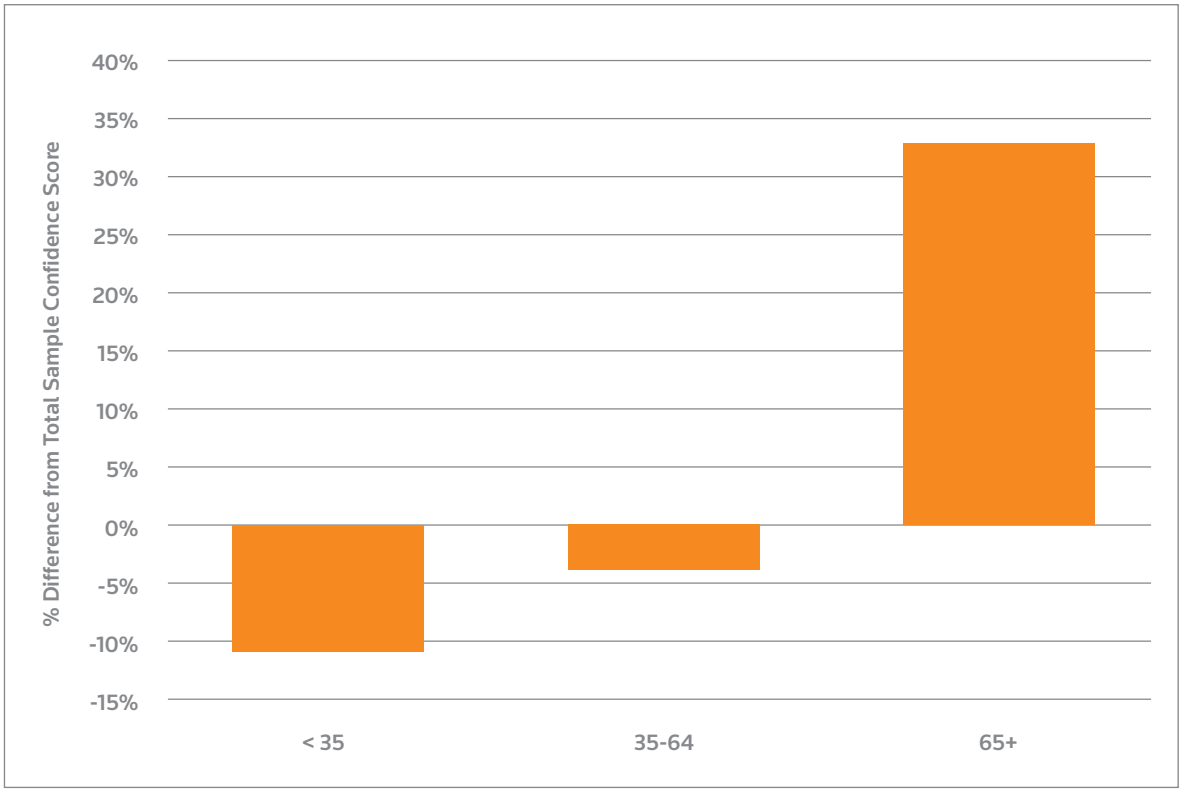
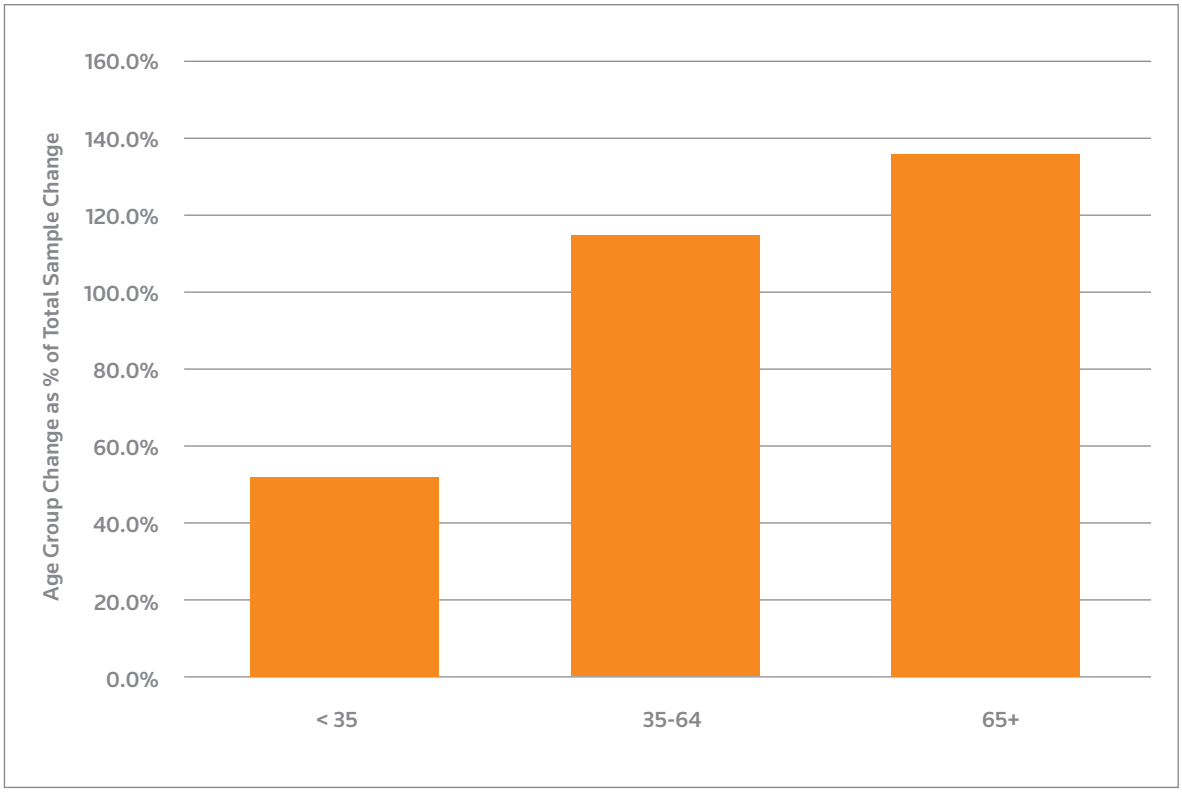


Figure 3 illustrates the difference in overall confidence by respondent age group in July 2009 (expressed as a percentage difference from total sample overall confidence). Generally, consumers over 65 have the greatest confidence in their ability to pay for and access needed healthcare services over the next three months and those less than 35 have the lowest confidence. Also, statistically significant improvements in overall confidence are concentrated in the older age cohorts (Figure 4, p-value < .05). Younger adults (less than 35) had no significant improvement in confidence.

FIGURE 4: Change in Overall Confidence by Age Group



Income has a strong effect on overall consumer confidence. Figure 5 illustrates differences in overall confidence level by income group for July 2009. Consumers in the lowest income groups are approximately 20 percent less confident than average, while those in the highest income group are approximately 40 percent more confident than average. However, improvement in confidence between March and July was less pronounced in the upper income groups (Figure 6). Consumers with household incomes less than $25,000 and between $50,000 and $75,000 had statistically significant improvements in confidence in July (p-value < .05); all other income groups had no significant improvements.

FIGURE 5: Differences in Overall Confidence by Household Income Level

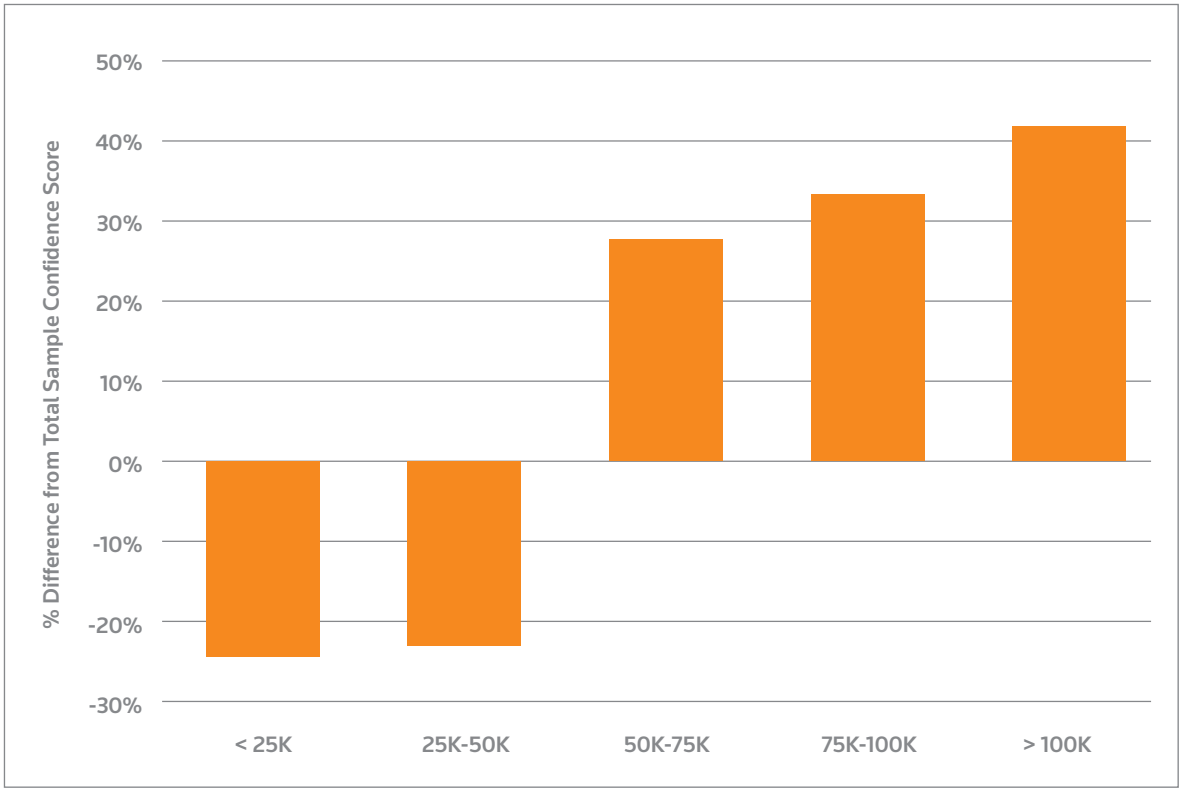
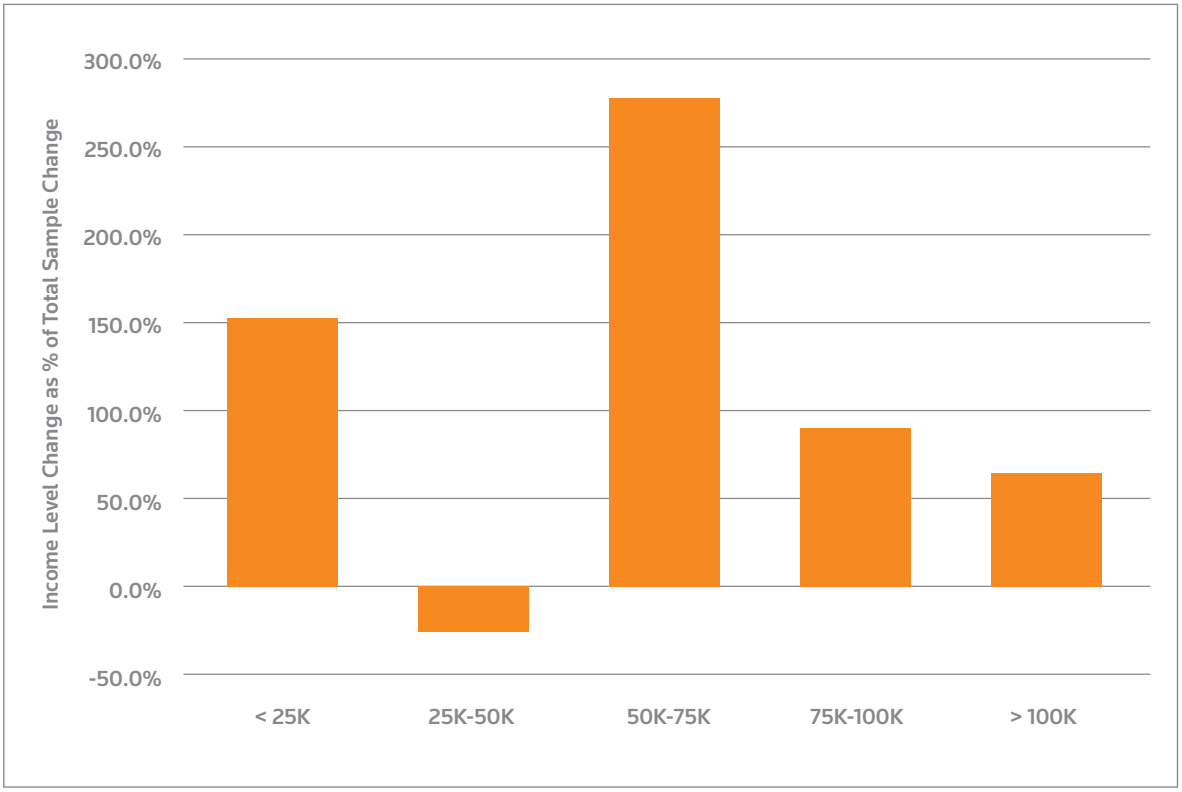


FIGURE 6: Changes in Overall Confidence by Income Level



Education is directly related to the level of overall consumer confidence. In Figure 7, we see that in July 2009 those consumers with college degrees or more education had confidence levels 25 percent greater than average, while those with high school education or less were approximately 10 percent less confident than average at the same point in time. Significant improvements in confidence were found in the highest and lowest levels of education (p-value < .05), while confidence for those with some college or associate degrees did not improve significantly (Figure 8).

FIGURE 7: Differences in Overall Confidence by Education Level

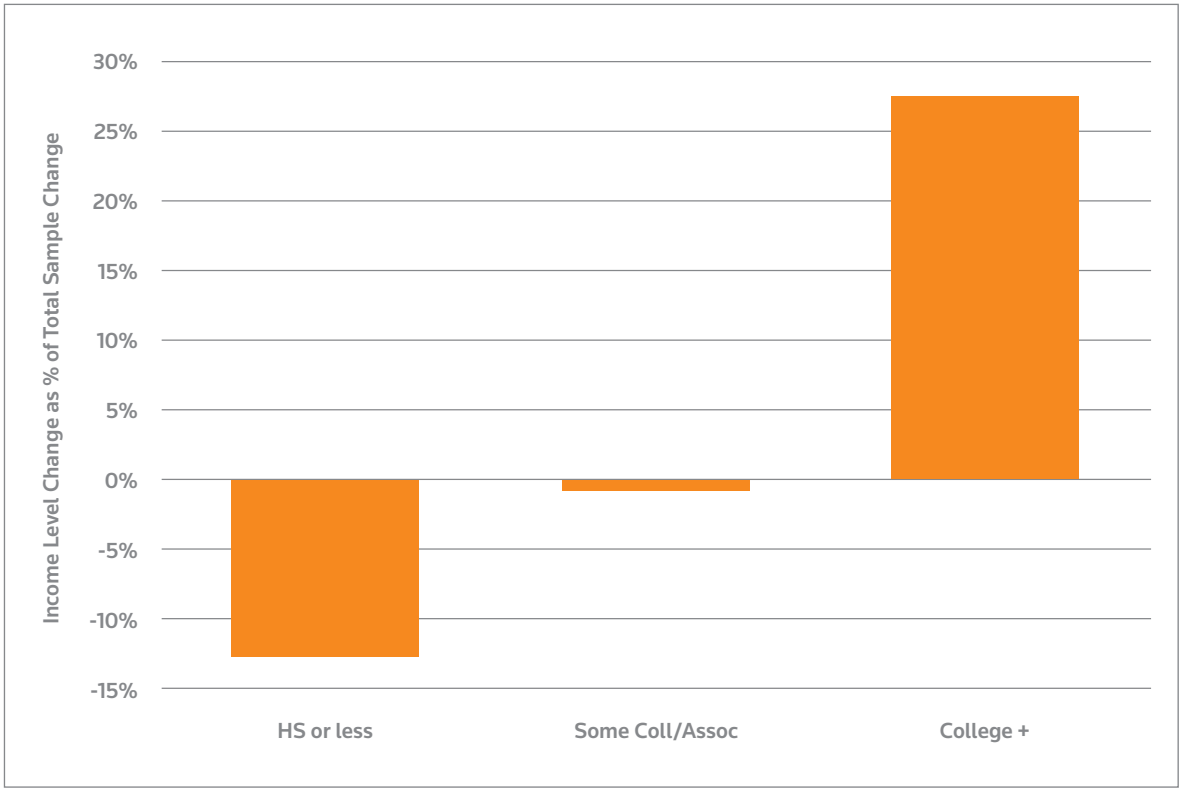
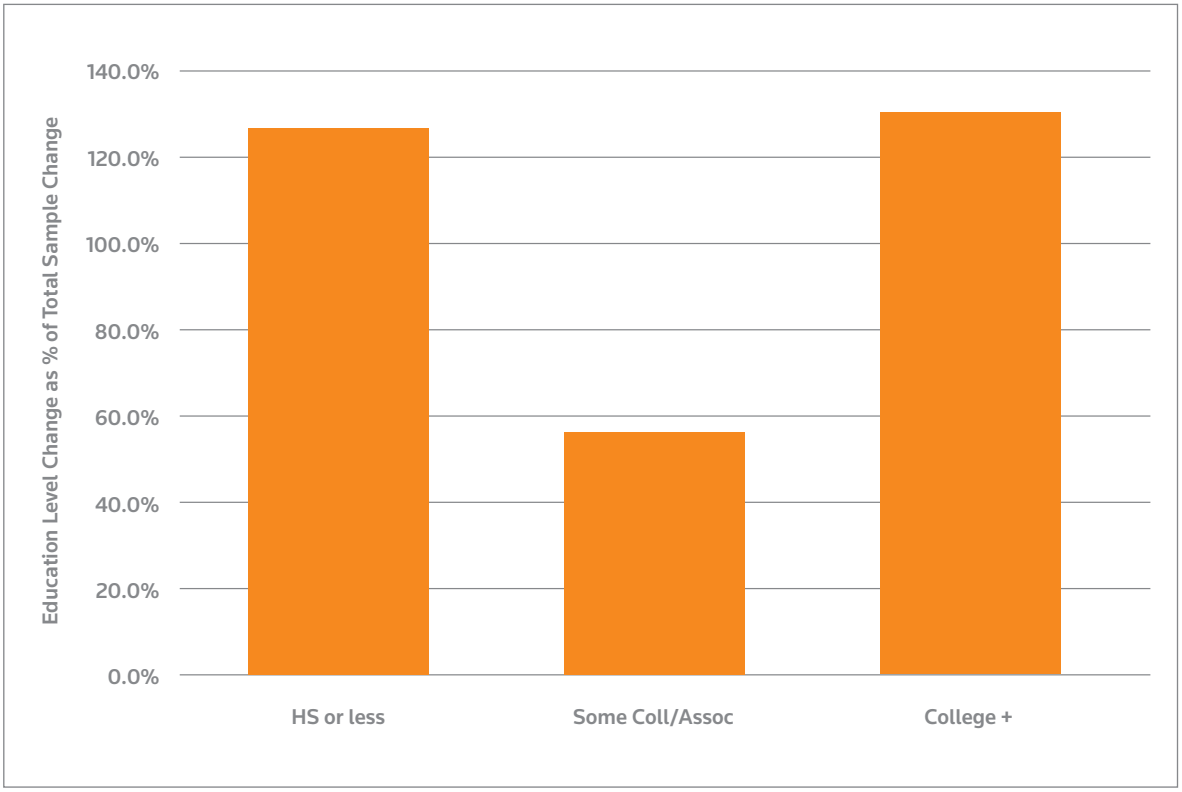


FIGURE 8: Changes in Overall Confidence by Income Level



Insurance coverage is an important factor in the ability to access and pay for healthcare services, and this is reflected in overall confidence levels in July 2009 (Figure 9). Those with insurance have overall confidence levels approximately 10 percent higher than average, while those with no insurance have overall confidence levels more than 80 percent lower than average. Improvements in confidence occurred in both groups (Figure 10). The improvement in confidence among uninsured consumers was about twice the total average improvement (not significant due to small sample size), while confidence among the insured improved significantly (p-value < .05), slightly less than the sample average.

FIGURE 9: Differences in Overall Confidence by Insurance Coverage Status

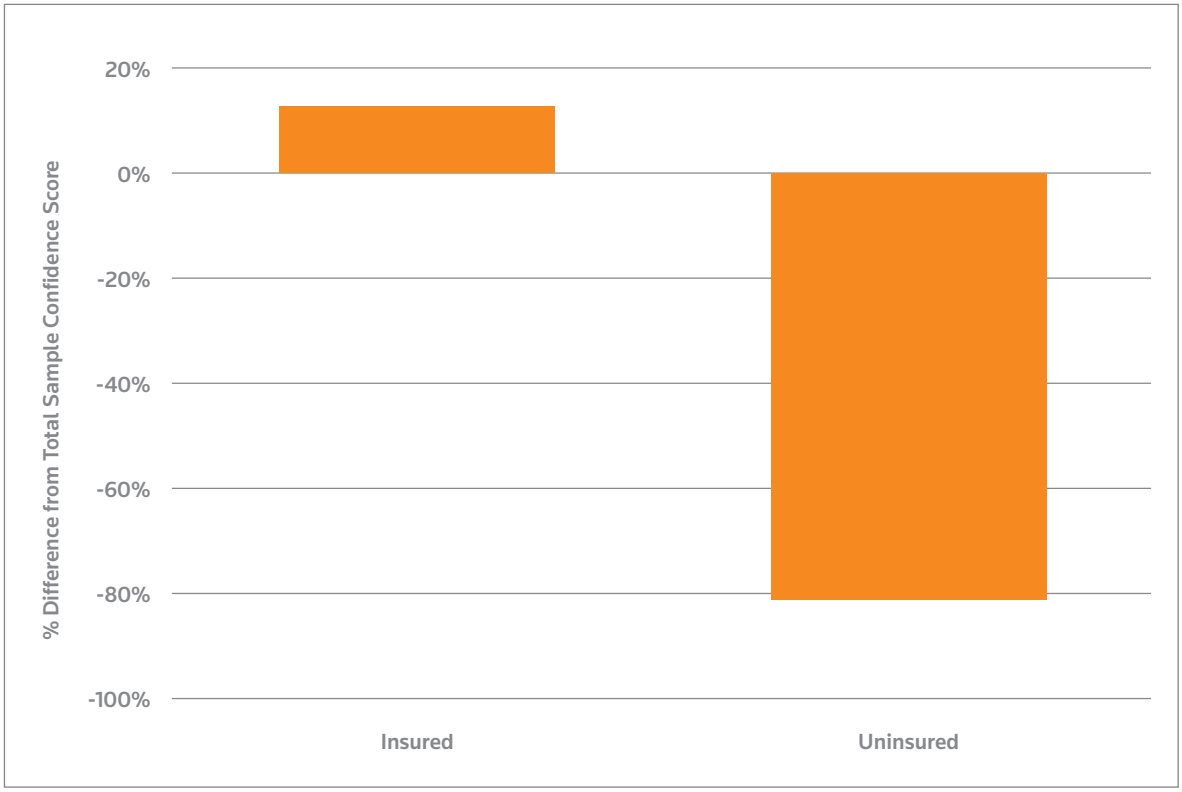
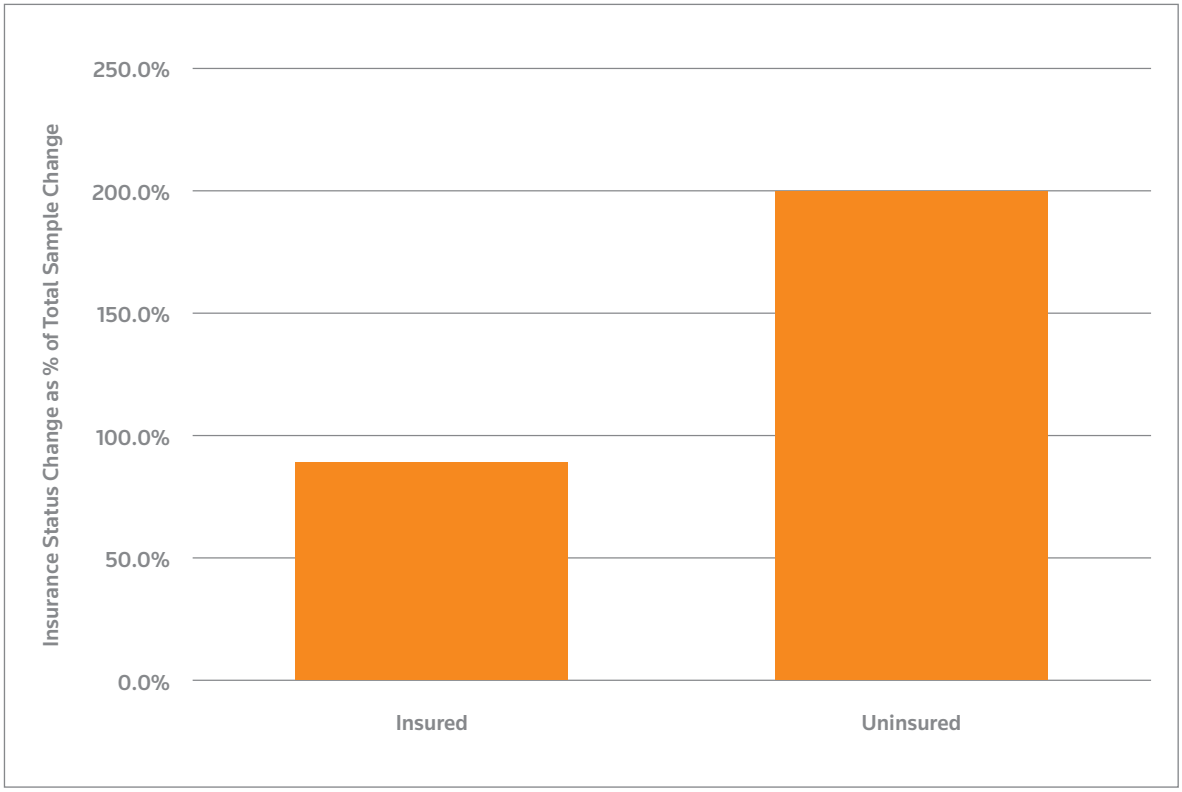


FIGURE 10: Changes in Overall Confidence by Insurance Coverage Status



SUMMARY

The Thomson Reuters Consumer Healthcare Indexes™: Consumer Confidence is based on data from the PULSE™ Healthcare Survey and tracks overall healthcare confidence as well as confidence in payment for and access to services. Our study of consumer confidence between March and July 2009 found:

- An overall index increased by 12 percent between March and July 2009.
- The index reflecting respondents' belief that they could pay for healthcare moved up approximately 18 percent.
- The indexes reflecting respondents' belief that they would be able to access necessary routine care, urgent care, medical testing, elective surgery and therapies all increased between 8 percent and 15 percent.
- Overall confidence levels were highest in the oldest ages in July. Improvement in overall confidence was also greatest in the oldest age group.
- Overall confidence increased with consumer household income level. Improvement in confidence was somewhat faster in two of the lower income groups.
- Higher levels of education are associated with higher overall confidence levels. Improvement in confidence was significant in lowest and highest education groups.
- Insurance coverage has a powerful effect on confidence levels. Those without insurance had overall confidence levels 80 percent less than average in July 2009. Confidence levels improved significantly for consumers with insurance.

APPENDIX

Six questions were asked of respondents about their expectations :
- Having difficulty paying for healthcare services (X1)
- Delaying or canceling a:
  - routine physician visit (X2)
  - physician visit for minor illness or injury (X3)
  - diagnostic test (X4)
  - elective surgery (X5)
  - therapy (X6)

Expectations were expressed on a 5-point scale, with 1 being "Not at All Likely" and 5 being "Very Likely."

The survey data were collected monthly in two-week time periods during 2009:
- March 16 – 30 (T0)
- April 21 – May 3 (T1)
- May 28 – June 8 (T2)
- June 29 – July 5 (T3)

Confidence scores (S1, … , S6) were computed for each of the six questions as follows:
- If Xi = 1 then Si = 1, i=1,…,6
- If Xi = 5 then Si = -1, i=1,…,6
- Else Si = 0, i=1,…,6

We selected this coding scheme to measure changes in extremes of sentiment. Other mappings of question responses into confidence scores are possible. An overall confidence score was computed as:

$$OS = (S1 + S2 + S3 + S4 + S5 + S6)/6$$

Overall and six component confidence indexes were computed as the ratio (multiplied by 100) of the current period sample average confidence score to the base period (March 2009) sample average confidence score. Sample weights were used when computing averages to adjust the sample to be representative of the U.S. population.

Statistical significance of differences in confidence scores over time was assessed using two sample t-tests (with sample weights applied).

NOTES

ABOUT THE CENTER FOR HEALTHCARE IMPROVEMENT

The Center for Healthcare Improvement (CHI) is a knowledge creation center for the Healthcare business of Thomson Reuters. Its main focus is creating insights to guide the healthcare industry toward improved performance.

CHI performs research aimed at improving the future of healthcare. Its experts mine treatment, outcome, safety, financial, operational, market share, and patient perception data across care settings to create new knowledge for providers. The team consists of pioneers who continually find new ways to integrate and analyze disparate data streams to develop unique measures and benchmarks. CHI seeks to support performance improvement cultures in hospitals and develop new methods to increase utility, reliability, and predictability of information for improving healthcare.

The members of CHI have subject matter expertise in hospital performance measurement, operations, statistics, epidemiology, demographics, patient care, managed care and hospital-cost reporting.

CHI also concentrates on pre-product research and development, and government and industry relations, and contributes data, analysis, and content to several annual reports and programs.

- *By the Numbers* healthcare industry annual trends report features new national trends in hospital business and clinical performance that affect providers, pharmaceutical companies, insurers and government. It includes in-depth analysis of high impact developments that will change healthcare as we know it today.
- The 100 Top Hospitals® program incorporates a national hospital balanced scorecard and benchmarks, with academic and industry research partnerships that investigate hospital leadership, organizational change, best practices, and performance improvement. By combining publicly available data sets and our empirical, time-tested methodologies, the 100 Top Hospitals program objectively identifies the highest performers in the nation and national rates of improvement

ABOUT THE ECONOMIC IMPACT SERIES

This research brief continues our monthly series focusing on the impact of the current recession on hospitals. The series combines current, proprietary Thomson Reuters data with public data to deliver unprecedented insight. Thomson Reuters works with its clients to provide information solutions to ease recession impacts in local markets. Read more of our research at http://provider.thomsonhealthcare.com/Articles/.

Consistent with Thomson Reuters guiding principles, this series will provide insights on factors that affect hospital business performance that are unbiased, reliable, and as current as possible. We will track metrics at a national and local level that may impact hospital financial or clinical performance. In doing so, we will:

- Use quantitative data to identify significant hospital industry changes
- Avoid reliance on opinion
- Incorporate public and Thomson Reuters proprietary data sources to construct findings

ABOUT THOMSON REUTERS

Thomson Reuters is the world's leading source of intelligent information for businesses and professionals. We combine industry expertise with innovative technology to deliver critical information to leading decision makers in the financial, legal, tax and accounting, scientific, healthcare and media markets, powered by the world's most trusted news organization. With headquarters in New York and major operations in London and Eagan, Minn., Thomson Reuters employs more than 50,000 people in 93 countries. Thomson Reuters shares are listed on the New York Stock Exchange (NYSE: TRI); Toronto Stock Exchange (TSX: TRI); London Stock Exchange (LSE: TRIL); and Nasdaq (NASDAQ: TRIN).

healthcare.thomsonreuters.com

Thomson Reuters
777 E. Eisenhower Parkway
Ann Arbor, MI 48108 USA
Phone +1 800 366 7526

©2009 Thomson Reuters.
All rights reserved.
TR-6924 08/09 ML

THOMSON REUTERS™