

CULTURE OF HEALTH

ANNUAL REPORT 2008

INNOVATIVE DELIVERY

HEALTH EQUITY



ALTARUM
INSTITUTE

SYSTEMS RESEARCH FOR BETTER HEALTH

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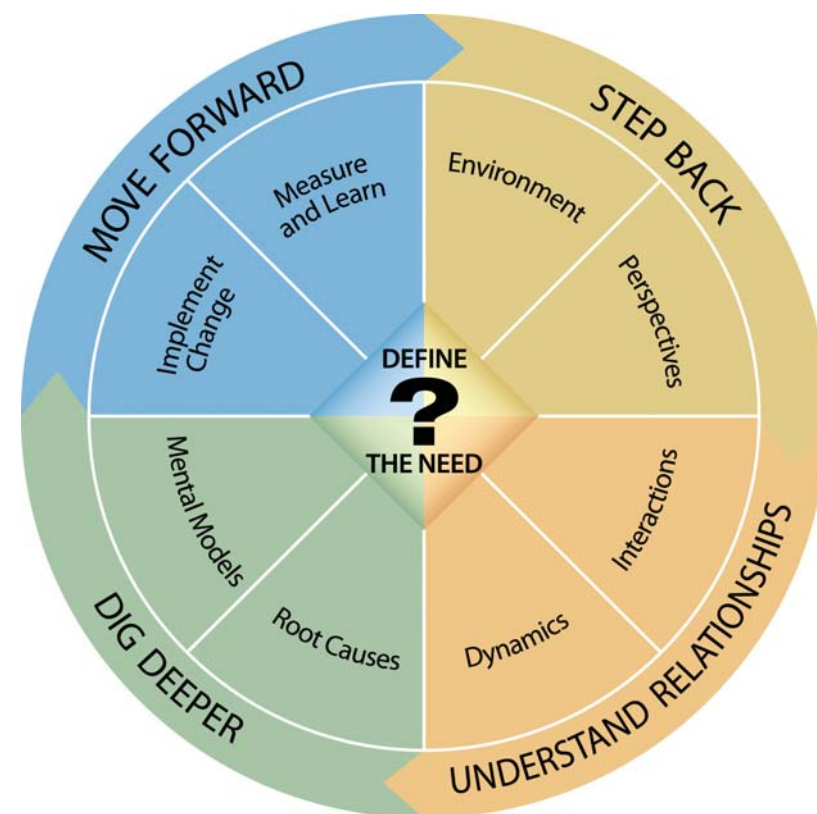
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Mission

Altarum serves the public good by solving complex systems problems to improve human health, integrating research, technology, analysis and consulting skills.

ALTARUM INSTITUTE SYSTEMS CHANGE MODEL



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Altarum Institute Systems Research Methodology

Altarum Institute's systems researchers begin with the understanding that there is no single health care "system." Health and health care depend on a complex network of systems that are constantly interacting and affecting human health. The Altarum Institute Systems Change Model® considers the larger environment in which problems arise, keeps focus on their root causes, and identifies critical system relationships that will make lasting solutions possible. With this approach, Altarum helps clients visualize the whole picture—ensuring a more comprehensive and sustainable solution to a problem.

The Altarum approach has five elements.

Define the Need

The key element when employing the Altarum Institute Systems Change Model is first, foremost, and always to gain an objective and comprehensive assessment of the problem that needs to be solved or the opportunity that needs to be seized. What is the current state? Where should it be?

Step Back

With the problem or opportunity clearly understood, the next action is to step back and look at the environment in which the system operates and view the system from multiple perspectives and disciplines. What are the boundaries on the system? Who are the stakeholders in the system? How do they view the problem or envision a solution?

Understand Relationships

Systems are built on relationships, so understanding a system means understanding the relationships among components within it. How do the different elements of the system interact? How have these interactions changed over time, and with what result?

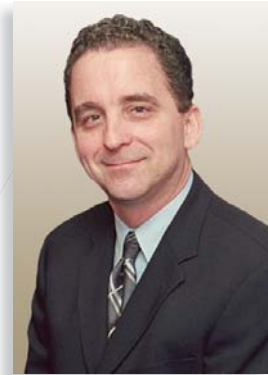
Dig Deeper

Immediate data is often insufficient in diagnosing the root cause of system problems or opportunities. Different mental models often lead stakeholders to see problems and solutions in different ways.

Move Forward

After careful analysis and modeling of change scenarios, changes can be planned and implemented—targeting those changes where they can have the greatest impact on overall system performance. Systems change and maintain stability based on feedback, so outcomes are carefully measured to ensure continuous improvement in the system and to promote learning within the organization that "hosts" the system.

CEO message



Lincoln T. Smith
President and CEO

The presidential election of 2008 placed health care reform at the very center of the domestic policy agenda. The financial crisis the United States has witnessed since the fall of 2008 has helped crystallize the reality that systemic reform of health and health care in America is fundamental to the financial sustainability and long term well being of the nation. In short, we have a degree of clarity, perhaps missing from past debates, as to why health really does matter to long-term American economic and social success.

For Altarum Institute, 2008 was a culminating point in which we began to see how years of internal transformation had prepared the Institute to take on heightened leadership in the health care debate that lies before the nation. Of course, we know ours will be one voice among many. Yet we are confident that, because of the steps we have taken these last few years, Altarum Institute is uniquely positioned to help shape and inform critical debate and, ultimately, implement and evaluate resultant policies and programs.

This “unique position” flows from many deliberate decisions and investments we have made along the way.

We built on our foundation as a nonprofit institute. Many players come to the health care reform debate with many motivations. But we believe the public’s interest in this debate is best served by those that hold the public interest as their preeminent interest—as nonprofits are intended to do.

We streamlined an organization with a diverse range of research and consulting specialties and created an institute with an exclusive focus on health and health care, ensuring a seamless alignment with our clients, their values, and their need to navigate changing policy environments.

We deepened our data-driven research agenda so that we have the new models and tools needed to ensure policies lead to practical solutions that improve health and care at the individual, community, state and federal levels.

We launched the Altarum Institute Mission Projects Initiative, an \$8 million, two-year program designed to solve pressing issues in community health and demonstrate change models that can be replicated broadly.

We applied the Altarum Institute Systems Change Model[®] broadly to our work, revealing the larger environment in which systems failures arise and focusing both our research and consulting on the root causes and critical systems relationships that make meaningful, lasting change possible.

As we close the books on fiscal year 2008, the senior leadership team and I think of the many who have helped propel us to this point in our history: a highly skilled and loyal staff, a Board of Trustees that offers wise and supportive counsel, and a community of clients and funders that has encouraged and motivated us to work on their toughest problems.

To all of you, we offer our thanks and our commitment to keep you proud of your affiliation with us.

Linc Smith

A handwritten signature in black ink, appearing to read "Linc Smith". The signature is stylized and cursive.

Client-funded research and consulting services

Altarum's nonprofit institute status ensures that the public interest is preeminent in its work. Altarum serves that interest in partnership with its clients and, in doing so, enables better care and better health for communities and vulnerable populations.



ABBOTT NUTRITION

Improving outcomes for life-threatening bloodstream infections

Despite the awareness of systemic blood stream infection (sepsis) for more than 2,500 years, its incidence is increasing and it remains life threatening. In its most severe form, sepsis progresses to septic shock, causing organ dysfunction and death. While the incidence of severe sepsis is not fully understood, more than one million cases in the United States and 450,000 cases in Europe are reported annually, and mortality rates run between 25% and 50%.

Altarum Institute worked with Abbott Nutrition by analyzing the clinical and economic impact of medical intervention with Oxepa[®], an enteral diet enriched with eicosapentaenoic and gamma-linolenic acids and antioxidants (EPA/fish oil and GLA/borage oil—commonly available nutrition supplements). These ingredients have been shown to improve outcomes in patients with acute respiratory distress syndrome when severe sepsis or septic shock is present.

During the 28-day study period, patients fed Oxepa[®] averaged more days without ventilator support, fewer days in intensive care, and a 20% absolute risk reduction in mortality. At less than \$250 per patient, the financial advantage is at least 2 to 1 for enterally feeding Oxepa[®] to severe sepsis patients in intensive care. Both the lives and money saved are immediate. Yet, after nearly 15 years on the market, less than 15% of patients who are candidates for Oxepa[®] receive the intervention.

Altarum published its findings in two European trade journals, presented to several U.S. hospital chains, and presented at the American Society of Parenteral Nutrition in February 2009 to an audience of more than 325 clinicians from around the world. Video and audio conferences are being prepared to be used internationally, and the study has been adapted for Germany, Japan, England, Spain, Canada, and Italy. Next steps are to formally request changes to professional society clinical guidelines.



AIR FORCE MEDICAL SERVICE

Analyzing pharmacy trends among military beneficiaries

The Air Force Medical Service (AFMS) provides pharmacy drug coverage to approximately 2.6 million beneficiaries. This coverage includes three options for filling prescriptions: (1) direct care (DC) at military pharmacies, (2) care at civilian retail pharmacies, and (3) care through the TRICARE Mail Order Pharmacy (TMOP). The number of prescriptions filled and their associated costs have risen steadily over the past few years, and they exceed the general medical inflation rate. Prescriptions filled at the DC pharmacies or TMOP cost the government far less than those filled at retail pharmacies.

The AFMS selected Altarum to review the pharmacy trends from 2003 to 2007 and identify possible factors behind these increases. Altarum looked at all three options. Environmental factors were also examined, such as opening TMOP and retail pharmacy options to those age 65 and older, standardizing the retail contract nationwide, and Hurricane Katrina's severe impact on Keesler Air Force Base.

Altarum's analysis clearly showed that the number of prescriptions filled was increasing. It also showed that the balance was shifting among the three options and migrating toward the most expensive option (retail pharmacy). Expanding retail coverage nationwide let beneficiaries outside their own region use retail pharmacies easily, and giving retail access to those age 65 and older led to more prescriptions being filled at retail pharmacies that were easier to reach.

These findings will better arm the AFMS with knowledge and information to address and mitigate spiraling pharmacy costs while still providing the care needed. In addition, this analysis can be extended to the full 9 million beneficiaries of the Military Health System.



AMERICAN COLLEGE OF EMERGENCY PHYSICIANS

Evaluating the emergency care environment

The emergency care system in the United States is in serious condition, with numerous states facing critical problems. The use of emergency departments is rising; the supply of inpatient hospital beds for admitting emergency patients is shrinking; the number of physicians willing and available to take calls is decreasing; and despite the growing demand for their services, the available pool of emergency departments is declining as well. To systematically assess states' support for their emergency care systems, the American College of Emergency Physicians (ACEP) contracted with Altarum Institute to assess the emergency care environment in the 50 states and the District of Columbia and to assign grades to each state and the nation as a whole.

Altarum worked with ACEP leaders to identify and gather consistent state-level data on 116 indicators in five categories: Access to Emergency Care, Quality and Patient Safety Environment, Medical Liability Environment, Public Health and Injury Prevention, and Disaster Preparedness. Altarum researchers then assigned weights to each indicator and calculated grades for each state and the nation within each category and overall.

The grades, as well as recommendations for each state and the nation, were detailed in *The National Report Card on the State of Emergency Medicine 2009*, published both as a stand-alone document and as part of the January 2009 issue of the *Annals of Emergency Medicine*. The Report Card was released by ACEP in December 2008 and received extensive attention from newspapers, local television stations, and Web sites across the country.



Helping people with disabilities join the workforce

OFFICE OF DISABILITY EMPLOYMENT POLICY

The Department of Labor Office of Disability Employment Policy (ODEP) helps ensure that people with disabilities are able to participate fully in society and advance their social and economic independence through productive employment. Employment offers significant economic benefits to persons with disabilities and creates important social and societal benefits, yet due to physical, psychological, emotional, and other barriers, only two-fifths of persons with disabilities are employed.

Altarum Institute researchers are studying five specific areas to advance ODEP's understanding of the complex and significant employment barriers to employment for people with disabilities. The five areas follow:

- Access to Healthcare and Corporate/Worksite Wellness Study
- Flexible Spending Accounts for Personal Assistance Services Study
- Financial Literacy for Youths with Disabilities
- Implementing Recommendations Related to ODEP's Performance Measures
- National Survey of Consumer Survey, which will update ODEP's knowledge of consumer attitudes toward companies that employ individuals with disabilities

Altarum researchers will update and expand a 2005 survey of consumer attitudes by such characteristics as age, education, employment status, income, and state. The researchers will compare results with earlier findings and they expect to identify trends and recommend to ODEP new research-based approaches to disability employment policy and communication outreach.



Providing more veteran care by recovering costs

VETERANS HEALTH ADMINISTRATION, CHIEF BUSINESS OFFICE

Military veterans receive health care services through Veterans Affairs' Veterans Health Administration (VHA) at more than 150 medical centers and more than 1,400 points of care. VHA has more than 7.8 million enrollees and treats more than 5.5 million patients. Over the next ten years, VHA expects that there will be increased demand in ambulatory services, non-institutional care, mental health care, and substance abuse services. The cost of some of that care is covered by other parties and programs, and recovering those costs will let VHA improve its services.

The increase in potentially billable services has created a need to closely measure and track collections opportunities. To support this aim, Altarum Institute has developed and implemented an objective methodology that equitably allocates to each medical center the collection targets proposed in the President's Budget. Throughout the year, Altarum analysts review and analyze revenue cycle data to identify anomalies and other collections performance issues. Based on these findings, they propose opportunities for improvement.

In addition to monitoring collections targets and other key metrics, Altarum analysts are leading the development of an integrated collections forecasting model that is intended to tie together all the components of the models currently in use. The Altarum Team draws on a comprehensive understanding of the revenue cycle process along with experience in developing complex models to develop a robust model that will let the VHA focus their attention on improving processes and systems that affect collections and respond to congressional inquiries on performance.



Estimating mental health needs of military veterans

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Many veterans and Service members returning from the wars in Iraq and Afghanistan have mental health or substance abuse treatment needs and will seek care from the Veterans Health Administration or, in the case of active-duty Service members, through Department of Defense treatment facilities. Because of geographic inaccessibility, ineligibility, the perceived stigma of seeking mental health care for active duty military personnel, or other factors, some returnees will turn to other sources of mental health care, and some of these will be paid for by the Department of Health and Human Services (HHS).

To help plan for expanded care for returnees, HHS asked Altarum Institute to estimate the number of returnees who will seek treatment at facilities and programs that are funded in part through HHS. In addition, they sought an estimate of the expected cost of such treatment.

Altarum researchers used a variety of existing data sources to estimate the numbers of returnees and the cost of their care from FY 2003 through FY 2007. Data from the peer-reviewed literature was combined with analysis of data from the Defense Medical Surveillance System, the Medical Expenditure Panel Study, the Medicaid Analytic Extract, and the National Survey on Drug Use and Health to estimate the prevalence and cost for treatment of five mental health conditions: major depressive disorder, post-traumatic stress disorder, alcohol abuse, mild traumatic brain injury, and suicidality. By preparing for this additional cost, HHS will be able to expand the mental health services available to these veterans.



Improving operating room capacity for care

MEMORIAL SLOAN KETTERING CANCER CENTER

Altarum Institute's Lean Six Sigma Team has been helping one of the world's finest hospitals, Memorial Sloan Kettering Cancer Center, apply Lean Six Sigma process improvement methods in their surgery processes. These methods greatly improved cancer surgery flow, effectiveness, and efficiency.

Altarum Institute introduced Sloan Kettering leaders to Value Stream Mapping and analysis that highlighted waste throughout the surgery process, from referral, through surgery and recovery, to discharge. Significant gains were made in on-time-to-surgery, productivity, and quality measures.

One of the opportunities for improvement was operating room "turnover time." This is the time required to remove supplies, equipment, and instruments after a surgery; disinfect the operating room; and then bring in and prepare the supplies, equipment, and instruments needed for the next surgery.

Over three days, the Lean Six Sigma Team led a group of Sloan Kettering professionals through a Quick Room Turnover Rapid Improvement exercise. The group analyzed videotaped operating room turnovers and identified ways to complete them faster and more effectively, reducing turnover time by more than 70%. The cumulative time saved for all operating rooms enabled additional surgeries within the surgical staff's regularly scheduled hours, thereby avoiding overtime costs. The ability to help more patients while reducing overtime will yield an estimated annual revenue improvement of more than \$1 million.



MILITARY HEALTH SYSTEM

Determining the accessibility of health care services

Providing health care in the midst of a military operation is complex and challenging. Providing it to beneficiaries back home can be equally complex and challenging. Military Health System (MHS) beneficiaries—including active duty family members, retirees, and their family members—can live almost anywhere in the United States and have a wider range of needs than troops in the field (e.g., obstetrics, neonatal care, geriatric care). In addition to medical services provided directly by military staff at military facilities, the Department of Defense (DoD) is increasingly relying on a network of approved civilian providers under their TRICARE program to care for non-active duty beneficiaries.

Since the advent of DoD health care delivery policies in 2006 that guaranteed family members enrolled in TRICARE access to providers within a 30- or 60-minute drive, the MHS continues to evaluate and apply commercial best practices to measure MHS performance. Understanding beneficiary proximity to a TRICARE network of providers is an important step in assessing the overall adequacy of the system in providing high-quality care to the families of U.S. fighting forces.

While helping DoD in this evaluation, Altarum Institute researchers developed advanced geospatial algorithms and models so that MHS TRICARE regional offices can quickly assess how long it will take roughly 2 million active duty family members in the United States to reach TRICARE behavioral health providers. Understanding this accessibility provides the basis for helping to ensure that active duty family members get the care that they need.



OFFICE OF POPULATION AFFAIRS

Assessing cultural competency at Title X clinics

As the only federal program dedicated solely to providing family planning and reproductive health services, Title X uses a comprehensive network of community-based clinics to provide access to care for low-income and uninsured clients. These people tend to be members of underrepresented racial and ethnic groups for whom the only continuing source of health care and health education is often the public clinic.

Initial research has indicated that while Title X clinics appear to be providing a wide range of culturally and linguistically competent services, these strategies are not widely understood. Promising and best practices have not been consistently documented. Many cultural and linguistic competence guidelines and resources have not been tailored specifically to family planning settings.

Under contract with the Department of Health and Human Services Office of Population Affairs, Office of Family Planning (OFP), Altarum Institute researchers are evaluating specific strategies that are being created and adapted to provide culturally and linguistically competent care within Title X-supported clinics. Altarum developed a comprehensive literature review; conducted interviews with federal staff and family planning researchers; and conducted site visits to family planning clinics to meet with clinic administrators, clinical and education staff, and clients. This systems approach to the issue is helping OFP define cultural competency within the Title X context; identifying current services, activities, and gaps; and highlighting innovative strategies that will guide future policy and program development.



Designing better electronic health record interfaces

AGENCY FOR HEALTHCARE RESEARCH AND QUALITY

Electronic Health Records (EHRs) hold the promise of improved quality, enhanced safety, and reduced costs. However, EHR solutions that tap into available information and integrate seamlessly with clinical workflows are still in development. Designing the EHR interface—the way that information is displayed to the practitioner and how he or she navigates the EHR—is an essential component of supporting the clinical decisions. Recognizing the limited research and best practices in this area, the Agency for Healthcare Research and Quality (AHRQ) enlisted Altarum Institute to facilitate improved design of EHR interfaces.

As an initial step, Altarum explored the current state of research and theory on both EHRs and information design principles (e.g., such as navigation and the ease of finding critical information; abstraction, representation, and visualization; internal and external consistency; text detail). The research team then convened a panel of experts from academia, the government, and the provider and vendor communities and held a two-day session to develop priorities and strategies. AHRQ can use these to influence the future of EHR design by combining theories in cognitive ergonomics, information design, and physician workflow and decisionmaking.

The next generation EHR will leverage available information to support the clinician's decision process directly and enhance their ability to deliver efficient, high-quality, and evidence-based care. Altarum is actively engaged in defining that next generation of the EHR.



Modeling the specialty mix of new physicians

COUNCIL ON GRADUATE MEDICAL EDUCATION

With the aging of the U.S. population, the potential for expanded insurance coverage under health care reform, and the aging of the physician workforce, there is growing concern about forecasted physician shortages in the U.S. Concerns about primary care are especially strong because primary care incomes have not kept pace with those of other specialties, and there has been a steady decline in the number of U.S. medical school graduates who are interested in practicing as generalists.

Over the past 25 years, Altarum Institute researchers have conducted more than 40 health workforce studies for the federal government, the Military Health System, individual states, and professional societies. Under a contract with the Health Resources and Services Administration, Bureau of Health Professions, Altarum researchers are applying their expertise to support the Council on Graduate Medical Education (COGME) in examining the U.S. physician specialty mix and identifying factors that influence the number entering primary care.

The Altarum Team is developing a simulation model to forecast the primary care/specialist mix of new physicians under baseline and alternative policy scenarios. The model captures physicians' preferences for primary care and non-primary care, residency training positions offered, and the reconciliation of specialty preferences and training positions through the National Resident Matching Program. Logistic regression analysis is being used to estimate the income elasticity of specialty choice. This work supports COGME as they consider recommendations for their upcoming 20th report and it supports other policymakers as they develop strategies to address concerns about primary care shortages.



Supporting advisors on Newborn Screening programs

HEALTH RESOURCES AND SERVICES ADMINISTRATION

Newborn screening (NBS) in the U.S. is a highly visible and important state-based public health activity with roots that stretch back more than 40 years. Today, with the advent of new technologies and a growing awareness of the outcomes of inheritable disorders, the NBS landscape is changing dramatically. With these changes comes an array of issues that need to be addressed. Of particular concern are the issues facing the public health system, which carries major responsibility for directing and guiding NBS services. These are complex challenges, since, as described by the American College of Medical Genetics, NBS is more than just testing—it is a coordinated and comprehensive system of education, screening, follow-up, diagnosis, treatment and management, and program evaluation.

The Advisory Committee is composed of seven voting members, including medical doctors, researchers, geneticists, medical informatics experts, and one parent or consumer representative. In addition, four nonvoting members represent the March of Dimes, the American Academy of Pediatrics, the Advisory Committee on Genetics, and the Advisory Committee on Infant Mortality. Four HHS agency directors also participate on the committee, including one each from Health Resources and Services Administration (HRSA), the Agency for Healthcare Research and Quality, the Centers for Disease Prevention and Control, and the National Institutes of Health.

Altarum Institute researchers have collaborated with the Genetic Services Branch of the HRSA Maternal and Child Health Bureau to provide logistical and technical support for the Advisory Committee on Heritable Disorders and Genetic Diseases in Newborns and Children for related newborn and early childhood screening program activities since 2001.



Analyzing military drug-testing laboratory needs

DEPARTMENT OF DEFENSE

The Department of Defense (DoD) currently operates six drug testing laboratories with established requirements for each military service to conduct urine tests. These six facilities are different from other military medical laboratories as the military drug testing program is a forensic program in which all testing procedures, analyses, and results must stand up in court. DoD requested an economic requirements analysis to determine whether these facilities are properly staffed to meet projected workload and whether it is more cost-effective to continue with these laboratories or outsource part or all of the workload to the private sector.

Altarum Institute, in conjunction with Sherlock, Smith, & Adams and Perkins & Will, architecture and engineering firms, comprehensively evaluated the laboratories. This Laboratory Economic Requirements Analysis included detailed economic analysis to identify projected workload, rightsizing of operations, and cost analysis to determine whether it was more effective to continue operating some or all of the labs or to contract out services to private-sector laboratories.

Altarum's analysis indicated that six labs are optimal. In addition, having DoD operate the labs rather than contracting out these services presents cost advantages as well as the flexibility to meet surge requirements and conduct research into methods of testing for new designer drugs. Based on the results of this study, DoD will proceed with plans to retain, renovate, and maintain the current labs and to cross-level the workload as needed.

Internally funded research and development

Altarum Institute integrates research and consulting to create superior solutions. Data-driven research informs Altarum's consulting services, keeping its work technically robust and analytically solid. At the same time, Altarum's consulting discipline deeply grounds the research program in the real world of evidence and problems that must be solved.

Altarum's Internal Research and Development (IRAD) program encourages and supports staff in conducting novel research that builds the technical capacities of the Institute, making it more effective in the service of its clients and its mission.



Updating a seminal work: *Handbook for Mortals*

People facing the end of life, either their own or a loved one's, are often at a loss for what to do—what to expect; where to find help; and, most of all, how to live well despite illness. Today, growing awareness of the importance of hospice and palliative medicine offer new insights and strategies for helping people face the end of life. To keep pace with these changes, Oxford University has requested that a second edition be written of its seminal work, *Handbook for Mortals: Guidance for People Facing Serious Illness*.

Published by Oxford University Press, the first-edition *Handbook* received glowing reviews in publications ranging from *JAMA* to *The Washington Post* and is widely recommended by hospices nationwide. Its credibility and popularity stem from the authors' experiences in hospice and palliative medicine and the practical help their insights and advice offers.

Altarum Institute is working on the revised and updated edition of *Handbook for Mortals*, tentatively scheduled for publication in 2010. Like the first edition, this will be another practical, real-world guide for patients and families seeking comfort, support, information, and meaning at the end of life. The plan for *Handbook for Mortals* incorporates information about best practices and new approaches to end-of-life care, with a focus on how patients and families can apply that information to their own end-of-life journeys. Planned revisions include new information based on interviews with clinicians, practitioners, and hospices nationwide to feature innovative approaches to care. New information focuses on topics such as pain management, advance planning, long-distance caregiving, Medicare reimbursement, and living with specific diseases (i.e., information on self-care management).



Applying systems science to the treatment–prevention trade-off

It is commonly believed that current health care expenditures inappropriately emphasize treatment over prevention and that national expenditures on prevention account for only about 3% of total health care expenditures.

In a peer-reviewed publication describing the results of a previous Altarum Institute IRAD project (Miller et al., 2008), estimates of national expenditures on prevention suggest that expenditures are more than 8% of total expenditures—significantly higher than commonly believed. Another investigator provided evidence that the distribution of cost-effectiveness of preventive measures is similar to that of treatment interventions. It is thus unclear to what extent shifting resources from treatment to prevention would improve the health of the nation. To date, this important issue has received insufficient attention from a systems perspective.

A current internal research and development project is generating a dynamic model of the impacts of alternative investments in treatment and prevention, including investments in research to develop new treatment and prevention interventions, as a useful tool in increasing understanding of these interactions and tradeoffs. Its practical use would improve knowledge of the ways in which alternative allocations of funds interact to produce an overall effectiveness associated with such allocations.



Encouraging advanced directives

At first, living wills were simple—all-or-nothing directives about treatment interventions at the end of life. Over time, advocates for expanded patient's rights finally prompted Congress's reaction to a series of cases, which led to the Patient Self Determination Act (PSDA).

The PSDA was the legislative solution designed to increase rates of completed advanced directives. By early 1990, it was clear that the impact of this legislation was small. Disappointingly few prospective patients actually sign an advanced planning document. Most official state forms for advanced directives are either worded too generally or include multiple choice options that may be too broad to guide decisions about a particular medical situation near the end of life.

Agency for Health Research and Quality studies demonstrate that: (1) providers and patient surrogates have difficulty knowing when to stop treatment and often wait until patients “cross over the threshold” to actively dying before advanced directives were invoked, (2) language in advanced directives is usually too general to provide clear instruction, and (3) advanced directives help make end-of-life decisions in fewer than half of the cases where one existed.

The goal of this internal research and development project is to provide a more useful advanced directive tool from patient, provider, and caregiver perspectives by facilitating a more detailed communication regarding patient preferences. Facilitation of this communication is through a software product for attorneys and their clients with clinical support resulting in development of a more detailed advanced directive.



Stay or go? Determining criteria for disaster responses

Emergency planners can get information and guidance once a decision is made to either shelter in place (SIP) or evacuate in anticipation of a disaster.

The Department of Homeland Security (DHS) Target Capabilities List (TCL-2007) for community preparedness and response addresses performance measures for planning and executing SIP and evacuation actions. The Federal Emergency Management Agency and other federal and state agencies also provide sufficient information about necessary resources and how to implement SIP or evacuation actions effectively.

There are no criteria, however, in the TCL or other federal documents that help community emergency planners decide whether to advise local at-risk populations to SIP or evacuate. At-risk populations for this project are considered to be long-term care patients, home care patients, and other special-needs populations. Because they have similar populations, hospitals also need these decision-making criteria.

The economic and societal impact of the critical decision on whether to evacuate or SIP in the face of a disaster has major consequences for all sectors in a community, including all health care systems. Guidelines for making these decisions can help reduce the costs of a community's disaster response and can mitigate the negative outcomes of the disaster. This internal research and development project is researching and documenting what, if any, guidance exists on making decisions to evacuate or SIP during emergencies.



A systems approach to health incentives

Analyses of health system incentives typically focus on a particular type of incentive (usually financial) and on a single aspect of the health system (e.g., provider efficiency, healthy behaviors). Many reform initiatives have failed because reformers have tended to focus too narrowly. One potential solution is to unite all participants in the system in a common purpose.

The goal of this internal research and development project is to create an analytic framework for a common set of terms and concepts that can facilitate an integrated and coordinated approach to studying health system incentives.

The product of this internal research and development project will serve as the common analytic framework employed by numerous investigators of health system incentives, making it enormously helpful in both selecting and guiding investigators. Finally, this novel systems-oriented approach to studying health system incentives is certain to generate new ideas for further research.



De-coupling nutrition and disabilities

Individuals with cognitive or physical disabilities make up a disproportionate share of the health care expenditure dollar, particularly in Medicaid. Many of the medical issues faced by these individuals are made worse by poor nutrition, often resulting in excess weight and obesity. Overweight and obese individuals are at an increased risk for diseases and health conditions, including cardiovascular disease, some cancers, cerebrovascular disease, sleep apnea and respiratory problems, and diabetes.

People who live in group homes or who are provided community-based assistance through Medicaid waivers often have no control over what they are served for meals. At the same time, the individuals who shop and prepare these meals have little or no education in nutrition and healthy eating. Group outings for these individuals are often trips to a high-fat fast food restaurant.

The aim of this internal research and development project is to assess the need for nutrition education services for organizations serving individuals with disabilities. Based on the project's findings, the team will develop a research-based practical resource guide for providing nutrition education and physical activity for individuals with disabilities and those who care for them.



Integrating screening and treatment practices for veterans

The stress of deployment and combat increases the risk that service members will develop such mental health problems as depression, posttraumatic stress disorder, and alcohol misuse. Recent data from the routinely administered, post-deployment health screenings show that 20% of active duty Service members and 42% of reserve Service members report a mental health problem that requires treatment. Stigma and trust in specialty mental health care have been implicated as major barriers for receiving care in the Military Health System. Left untreated, however, these problems can lead to such long-term health consequences as injuries, neurological problems, and potentially death for the Service member and even members of their families.

The Center for Substance Abuse Treatment guidelines urge primary care providers to integrate screening and treatment into their practices. An extension of the Screening, Brief Intervention, and Referral to Treatment (SBIRT) approach to depression would expand the reach of primary care providers, given the potential for comorbidities in post-deployment Service members. SBIRT is easily implemented in medical offices and may be a valuable model for addressing behavioral health needs of post-deployment veterans.

The goal of this internal research and development project is to produce an interactive, Web-based training portal that can be offered to primary care providers, organizations, and medical groups for them to use in training primary care providers. An additional aim is to coordinate continuing medical education credit for those who complete the online module.

Altarum Institute Mission Projects

In 2008, Altarum Institute launched its Mission Projects Initiative, a \$7 million multiyear commitment funded by the Institute.

Mission Projects are designed to solve pressing and, to date, unaddressed health systems issues in communities. Each project is built on an underlying systems-based methodology for engaging stakeholders; identifying root causes to systems failure; and implementing meaningful, sustainable change. The ultimate aim is to see the approach developed for these demonstration projects replicated more broadly.

Altarum's first three Mission Projects address the following health systems issues:

- Childhood obesity prevention
- Community health and social services for veterans
- Innovation in community health centers

These projects were chosen because each presents unique systems challenges that impact the health, quality of life, and economic security of millions of Americans. Altarum is dedicating more than \$2 million in staff and other internal resources to each of these three projects.

Childhood Obesity Prevention Mission Project

The epidemic of childhood obesity is recognized as one of the leading public health threats of the 21st century. It is likely to shorten and diminish the quality of life of millions of Americans and lead to unsustainable burdens being placed on an already strained health care system.

The epidemic is not simply the result of poor decisions and unhealthy behaviors at the individual level; it is a symptom of a number of broken systems and increasingly unhealthy societal norms. Clinical systems are ill-equipped to manage or prevent childhood obesity. Government and corporate practices often promote unhealthy behavior. Disparities in health-promoting resources at the community level make it difficult for children and families who are most at risk to make healthy choices. The need for systems change in each of these sectors presents strategic opportunities for the development of model interventions.

Altarum Institute's Childhood Obesity Prevention Mission Project is investing \$2.5 million to support strategic partnerships and a number of systems-changing projects designed to promote a healthy, active lifestyle. The Childhood Obesity Prevention Mission Project employs a multi-systems approach. Financial, human, and technical resources will be mobilized to effect health-promoting changes in clinical, community, corporate, and governmental sectors. Altarum's expertise in working with complex systems (e.g., early childhood education and care systems, food and nutrition systems, data surveillance systems, and public- and private-sector clinical quality systems) will be applied to our work with external partners dedicated to preventing childhood obesity.

During this 2-year project, a team of Altarum staff, as well as external advisors and partners, will develop and implement sector-specific pilot projects designed to support and promote physical activity and healthy eating. The team will work to weave these efforts together and to disseminate successful methods and changes in policies or practices. To ensure its success, the project is being organized by a group of established leaders from other nationally recognized childhood obesity prevention collaborations.

The aim of the project is to develop and pilot effective systems change models to confront the epidemic of childhood obesity in the United States. Over 2 years, the project's team will work to prioritize and take advantage of strategic opportunities, resulting in procedural and structural changes to systems affecting the health and nutritional status of children and families. The team will evaluate the impact of this work and lay the groundwork for future interventions by disseminating findings and investing in sustainable infrastructure and partnerships.

Veterans Community Action Teams Mission Project

Nearly 24 million veterans and their families rely on their local communities to provide health care, vocational rehabilitation, training and employment, caregiving, social services, and housing and independent living assistance. Since 2002, more than 870,000 service members have swelled the ranks of the existing population of aging veterans, expanding the range of services needed from independently administered local services.

The Veterans Community Action Teams (VCAT) Mission Project will develop a model approach for integrating community services and will test the model in partnership with a local community. Multiple agencies, disciplines, and public, private, and voluntary organizations will be invited to collaborate in the project. Using a participatory approach to design the project, the team will take into consideration veteran needs and community resources. Programs will be designed to integrate fragmented services and increase access to related services. If gaps exist, new initiatives will be proposed.

Initial phases of the project involve research and development, outreach and communications, and collaboration with strategic partners. During the research and development phase of the project, the team is identifying best practices for integrating services, drawing on literature, interviews, and lessons learned from previous Altarum Institute community projects. Altarum Institute and project leaders are working with state and local communities and public, private, and nonprofit organizations to identify a community for a demonstration project. A primary goal is that this model be evidence based and sustainable. Dissemination of information about the project will support replication of the model in other communities.

Community Health Center Innovation Mission Project

Community Health Centers (CHCs) are a critical component of the health care safety net. They provide primary care to an estimated 17 million people in more than 6,000 settings annually. Federally supported and locally organized, CHCs offer low-cost, culturally appropriate care in rural areas, the inner city, and a wide variety of other challenging settings to largely indigent, isolated, and vulnerable populations. As a result, CHCs improve access to care, reduce health disparities, and often treat more complex conditions than other primary care providers.

By design, CHCs are highly decentralized and community-centered. This has enabled widespread experimentation in the design and management of care, as well as many successful innovations. At the same time, this decentralized structure may limit communications among CHCs and inhibit their ability to share innovative technology, tools, methods, and approaches. Furthermore, resource constraints necessitate innovative approaches while limiting CHC access to external experts.

Altarum Institute recognizes the existing strengths of front-line CHCs, as well as the opportunity to further enlarge and expand on that success to reduce health inequity and improve health among the most vulnerable populations in the United States. An Altarum research team will work with CHCs, communities, and experts to identify high-performing, innovative centers and their breakthrough achievements. The team will identify opportunities for pilot programs with several centers and provide support and expertise in health systems operations, analysis and evaluation, technology, and other resources. The team will collaborate to understand how hard-earned successes at the local level can be shared at regional and national levels.

Altarum's research team will ensure the integrity of this effort by adopting the CHC structure of user involvement in overseeing service delivery. An advisory board, comprising project participants and stakeholders, will guide the program.

Through this effort, the Altarum Team hopes to improve care and enact lasting changes among the CHCs in the pilot sites, turning good CHCs into great ones. Furthermore, the team will help identify a program of innovation and improvement that can then be shared and implemented among CHCs nationwide. Altarum's work will enable the team to intelligently inform and shape federal policy for all CHCs in order to improve service delivery, efficiency, and effectiveness in this critical area of the health care safety net.

Distinguished Scholars Program

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Michael D. Parkinson, MD

Past President, American College of Preventive Medicine



David R. Williams, PhD

Florence and Laura Norman Professor of Public Health, Harvard School of Public Health, and Professor of African and African American Studies and an Affiliate of the Sociology Department, Harvard University

The Altarum Institute Distinguished Scholars Program creates a bridge between the Altarum Institute staff and the nation's most preeminent thought leaders and practitioners in health and health care. Distinguished Scholars are offered a two-year appointment, during which they work with Institute leadership to shape, execute, and evaluate Altarum's research agenda. Distinguished scholars are active partners in the Institute's internal research and development program, represent Altarum in key policy forums and conferences, help to advise Altarum's Board of Trustees on research strategy and priorities, and co-author research publications with Altarum staff. The Distinguished Scholars Program will also host an annual research conference.

Altarum Institute sponsorship

PROFESSIONAL WOMEN'S CYCLING TEAM



2008 cycling team members, L to R: Lesley Golenor, Susan Heffler, Chris Kelley, Jenette Williams, Jen Rasmusson, Kate Flore, and Michele Bote. Not pictured: Kristy Scheffenacker and Lorena Candrian.

Altarum Institute is a proud sponsor of a professional women's cycling team. Part of the Institute's wider initiative to encourage wellness and healthy living, the Altarum women's cycling team teaches "Cycling Fitness 101," an educational program for elementary students that promotes the virtues of exercise, proper nutrition, and cycling safety. Now in its second year, this innovative program not only is fun, but helps teach students the importance of physical fitness and proper dietary and health choices.

The Cycling Fitness 101 program has the following objectives:

- Teach students about the importance of nutrition and a healthy lifestyle
- Show students exercises that will help with the strength and flexibility of muscles needed for cycling
- Provide students with an overview on bike racing, strategy, and the components of preparing to race at the national level
- Demonstrate to students how to practice proper bike safety

Cycling Fitness 101 was first piloted in Michigan and is being expanded to a number of elementary schools in the Washington, DC area.

CFO message



Mark A. Kielb
Senior Vice President and Chief
Financial Officer, Altarum Institute

December 31, 2008 marked the close of Altarum Institute's first "all health" reporting period. The three-year transition from a predominantly defense-oriented government contractor to a research and consulting organization delivering on the promise of "Systems Research for Better Health" is now complete.

As the adjoining graphic indicates, the Institute's health-related revenue has increased from \$15.0 million in 2005 to \$43.1 million in 2008. The Institute anticipates health revenue of \$60 million in 2009.

In 2008, the Institute also launched its Mission Projects Initiative, a multimillion-dollar commitment to sponsoring research and demonstration projects in critical but underfunded areas of health systems research. These include three major initiatives in childhood obesity, veterans' health, and Community Health Center improvement. The Mission Project Initiative, combined with the Institute's ongoing internal research and development program, is providing important, new resources to advance its mission.

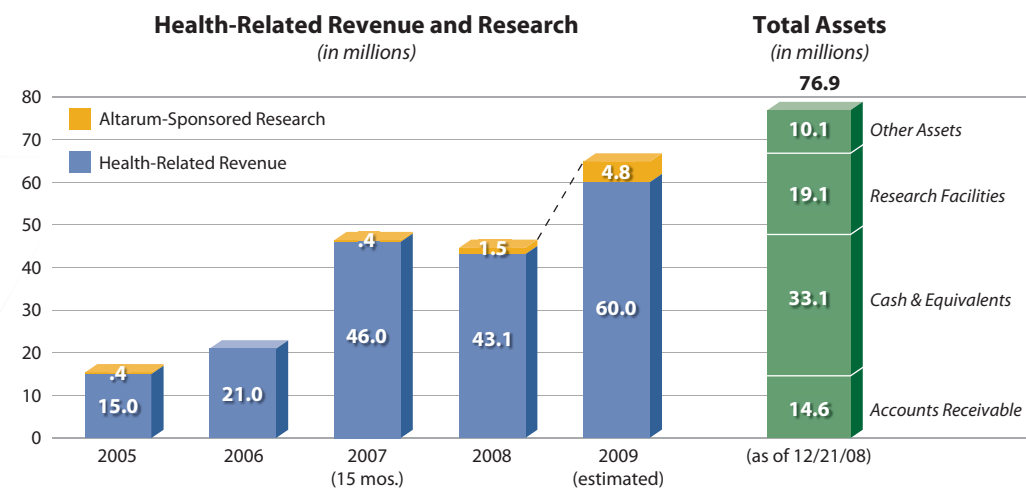
In early 2009, the Institute, through its investment subsidiary Altarum Asset Management, acquired KAI Research, Inc. KAI brings particular expertise in the areas of clinical studies support, clinical data management systems, and pharmacovigilance. These skills complement the Institute's established health systems expertise.

The Institute remains headquartered in Michigan and has added offices in Rockville, Maryland and Atlanta, Georgia. Existing offices in metropolitan Washington, DC; Portland, Maine; and San Antonio, Texas, also continue to grow. By early 2009, Institute staff numbered nearly 350.

The Institute's balance sheet remains strong, with total assets of \$76.9 million and cash & equivalents of \$33.1 million.

In 2009, we look forward to continued growth in our contract research and consulting services, as well as in Altarum-sponsored research and Mission Project Initiatives.

Copies of audited financial statements for the Institute are available by written request to the Chief Financial Officer.



Chairman's message



Charles Harvey Roadman II, MD, CNA
Lt. General, USAF (Ret)
Chairman of the Board of Trustees

The board of trustees of a nonprofit organization is, above all else, responsible for ensuring that the public interest is the driving interest behind the work of the organization.

For the Board of Trustees of Altarum Institute, this means we work in partnership with the management and staff to make certain that Altarum's mission is continuously addressing a compelling public need, that the Institute's resources are being employed wisely to advance that mission, and that business practices within the Institute adhere to the highest ethical standards.

As Chairman of the Board of Trustees, I am deeply satisfied that 2008 was a year in which Altarum Institute again demonstrated the great relevance of its health-related mission, invested with creativity and precision to further its organizational purpose, and held true to the most stringent of ethical business practices.

My fellow Trustees and I are particularly proud of the Mission Projects Initiative, launched in 2008 and described in detail in this Annual Report. The three projects currently funded by Altarum are significant for three primary reasons. Each addresses critical health issues in communities that have long been unaddressed, whether for lack of funds, leadership or skills. Each demonstrates how a systems-based approach solution is fundamental to lasting change. And each will provide a model for change that can be replicated in communities across the nation.

The Mission Projects Initiative is a powerful and tangible example of how an institutional mission to "...improve human health..." is being made alive in communities in need.

On behalf of the Board and the management team, I offer sincere thanks to our staff for its skill and dedication, to our partners for their enthusiasm, and to our clients for their loyalty.

Charles Harvey Roadman II, MD

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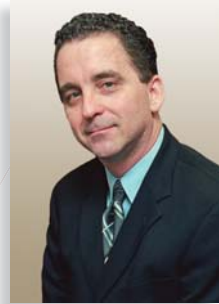


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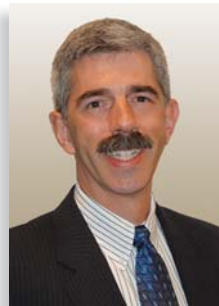
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Editor's Note

Staff members from across the Institute have contributed to this report, and I thank each of them. In particular, I want to recognize Mary Joscelyn, Marijka Lischak, and Liz Ritter for their extraordinary efforts in bringing this 2008 annual report to fruition.

Jeff Moore

Photo Credit

Page 11 photo courtesy of U.S. Army



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