



GAO

Accountability • Integrity • Reliability

United States Government Accountability Office
Washington, DC 20548

Hospital Emergency Departments: Bibliography ([GAO-09-348SP](#), April 30, 2009), an E-supplement to [GAO-09-347](#).

Read the Full Report: *Hospital Emergency Departments: Crowding Continues to Occur, and Some Patients Wait Longer than Recommended Time Frames* ([GAO-09-347](#), April 30, 2009).

This document presents a bibliography of a literature review conducted as part of our work on emergency department crowding ([GAO-09-347](#)). As part of our work to analyze and report on information made available since 2003 about (1) three indicators of emergency department crowding—ambulance diversion, wait times, and patient boarding,¹ and (2) factors that contribute to emergency department crowding, we conducted a literature review of 197 articles, including articles published in peer-reviewed and other periodicals, publications from professional, research, and other organizations, and reports issued by federal and state agencies. In examining the information made available since 2003 about indicators of crowding during our literature review, we also analyzed articles for what was reported on the effect of crowding on patient quality of care and proposed strategies to address crowding. In order to obtain these articles, we conducted structured searches of 16 research databases and obtained articles identified as a result of interviews with federal officials, professional and research organizations, and subject-matter experts, and through searches of related Web sites.²

We reviewed 197 articles, publications, and reports (which we call articles) on emergency department crowding published on or between January 1, 2003, and August 31, 2008. This e-supplement lists each article we reviewed for this engagement and is arranged in four separate sections based on the type of article: (1) articles reporting results of quantitative analysis, (2) commentaries, (3) articles reporting on literature reviews, or (4) other articles, which include articles published on or between January 1, 2003, and August 31, 2008, that were identified as a result of our interviews with federal officials, professional and research organizations, and subject-matter experts. This fourth category, “other articles,” includes articles that are published by professional associations to report results of their surveys. Additional information about the methodology used in the literature review is contained in our report, *Hospital Emergency Departments: Crowding Continues to Occur, and Some Patients Wait Longer than Recommended Time Frames* ([GAO-09-347](#)).

Each section of articles is alphabetized by the author’s last name or by the title of the article if there is no author.

¹*Boarding* in the emergency department refers to a patient remaining in the emergency department after the decision to admit to the hospital or transfer the patient to another facility has been made.

²We did not include articles that were published outside of the United States, used subjects or data from outside the United States, were only available in an abstract form, focused on issues other than day-to-day emergency department operations, or were unrelated to emergency department crowding.

We conducted this performance audit from May 2008 through April 2009 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

If you have questions concerning this bibliography, please contact Marcia Crosse at (202) 512-7114 or crossem@gao.gov.

Contents

Articles Reporting Results of Quantitative Analysis (80 articles)

Commentaries (64 articles)

Articles Reporting on Literature Reviews (8 articles)

Other Articles (45 articles)

Articles Reporting on Quantitative Analysis (80 articles)

Asamoah, O. K., S. J. Weiss, A. A. Ernst, M. Richards, and D. P. Skylar. "A Novel Diversion Protocol Dramatically Reduces Diversion Hours." *American Journal of Emergency Medicine*, vol. 26, no. 6 (2008): 670-75.

Asaro, P. V., L. M. Lewis, and S. B. Boxerman. "Emergency Department Overcrowding: Analysis of the Factors of Renege Rate." *Academic Emergency Medicine*, vol. 14, no. 2 (2007): 157-62.

Asaro, P. V., L. M. Lewis, and S. B. Boxerman. "The Impact of Input and Output Factors on Emergency Department Throughput." *Academic Emergency Medicine*, vol. 14, no. 3 (2007): 235-42.

Ballard, D. W., R. W. Derlet, B. A. Rich, and R. A. Lowe. "EMTALA, Two Decades Later: A Descriptive Review of Fiscal Year 2000 Violations." *American Journal of Emergency Medicine*, vol. 24, no. 2 (2006): 197-205.

Baumann, M. R., and T.D. Strout. "Evaluation of the Emergency Severity Index (Version 3) Triage Algorithm in Pediatric Patients." *Academic Emergency Medicine*, vol. 12, no. 3 (2005): 219-24.

Bayley, M. D., J. S. Schwartz, F. S. Shofer, M. Weiner, F. D. Sites, K. B. Traber, and J. E. Hollander. "The Financial Burden of Emergency Department Congestion and Hospital Crowding for Chest Pain Patients Awaiting Admission." *Annals of Emergency Medicine*, vol. 45, no. 2 (2005): 110-17.

Begley, C. E., Y. Chang, R. C. Wood, and A. Weltge. "Emergency Department Diversion and Trauma Mortality: Evidence from Houston, Texas." *Journal of Trauma, Injury, Infection, and Critical Care*, vol. 57, no. 6 (2004): 1260-65.

Bernstein, S. L., V. Verghese, W. Leung, A. T. Lunney, and I. Perez. "Development and Validation of a New Index to Measure Emergency Department Crowding." *Academic Emergency Medicine*, vol. 10, no. 9 (2003): 938-42.

Boudreaux, E. D., C. V. Mandry, and K. Wood. "Patient Satisfaction Data as a Quality Indicator: A Tale of Two Emergency Departments." *Academic Emergency Medicine*, vol. 10, no. 3 (2003): 261-68.

Bourgeois, F. T., and M. W. Shannon. "Emergency Care for Children in Pediatric and General Emergency Departments." *Pediatric Emergency Care*, vol. 23, no. 2 (2007): 94-102.

Brosseau, D. C., J. Bergholte, and M. H. Gorelick. "The Effect of Prior Interactions With a Primary Care Provider on Nonurgent Pediatric Emergency Department Use." *Archives of Pediatric & Adolescent Medicine*, vol. 158, no. 1 (2004): 78-82.

Burt, C. W., L. F. McCaig, and R. H. Valverde. "Analysis of Ambulance Transports and Diversions Among US Emergency Departments." *Annals of Emergency Medicine*, vol. 47, no. 4 (2006): 317-26.

- Chalfin, D. B., S. Trzeciak, A. Likourezos, B. M. Baumann, and R. P. Dellinger. "Impact of Delayed Transfer of Critically Ill Patients From the Emergency Department to the Intensive Care Unit." *Critical Care Medicine*, vol. 35, no. 6 (2007): 1477-83.
- Chan, T. C., J. P. Killeen, D. Kelly, and D. A. Guss. "Impact of Rapid Entry and Accelerated Care at Triage on Reducing Emergency Department Patient Wait Times, Lengths of Stay, and Rate of Left Without Being Seen." *Annals of Emergency Medicine*, vol. 46, no. 6 (2005): 491-97.
- Chen, E. H., A. M. Mills, B. Y. Lee, J. L. Robey, K. E. Zogby, F. S. Shofer, P. M. Reilly, and J. E. Hollander. "The Impact of a Concurrent Trauma Alert Evaluation on Time to Head Computed Tomography in Patients with Suspected Stroke." *Academic Emergency Medicine*, vol. 13, no. 3 (2006): 349-52.
- Chia, W. T., Y. S. Chen, C. F. Lin, H. H. Lie, and B. F. Lin. "Difference in Time to X Ray with Similar Time to Treatment Decision Leads to Differences in Waiting Times of Patients with Hip Fracture in a Crowded Emergency Department." *Emergency Medicine Journal*, vol. 25, no. 5 (2008): 274-275.
- Ding, R., J. J. Jung, T. D. Kirsch, F. Levy, and M. L. McCarthy. "Uncompleted Emergency Department Care: Patients Who Leave Against Medical Advice." *Academic Emergency Medicine*, vol. 14, no. 10 (2007): 870-76.
- Epps, C. D., L. J. Ware, and A. Packard. "Ethnic Wait Time Differences in Analgesic Administration in the Emergency Department." *Pain Management Nursing*, vol. 9, no. 1 (2008): 26-32.
- Epstein, S. K., and L. Tian. "Development of an Emergency Department Work Score to Predict Ambulance Diversion." *Academic Emergency Medicine*, vol. 13, no. 4 (2006): 421-26.
- Falvo, T., L. Grove, R. Stachura, and W. Zirkin. "The Financial Impact of Ambulance Diversion and Patient Elopements." *Academic Emergency Medicine*, vol. 14, no. 1 (2007): 58-62.
- Falvo, T., L. Grove, R. Stachura, D. Vega, R. Stike, M. Schlenker, and W. Zirkin. "The Opportunity Loss of Boarding Admitted Patients in the Emergency Department." *Academic Emergency Medicine*, vol. 14, no. 4 (2007): 332-37.
- Fee, C., E. J. Weber, C. A. Maak, and P. Bacchetti. "Effect of Emergency Department Crowding on Time to Antibiotics in Patients Admitted with Community-Acquired Pneumonia." *Annals of Emergency Medicine*, vol. 50, no. 5 (2007): 501-09.
- Flottemesch, T. J., B. D. Gordon, and S. S. Jones. "Advanced Statistics: Developing a Formal Model of Emergency Department Census and Defining Operational Efficiency." *Academic Emergency Medicine*, vol. 14, no. 9 (2007): 799-809.
- Garson, C., J. E. Hollander, K. V. Rhodes, F. S. Shofer, W. G. Baxt, and J. M. Pines. "Emergency Department Patient Preferences for Boarding Locations When Hospitals Are at Full Capacity." *Annals of Emergency Medicine*, vol. 51, no. 1 (2008): 9-12.

Green, L. V., J. Soares, J. F. Giglio, and R. A. Green. "Using Queueing Theory to Increase the Effectiveness of Emergency Department Provider Staffing." *Academic Emergency Medicine*, vol. 13, no. 1 (2006): 61-68.

Han, J. H., C. Zhou, D. J. France, S. Zhong, I. Jones, A. B. Storrow, and D. Aronsky. "The Effect of Emergency Department Expansion on Emergency Department Crowding." *Academic Emergency Medicine*, vol. 14, no. 4 (2007): 338-43.

Hoot, N. R., L. J. LeBlanc, I. Jones, S. R. Levin, C. Zhou, C. S. Gadd, and D. Aronsky. "Forecasting Emergency Department Crowding: A Discreet Event Simulation." *Annals of Emergency Medicine*, vol. 52, no. 2 (2008): 116-25.

Hoot, N. R., C. Zhou, I. Jones, and D. Aronsky. "Measuring and Forecasting Emergency Department Crowding in Real Time." *Annals of Emergency Medicine*, vol. 49, no. 6 (2007): 747-55.

Howard, M. S., B. A. Davis, C. Anderson, D. Cherry, P. Koller, and D. Shelton. "Patients' Perspective for Choosing the Emergency Department for Nonurgent Medical Care: A Qualitative Study Exploring One Reason for Overcrowding." *Journal of Emergency Nursing*, vol. 31, no. 5 (2005): 429-35.

Hwang, U., L. D. Richardson, T. O. Sonuyi, and R. S. Morrison. "The Effect of Emergency Department Crowding on the Management of Pain in Older Adults With Hip Fracture." *Journal of American Geriatric Society*, vol. 54, no. 2 (2006): 270-75.

Jones, S. S., T. L. Allen, T. J. Flottesch, and S. J. Welch. "An Independent Evaluation of Four Quantitative Emergency Department Crowding Scales." *Academic Emergency Medicine*, vol. 13, no. 11 (2006): 1204-11.

Kennedy, J., K. Rhodes, C. A. Walls, B. R. Asplin. "Access to Emergency Care: Restricted by Long Waiting Times and Cost and Coverage Concerns." *Annals of Emergency Medicine*, vol. 43, no. 5 (2004): 567-73.

Khaleghi, M., A. Loh, D. Vroman, T. C. Chan, and G. M. Vilke. "The Effects of Minimizing Ambulance Diversion Hours on Emergency Departments." *Journal of Emergency Medicine*, vol. 33, no. 2 (2007): 155-59.

Koran, Z. "The Impact of an Admission Unit on Failure- and Late-to-Rescue Rates in the Emergency Department." *Advanced Emergency Nursing Journal*, vol. 29, no. 4 (2007): 339-45.

Lago, R. J., J. C. Kohlbrenner, L. D. Hall, M. Roizen, P. A. Nadle, and R. C. Hunt. "Reducing Ambulance Diversion: A Multihospital Approach." *Prehospital Emergency Care*, vol. 7, no. 1 (2003): 99-108.

Lambe, S., D. L. Washington, A. Fink, M. Laouri, H. Liu, J. S. Fosse, R. H. Brook, and S. M. Asch. "Waiting Times in California's Emergency Departments." *Annals of Emergency Medicine*, vol. 41, no. 1 (2003): 35-44.

- Lee, K., and L. Davenport. "Can Case Management Interventions Reduce the Number of Emergency Department Visits by Frequent Users?" *The Health Care Manager*, vol. 25, no. 2 (2006): 155-59.
- Lee-Lewandrowski, E., D. Corboy, K. Lewandrowski, J. Sinclair, S. McDermot, and T. I. Benzer. "Implementation of a Point-of-Care Satellite Laboratory in the Emergency Department of an Academic Medical Center: Impact on Test Turnaround Time and Patient Emergency Department Length of Stay." *Archives of Pathology & Laboratory Medicine*, vol. 127, no. 4 (2003): 456-60.
- Liu, S., C. Hobgood, and J. H. Brice. "Impact of Critical Bed Status on Emergency Department Patient Flow and Overcrowding." *Academic Emergency Medicine*, vol. 10, no. 4 (2003): 382-85.
- McCarthy, M. L., D. Aronsky, I. D. Jones, J. R. Miner, R. A. Band, J. M. Baren, J. S. Desmond, K. M. Baumlin, R. Ding, and R. Shesser. "The Emergency Department Occupancy Rate: A Simple Measure of Emergency Department Crowding?" *Annals of Emergency Medicine*, vol. 51, no. 1 (2008): 15-24.
- McCarthy, M. L., A. D. Shore, G. Li, J. New, J. J. Scheulen, N. Tang, R. Collela, and G. D. Kelen. "Likelihood of Reroute During Ambulance Diversion Periods in Central Maryland." *Prehospital Emergency Care*, vol. 11, no. 4 (2007): 408-15.
- McConnell, K. J., C. F. Richards, M. Daya, S. L. Bernell, C. C. Weathers, R. A. Lowe. "Effect of Increased ICU Capacity on Emergency Department Length of Stay and Ambulance Diversion." *Annals of Emergency Medicine*, vol. 45, no. 5 (2005): 471-78.
- McConnell, K. J., C. F. Richards, M. Daya, C. C. Weathers, and R. A. Lowe. "Ambulance Diversion and Lost Hospital Revenues." *Annals of Emergency Medicine*, vol. 48, no. 6 (2006): 702-10.
- McMullan J. T., and F. H. Vesper. "Emergency Department Volume and Acuity as Factors in Patients Leaving Without Treatment." *Southern Medical Journal*, vol. 97, no. 8 (2004): 729-33.
- Meisel, Z. F., C. V. Pollack, C. C. Mechem, and J. M. Pines. "Derivation and Internal Validation of a Rule to Predict Hospital Admission in Prehospital Patients." *Prehospital Emergency Care*, vol. 12, no. 3 (2008): 314-19.
- Mohanty, S. A., D. L. Washington, S. Lambe, A. Fink, and S. M. Asch. "Predictors of On-call Specialist Response in California Emergency Departments." *Academic Emergency Medicine*, vol. 13, no. 5 (2006): 505-12.
- Patel, P. B., R. W. Derlet, D. R. Vinson, M. Williams, and J. Wills. "Ambulance Diversion Reduction: the Sacramento Solution." *American Journal of Emergency Medicine*, vol. 24, no. 2 (2006): 206-13.
- Patel, P. B., and D. R. Vinson. "Team Assignment System: Expediting Emergency Department Care." *Annals of Emergency Medicine*, vol. 46, no. 6 (2005): 499-506.

Pines, J. M., C. Garson, W. G. Baxt, K. V. Rhodes, F. S. Shofer, and J. E. Hollander. "ED Crowding is Associated with Variable Perceptions of Care Compromise." *Academic Emergency Medicine*, vol. 14, no. 12 (2007): 1176-81.

Pines, J. M., and J. E. Hollander. "Emergency Department Crowding is Associated With Poor Care for Patients With Severe Pain." *Annals of Emergency Medicine*, vol. 51, no. 1 (2008): 1-5.

Pines, J. M., J. E. Hollander, A. R. Localio, and J. P. Metlay. "The Association Between Emergency Department Crowding and Hospital Performance on Antibiotic Timing for Pneumonia and Percutaneous Intervention for Myocardial Infarction." *Academic Emergency Medicine*, vol. 13, no. 8 (2006): 873-78.

Pines, J. M., A. R. Localio, J. E. Hollander, W. G. Baxt, H. Lee, C. Phillipps, and J. P. Metlay. "The Impact of Emergency Department Crowding Measures on Time to Antibiotics for Patients with Community-Acquired Pneumonia." *Annals of Emergency Medicine*, vol. 50, no. 5 (2007): 510-16.

Polevoi, S. K., J. V. Quinn, and N. R. Kramer. "Factors Associated With Patients Who Leave Without Being Seen." *Academic Emergency Medicine*, vol. 12, no. 3 (2005): 232-36.

Quinn, J. V., S. V. Mahadevan, G. Eggers, H. Ouyang, and R. Norris. "Effects of Implementing a Rapid Admission Policy in the ED." *American Journal of Emergency Medicine*, vol. 25, no. 5 (2007): 559-63.

Rathlev, N. K., J. Chessare, J. Olshaker, D. Obendorfer, S. D. Mehta, T. Rothenhaus, S. Crespo, et al. "Time Series Analysis of Variables Associated with Daily Mean Emergency Department Length of Stay." *Annals of Emergency Medicine*, vol. 49, no. 3 (2007): 265-71.

Reeder, T. J., D. L. Burleson, and H. G. Garrison. "The Overcrowded Emergency Department: A Comparison of Staff Perceptions." *Academic Emergency Medicine*, vol. 10, no. 10 (2003): 1059-64.

Richards, M. E., M. W. Hubble, and C. Crandall. "Influence of Ambulance Arrival on Emergency Department Time to Be Seen." *Prehospital Emergency Care*, vol. 10, no. 4 (2006): 440-46.

Roberts, D. C., M. P. McKay, and A. Shaffer. "Increasing Rates of Emergency Department Visits for Elderly Patients in the United States, 1993 to 2003." *Annals of Emergency Medicine*, vol. 51, no. 6 (2008): 169-74.

Rudkin, S. E., J. Oman, M. I. Langdorf, M. Hill, J. Bauche, P. Kivela, and L. Johnson. "The State of ED On-Call Coverage in California." *American Journal of Emergency Medicine*, vol. 22, no. 7 (2004): 575-81.

Ruger, J. P., C. J. Richter, and L. M. Lewis. "Clinical and Economic Factors Associated with Ambulance Use to the Emergency Department." *Academic Emergency Medicine*, vol. 13, no. 8 (2006): 879-85.

Ruger, J. P., C. J. Richter, E. L. Spitznagel, and L. M. Lewis. "Analysis of Costs, Length of Stay, and Utilization of Emergency Department Services by Frequent Users: Implications for Health Policy." *Academic Emergency Medicine*, vol. 11, no. 12 (2004): 1311-17.

Sanchez, M., A. J. Smally, R. J. Grant, and L. M. Jacobs. "Effects of a Fast-track Area on Emergency Department Performance." *The Journal of Emergency Medicine*, vol. 31, no. 1 (2006): 117-20.

Sedlak, S. K., and A. Roberts. "Implementation of Best Practices to Reduce Overall Emergency Department Length of Stay." *Topics in Emergency Medicine*, vol. 26, no. 4 (2004): 312-21.

Shah, M. N., R. J. Fairbanks, C. L. Maddow, E. B. Lerner, J. I. Syrett, E. A. Davis, and S. M. Schneider. "Description and Evaluation of a Pilot Physician-directed Emergency Medical Services Diversion Control Program." *Academic Emergency Medicine*, vol. 13, no. 1 (2006) 54-60.

Solberg, L. I., B. R. Asplin, R. M. Weinick, and D. J. Magid. "Emergency Department Crowding: Consensus Development of Potential Measures." *Annals of Emergency Medicine*, vol. 42, no. 6 (2003): 824-34.

Steele, R., and A. Kiss. "EMDOC (Emergency Department Overcrowding) Internet-based Safety Net Research." *Journal of Emergency Medicine*, vol. 35, no. 1 (2008): 101-07.

Sun, B. C., E. S. Binstadt, A. Pelletier, and C. A. Camargo, Jr. "Characteristics and Temporal Trends of 'Left Before Being Seen' Visits in U.S. Emergency Departments, 1995-2002." *Journal of Emergency Medicine*, vol. 32, no. 2 (2007): 211-215.

Sun, B. C., S. A. Mohanty, R. Weiss, R. Tadeo, M. Hasbrouck, W. Koenig, C. Meyer, and S. Asch. "Effects of Hospital Closures and Hospital Characteristics on Emergency Department Ambulance Diversion, Los Angeles County, 1998 to 2004." *Annals of Emergency Medicine*, vol. 47, no. 4 (2006): 309-16.

Takakuwa, K. M., F. S. Shofer, and S. B. Abbuhl. "Strategies for Dealing With Emergency Department Overcrowding: A One-year Study on How Bedside Registration Affects Patient Throughput Times." *The Journal of Emergency Medicine*, vol. 32, no. 4 (2007): 337-42.

Vieth, T. L., and K. V. Rhodes. "The Effect of Crowding on Access and Quality in an Academic ED." *American Journal of Emergency Medicine*, vol. 24, no. 7 (2006): 787-94.

Vilke, G. M., L. Brown, P. Skogland, C. Simmons, and D. A. Guss. "Approach to Decreasing Emergency Department Ambulance Diversion Hours." *Journal of Emergency Medicine*, vol. 26, no. 2 (2004): 189-92.

Vilke, G. M., E. M. Castillo, M. A. Metz, L. U. Ray, P. A. Murrin, R. Lev, and T. C. Chan. "Community Trial to Decrease Ambulance Diversion Hours: The San Diego County Patient Destination Trial." *Annals of Emergency Medicine*, vol. 44, no. 4 (2004): 295-303.

Walsh, P., V. Cortez, and H. Bhakta. "Patients Would Prefer Ward to Emergency Department Boarding While Awaiting an Inpatient Bed." *Journal of Emergency Medicine*, vol. 34, no. 2 (2008): 221-25.

Wang, C., M. E. Villar, D. A. Mulligan, and T. Hansen. "Cost and Utilization Analysis of a Pediatric Emergency Department Diversion Project." *Pediatrics*, vol. 116, no. 5 (2005): 1075-79.

Weiss, S. J., et al. "Comparison of the National Emergency Department Overcrowding Scale and the Emergency Department Work Index for Quantifying Emergency Department Crowding." *Academic Emergency Medicine*, vol. 13, no. 5 (2006): 513-18.

Weiss, S. J., R. Derlet, J. Arndahl, A. A. Ernst, J. Richards, M. Fernández-Frankelton, R. Schwab, et al. "Estimating the Degree of Emergency Department Overcrowding in Academic Medical Centers: Results of the National ED Overcrowding Study (NEDOCS)." *Academic Emergency Medicine*, vol. 11, no. 1 (2004): 38-50.

Weiss, S. J., A. A. Ernst, R. Derlet, R. King, A. Bair, and T. G. Nick. "Relationship Between the National ED Overcrowding Scale and the Number of Patients Who Leave Without Being Seen in an Academic ED." *American Journal of Emergency Medicine*, vol. 23, no. 3 (2005): 288-94.

Weiss, S. J., A. A. Ernst, M. R. Sills, B. J. Quinn, A. Johnson, and T. G. Nick. "Development of a Novel Measure of Overcrowding in a Pediatric Emergency Department." *Pediatric Emergency Care*, vol. 23, no. 9 (2007): 641-45.

Wilper, A. P., S. Woolhandler, K. E. Lasser, D. McCormick, S. L. Cutrona, D. H. Bor, and D. U. Himmelstein. "Waits to See an Emergency Department Physician: U.S. Trends and Predictors, 1997-2004." *Health Affairs*, vol. 27, no. 2 (2008): w84-w95.

Zibulewsky, J. "Medical Staff Knowledge of EMTALA at a Large, Tertiary-care Hospital." *American Journal of Emergency Medicine*, vol. 21, no. 1 (2003): 8-13.

Commentaries (64 articles)

“Accelerated Triage Cuts LWBS Rate In Half.” *ED Management*, October 2005.

Agrawal, S. “Emergency Department Crowding: An Ethical Perspective.” *Academic Emergency Medicine*, vol. 14, no. 8 (2007): 750-51.

Asplin, B. R. “Does Ambulance Diversion Matter?” *Annals of Emergency Medicine*, vol. 41, no. 4 (2003): 477-80.

Asplin, B. R. “Hospital-Based Emergency Care: A Future Without Boarding?” *Annals of Emergency Medicine*, vol. 48, no. 2 (2006): 121-25.

Asplin, B. R. “Measuring Crowding: Time for a Paradigm Shift.” *Academic Emergency Medicine*, vol. 13, no. 4 (2006): 459-61.

Asplin, B. R., and D. J. Magid. “If You Want to Fix Crowding, Start by Fixing Your Hospital.” *Annals of Emergency Medicine*, vol. 49, no. 3 (2007): 273-74.

Asplin, B. R., D. J. Magid, K. V. Rhodes, L. I. Solberg, N. Lurie, and C. A. Camargo, Jr. “A Conceptual Model of Emergency Department Crowding.” *Annals of Emergency Medicine*, vol. 42, no. 2 (2003): 173-80.

Atzema, C., G. Bandiera, M. J. Schull, T. P. Coon, and T. J. Milling, Jr. “Emergency Department Crowding: The Effect on Resident Education.” *Annals of Emergency Medicine*, vol. 45, no. 3 (2005): 276-81.

Bitterman, R. A. “EMTALA and the Ethical Delivery of Hospital Emergency Services.” *Emergency Medicine Clinics of North America*, vol. 24, no. 3 (2006): 557-77.

Blomkalns, A. L., and W. B. Gibler. “Emergency Department Crowding: Emergency Physicians and Cardiac Risk Stratification as Part of the Solution.” *Annals of Emergency Medicine*, vol. 43, no. 1 (2004): 77-78.

Brock, E. “Cities Attempt to End Ambulance Diversion.” *The American City & County*, vol. 121, no. 11 (2006): 12-14.

Brousseau, D., and M. Gorelick. “Emergency Department Wait Times.” *Pediatrics*, vol. 116, no. 1 (2005): 295.

Chan, T., J. P. Killeen, D. Kelly, and D. A. Guss. “Impact of Rapid Entry and Accelerated Care at Triage on Reducing Emergency Department Patient Wait Times, Length of Stay, and Rate of Leaving without Being Seen.” *Annals of Emergency Medicine*, vol. 47, no. 3 (2006): 295-96.

Committee on Pediatric Emergency Medicine. “Overcrowding Crisis in our Nation’s Emergency Department: Is our Safety Net Unraveling?” *Pediatrics*, vol. 114, no. 3 (2004): 878-88.

Delaney, D. "Reducing Ambulance Diversions Without Compromising Care." *American Nurse Today*, vol. 2, no. 7 (2007): 15-17.

Delbridge, T. R., and D. M. Yealy. "Looking for a Solution ... to the Solution?" *Annals of Emergency Medicine*, vol. 44, no. 4 (2004): 304-06.

"Diversion Crisis Eases, But Strategies Still Critical." *ED Management*, vol. 16, no. 5 (2004).

"Diversions Worsening, Trend May Continue." *ED Management*, April 2006.

Doxzon, G., and J. Howard-Ducsay. "ED Overcrowding: Successful Action Plans of a Southern California Community Hospital." *Journal of Emergency Nursing*, vol. 30, no. 4 (2004): 325-29.

Eckstein, M., S. M. Isaacs, C. M. Slovis, B. J. Kaufman, J. R. Loflin, R. E. O'Connor, and P. E. Pepe. "Facilitating EMS Turnaround Intervals at Hospitals in the Face of Receiving Facility Overcrowding." *Prehospital Emergency Care*, vol. 9, no. 3 (2005): 267-75.

"ED Accreditation Update: Hospital Addresses ED Overcrowding, Sees Treatment Times and Walkout Rates Drop." *ED Management*, November 2005.

"ED Diversion Banned by Seattle-Area Hospitals." *ED Management*, June 2006.

"EMTALA and On-call Responsibility for Emergency Department Patients." *Annals of Emergency Medicine*, vol. 48, no. 4 (2006): 486-87.

Fields, W. W. "Calculus, Chaos, and Other Models of Emergency Department Crowding." *Annals of Emergency Medicine*, vol. 42, no. 2 (2003): 181-84.

Flynn, G. "Waiting Times in the Age of EMTALA: The Gulf Between Private and Public/Non Profit Widens." *Annals of Emergency Medicine*, vol. 47, no. 3 (2006): 261-64.

"Focus On Process Slashes Average Cycle Time By 37%: Staff Overcome Instinct to Blame Personnel Levels." *ED Management*, vol. 16, no. 11 (2004).

Forster, A. J. "An Agenda for Reducing Emergency Department Crowding." *Annals of Emergency Medicine*, vol. 45, no. 5 (2005): 479-81.

Fryman, L., and L. Murray. "Managing Acute Head Trauma in a Crowded Emergency Department." *Journal of Emergency Nursing*, vol. 33, no. 3 (2007): 208-13.

Garza, M. "Memphis Just Says 'No!' to Ambulance Diversion." *JEMS: A Journal of Emergency Medical Services*, vol. 29, no. 1 (2004): 130.

Geer, R., and J. Smith. "Strategies to Take Hospitals Off (Revenue) Diversion." *Healthcare Financial Management*, vol. 58, no. 3 (2004): 70-74.

Goldsmith, J. "EMTALA Revisions Clarify Some Care." *American Journal of Nursing*, vol. 104, no. 1 (2004): 72GG.

Green, R. A., L. V. Green, J. F. Giglio, and J. Soares. "The Left-Without-Being-Seen Rate: An Imperfect Measure of Emergency Department Crowding." *Academic Emergency Medicine*, vol. 13, no. 7 (2006): 807-08.

Handel, D. A., D. P. Sklar, J. E. Hollander, B. R. Asplin, and J. R. Hedges. "Executive Summary: The Institute of Medicine Report and the Future of Academic Emergency Medicine: The Society for Academic Emergency Medicine and Association of Academic Chairs in Emergency Medicine Panel: Association of American Medical College Annual Meeting, October 28, 2006." *Academic Emergency Medicine*, vol. 14, no. 3 (2007): 261-67.

Haugh, R. "EMTALA Warning." *Hospital Health Network*, vol. 80, no. 3 (2006): 19.

Holden, E. "Fast Track in the Field: Another Option to Ease ED Overcrowding." *Journal of the American Academy of Physician Assistants*, vol. 18, no. 6 (2005): 60-61.

Hollander, J. E., and J. M. Pines. "The Emergency Department Crowding Paradox: The Longer You Stay, the Less Care You Get." *Annals of Emergency Medicine*, vol. 50, no. 5 (2007): 497-99.

"Hospital's Primary Care Center Relieves ED Logjam." *ED Management*, March 2006.

Hostetler, M. A., S. Mace, K. Brown, J. Finkler, D. Hernandez, S. E. Krug, and N. Schamban. "Emergency Department Overcrowding and Children." *Pediatric Emergency Care*, vol. 23, no. 7 (2007): 507-15.

"How Can You Keep Average Wait Less Than 1 Hour? VHA Shares Its Strategies: Triage Nurses Greet ED Patients At Door And Send Patients Directly To Beds." *ED Management*, vol. 16, no. 4 (2004).

Howard, P. K. "Overcrowding: Not Just an Emergency Department Issue." *Journal of Emergency Nursing*, vol. 31, no. 3 (2005): 227-28.

"JCAHO Wants To Know Your Solutions For ED Crowding." *ED Nursing*, vol. 6, no. 11 (2003).

Karpiel, M. "Improving Emergency Department Flow." *Healthcare Executive*, vol. 19, no. 1 (2004): 40-41.

Kelen, G. D., and J.J. Scheulen. "Commentary: Emergency Department Crowding as an Ethical Issue." *Academic Emergency Medicine*, vol. 14, no. 8 (2007): 751-54.

Kellerman, A. L. "Crisis in the Emergency Department." *New England Journal of Medicine*, vol. 355, no. 13 (2006): 1300-03.

Laskowski-Jones, L. "Starling's Curve: A Way to Conceptualize Emergency Department Overcrowding." *Journal of Emergency Nursing*, vol. 31, no. 3 (2005): 229-30.

Magid, D. J., B. R. Asplin, and R. L. Wears. "The Quality Gap: Searching for the Consequences of Emergency Department Crowding." *Annals of Emergency Medicine*, vol. 44, no. 6 (2004): 586-88.

Millin, M. G., J. R. Hedges, and R. R. Bass. "The Effect of Ambulance Diversion on the Development of Trauma Systems." *Prehospital Emergency Care*, vol. 10, no. 3 (2006): 351-54.

Mitka, M. "Emergency Department Crowding Gives Ambulances the Runaround." *Journal of American Medical Association*, vol. 295, no. 13 (2006): 1504-05.

Morrissey, J. "Triage for the ER." *Modern Healthcare*, vol. 33, no. 25 (2003): 65.

"New CDC Survey Results Echo Report from IOM." *ED Management*, November 2006.

"Number of Freestanding EDs Up, Helping Ease Overcrowding, Serving Rural Areas." *ED Management*, September 2005.

Olshaker, J. S., and N. K. Rathlev. "Emergency Department Overcrowding and Ambulance Diversion: The Impact and Potential Solutions of Extended Boarding of Admitted Patients in the Emergency Department." *The Journal of Emergency Medicine*, vol. 30, no. 3 (2006): 351-56.

Pine, J. M. "Moving Closer to an Operational Definition for ED Crowding." *Academic Emergency Medicine*, vol. 14, no. 4 (2007): 382-83.

"Rapid-Cycle Testing Cuts Bed Turnaround By 85%: Change in Notification Process Critical To Success." *ED Management*, vol. 16, no. 4 (2004).

Roberts, A. "What Surgeons Should Know about the EMTALA TAG." *Bulletin of the American College of Surgeons*, vol. 92, no. 4 (2007): 8-10.

Rosenbaum, S., and B. Kamoie. "Finding a Way Through the Hospital Door: The Role of EMTALA in Public Health Emergencies." *The Journal of Law, Medicine, & Ethics*, vol. 31, no. 4 (2003): 590-601.

SoRelle, R. "JCAHO to Hospitals: Solve Overcrowding (Please)." *Emergency Medicine News*, vol. 26, no. 4 (2004): 11-12.

Southard, P. "2003 'Clarification' of Controversial EMTALA Requirement for 24/7 Coverage of Emergency Departments by On-call Specialists, Significant Impact on Trauma Centers." *Journal of Emergency Nursing*, vol. 30, no. 6 (2004): 582-83.

Stein, A. E. "Improving Patient Flow and Overcrowding in Emergency Departments." *Journal of Nursing Administration*, vol. 35, no. 6 (2005): 279-80.

"Take Steps, Avoid Self-Harm, Lawsuits From Long Waits By Psych Patients." *ED Nursing*, November 2006.

"To Cut Diversions, Get Other Units Involved." *ED Management*, January 2006.

Twannmoh, J. R., and G. P. Cunningham. "When Overcrowding Paralyzes an Emergency Department." *Managed Care*, vol. 15, no. 6 (2006): 54-59.

"Use Creative Thinking to Streamline ED Patient Flow: Program Wows Hospital ED." *Hospital Case Management*, vol. 12, no. 5 (2004).

Yancer, D. A, D. Foshee, H. Cole, R. Beauchamp, W. Pena, T. Keefe, W. Smith, K. Zimmerman, M. Lavine, and B. Toops. "Managing Capacity to Reduce Emergency Department Overcrowding and Ambulance Diversions." *Journal on Quality and Patient Safety*, vol. 32, no. 5 (2006): 239-45.

Articles Reporting on Literature Reviews (8 articles)

Bernstein, S. L., and B. R. Asplin. "Emergency Department Crowding: Old Problem, New Solutions." *Emergency Medicine Clinics of North American*, vol. 24, no. 4 (2006): 821-37.

Bradley, V. M. "Placing Emergency Department Crowding on the Decision Agenda." *Nursing Economics*, vol. 23, no. 1 (2005): 14-24.

Heins, A., H. Farley, C. Maddow, and A. Williams. "A Research Agenda for Studying the Effect of Emergency Department Crowding on Clinical Education." *Academic Emergency Medicine*, vol. 12, no. 6 (2005): 529-32.

Hoot, N. R., and D. Aronsky. "Systematic Review of Emergency Department Crowding: Causes, Effects, Solutions." *Annals of Emergency Medicine*, vol. 52, no. 2 (2008): 126-36.

Huryk, L. "Is it Really an Emergency? When Nonurgent Cases Overwhelm the ED." *American Journal of Nursing*, vol. 106, no. 1 (2006): 69-72.

Hwang, U., and J. Concato. "Care in the Emergency Department: How Crowded is Overcrowded?" *Academic Emergency Medicine*, vol. 11, no. 10 (2004): 1097-1101.

Pham, J. C., R. Patel, M. G. Millin, T. D. Kirsch, and A. Chanmugam. "The Effects of Ambulance Diversion: A Comprehensive Review." *Academic Emergency Medicine*, vol. 13, no. 11 (2006): 1220-27.

Trzeciak, S., and E. P. Rivers. "Emergency Department Overcrowding in the United States: An Emerging Threat to Patient Safety and Public Health." *Emergency Medical Journal*, vol. 20, no. 5 (2003): 402-05.

Other Articles (45 articles)

American College of Emergency Physicians. *ACEP Psychiatric and Substance Abuse Survey 2008*. Irving, Texas, 2008.

American College of Emergency Physicians. *Emergency Department Crowding: High-Impact Solutions*. Irving, Texas, 2008.

American College of Emergency Physicians. *Emergency Department Crowding. Information Paper*. Irving, Texas, 2004.

American College of Emergency Physicians. *On-Call Specialist Coverage in U.S. Emergency Departments. ACEP Survey of Emergency Department Directors*. Irving, Texas, 2006.

American College of Emergency Physicians. *Report from a Roundtable Discussion. Meeting the Challenge of Emergency Department Overcrowding/Boarding*. Dallas, Texas, 2005.

American Hospital Association. *Taking the Pulse. The State of America's Hospitals*. Washington, D.C., 2005.

American Hospital Association. *The 2007 State of America's Hospitals—Taking the Pulse. Findings from the 2007 AHA Survey of Hospital Leaders*. Washington, D.C., 2007.

American Hospital Association. *The State of America's Hospitals—Taking the Pulse. A Chart Pack. Findings from the 2006 AHA Survey of Hospital Leaders*. Washington, D.C., 2006.

American Medical Association, "Report 3 of the Board of Trustees (I-07)." *The Looming Crisis in Emergency Care in the US—Managing the Causes and Consequences*. Chicago, Illinois, 2007. <http://search.ama-assn.org/Search/cs.html?charset=iso-8859-1&url=http%3A//www.ama-assn.org/ama1/pub/upload/mm/469/bot3i07.doc&qt=looming+crisis+in+emergency+care+in+the+us&col=public&n=1&la=en> (accessed on Sept. 10, 2008).

Bazzoll, G. J., L. R. Brewster, G. Liu, and S. Kuo. "Does U.S. Hospital Capacity Need to Be Expanded?" *Health Affairs*, vol. 22, no. 6 (2003): 40-54.

Burt, C. W., and L. F. McCaig. "Staffing, Capacity, and Ambulance Diversion in Emergency Departments: United States, 2003-04." *Advance Data from Vital and Health Statistics*, no. 376. Hyattsville, Md.: National Center for Health Statistics, 2006.

Cunningham, P., and J. May. "Insured Americans Drive Surge in Emergency Department Visits." *Issue Brief*, no. 70. Washington, D.C.: Center for Studying Health System Change, 2003.

DeLia, D., *Emergency Department Utilization and Surge Capacity in New Jersey, 1998-2003*. New Brunswick, New Jersey: Rutgers Center for State Health Policy, 2005. <http://www.cshp.rutgers.edu/Downloads/5020.pdf> (accessed on Sept. 18, 2008).

DeLia, D., *Hospital Capacity, Patient Flow, and Emergency Department Use in New Jersey*. New Brunswick, New Jersey: Rutgers Center for State Health Policy, 2007.
<http://www.cshp.rutgers.edu/Downloads/7510.pdf> (accessed on Aug. 26, 2008).

DeLia, D., *Potentially Avoidable Use of Hospital Emergency Departments in New Jersey*. New Brunswick, New Jersey: Rutgers Center for State Health Policy, 2006.
<http://www.cshp.rutgers.edu/Downloads/6330.pdf> (accessed on Sept. 18, 2008).

Emergency Nurses Association. *Emergency Nurses Association Position Statement. Crowding in the Emergency Department*. Des Plaines, Illinois, 2005.

Emergency Nurses Association. *ENA 2005 National Emergency Department Benchmark Guide*. Des Plaines, Illinois, 2006.

Felland, L. E., R. E. Hurley, and N. M. Kemper. "Safety Net Hospital Emergency Departments: Creating Safety Valves for Non-Urgent Care," *Issue Brief*, no. 120. Washington, D.C.: Center for Studying Health System Change, 2008.

Green, L., G. A. Melnick, and A. Nawathe, *On-Call Physicians at California Emergency Departments: Problems and Potential Solutions*. Oakland, California: The California HealthCare Foundation, 2005.
<http://www.chcf.org/topics/download.cfm?pg=hospitals&fn=oncallphysiciansatcaemergencydepts%2epdf&pid=405842&itemid=108558> (accessed Sept. 23, 2008).

Harris Interactive Inc., *Emergency Department Utilization in California. Survey of Consumer Data and Physician Data*. Oakland, California: The California HealthCare Foundation, 2006.
<http://www.chcf.org/topics/download.cfm?pg=hospitals&fn=edoverusesurveyfindings%2epdf&pid=480326&itemid=126089> (accessed Sept. 29, 2008).

Institute of Medicine. *Future of Emergency Care, Hospital-based Emergency Care: At the Breaking Point*. Washington, D.C.: The National Academies Press, 2006.

Joint Commission Resources. *From Front Office to Front Line. Essential Issues for Health Care Leaders*. Oakbrook Terrace, Illinois, 2005.

Keslar, L., "Sick of Waiting." *Proto Magazine*, Summer 2008.
<http://www.protomag.com/assets/sick-of-waiting.htm> (accessed on Nov. 14, 2008).

Maryland Health Care Commission, *Use of Maryland Hospital Emergency Departments: An Update and Recommended Strategies to Address Crowding*. Baltimore, Maryland, 2007.
http://mhcc.maryland.gov/hospital_services/acute/emergencyroom/ (accessed on Sept. 18, 2008).

McCaig, L. F., and C. W. Burt. "National Hospital Ambulatory Medical Care Survey: 2001 Emergency Department Summary." *Advance Data from Vital and Health Statistics*, no. 335. Hyattsville, Maryland: National Center for Health Statistics, 2003.

McCaig, L. F., and C. W. Burt. "National Hospital Ambulatory Medical Care Survey: 2002 Emergency Department Summary." *Advance Data from Vital and Health Statistics*, no. 340. Hyattsville, Maryland: National Center for Health Statistics, 2004.

McCaig, L. F., and C. W. Burt. "National Hospital Ambulatory Medical Care Survey: 2003 Emergency Department Summary." *Advance Data from Vital and Health Statistics*, no. 358. Hyattsville, Maryland: National Center for Health Statistics, 2005.

McCaig, L. F., and E. W. Nawar. "National Hospital Ambulatory Medical Care Survey: 2004 Emergency Department Summary." *Advance Data from Vital and Health Statistics*, no. 372. Hyattsville, Maryland: National Center for Health Statistics, 2006.

McConville, S., and H. Lee. "Emergency Department Care in California: Who Uses It and Why?" *California Counts*, vol. 10, no. 1 (2008).
<http://www.ppic.org/main/publication.asp?i=775> (accessed on Sept. 15, 2008).

Nawar, E. W., R. W. Niska, and J. Xu. "National Hospital Ambulatory Medical Care Survey: 2005 Emergency Department Summary." *Advance Data from Vital and Health Statistics*, no. 386. Hyattsville, Maryland: National Center for Health Statistics, 2007.

O'Malley, A. S., D. A. Draper, and L. E. Felland. "Hospital Emergency On-Call Coverage: Is There a Doctor in the House?" *Issue Brief*, no. 115. Washington, D.C.: Center for Studying Health System Change, 2007.

O'Malley, A. S., A. M. Gerland, H. H. Pham, and R. A. Berenson, "Rising Pressure: Hospital Emergency Departments as Barometers of the Health Care System." *Issue Brief*, no. 101. Washington, D.C.: Center for Studying Health System Change, 2005.
<http://www.hschange.org/content/799/799.pdf> (accessed on Sept. 12, 2008).

O'Shea, J. "The Crisis in America's Emergency Rooms and What Can Be Done." *Backgrounder*, no. 2092. Washington, D.C.: The Heritage Foundation, 2007.

O'Shea, J. "The Crisis in Hospital Emergency Departments: Overcoming the Burden of Federal Regulation." *Backgrounder*, no. 2050. Washington, D.C.: The Heritage Foundation, 2007.

Pitts, S. R., R. W. Niska, J. Xu, and C. W. Burt. "National Hospital Ambulatory Medical Care Survey: 2006 Emergency Department Summary." *National Health Statistics Reports*, no. 7. Hyattsville, Maryland: National Center for Health Statistics, 2008.

Regenstein, M., L. Nolan, M. Wilson, H. Mead, and B. Siegel, *Walking a Tightrope. The State of the Safety Net in Ten U.S. Communities*. Washington, D.C.: Urgent Matters, 2004.
http://urgentmatters.org/media/file/urgentmatters_walking_a_tightrope.pdf (accessed on Sept. 30, 2008).

Siegel, B., M. J. Wilson, and D. Sickler. "Enhancing Work Flow to Reduce Crowding." *The Joint Commission Journal on Quality and Patient Safety*, vol. 33, no. 11 (2007 supp.): 57-67.

Taylor, J. "Don't Bring Me Your Tired, Your Poor: The Crowded State of America's Emergency Departments." *Issue Brief*, no. 811. Washington, D.C.: National Health Policy Forum, 2006.

The Abaris Group. *California Emergency Department Diversion Project: Report One*. Oakland, California: The California HealthCare Foundation, 2007.

The Lewin Group, *Hospital Capacity and Emergency Department Diversion: Four Community Case Studies. AHA Survey Results*. Washington, D.C.: American Hospital Association, 2004. www.aha.org/aha/content/2004/PowerPoint/EDDiverisonSurvey040421.ppt (accessed on Oct. 7, 2008).

Viccellio, P. "Customer Satisfaction Versus Patient Safety: Have We Lost Our Way?" *Annals of Emergency Medicine*, vol. 51, no. 1 (2008): 13-14.

Viccellio, P. *The Impact of Emergency Department Overcrowding On Patient Care and Survival*. <http://www.hospitalovercrowding.com/white%20paper%202008.doc> (accessed on Oct. 1, 2008).

Wiler, J. L., D. L. Fite, C. Gentle, J. M. Halfpenny, A. Hamedani, A. Heins, A. Mehrotra, M. G. Mikhail, and A. S. Fisher. *Optimizing Emergency Department Front End Operations. An Information Paper*. Irving, Texas: American College of Emergency Physicians, 2008.

Wilson, M. J., and K. Nguyen, *Bursting at the Seams. Improving Patient Flow to Help America's Emergency Departments*. Washington, D.C.: Urgent Matters, 2004. http://www.urgentmatters.org/reports/UM_WhitePaper_BurstingAtTheSeams.pdf (accessed on Sept. 30, 2008).

Wilson, M. J., B. Siegel, and M. Williams. *Perfecting Patient Flow. America's Safety Net Hospitals and Emergency Department Crowding*. Washington, D.C.: National Association of Public Hospitals and Health Systems, 2005.

(290758)

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday afternoon, GAO posts on its Web site newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to www.gao.gov and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's Web site, <http://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Ralph Dawn, Managing Director, dawnr@gao.gov, (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548