

## Decreasing ER Utilization with Nurse Telephone Triage and Establishing a National Network of Medical Call Centers

### Summary of Nurse Telephone Triage Effect on ER Utilization

- **Demonstrated to be cost effective; lowers health care costs by providing a 2.5-3.5 return on investment**
- Demonstrated to decrease ER utilization in various patient populations
- Demonstrated to be safe across age-groups and various patient populations
- Demonstrated high patient satisfaction
- A standard of healthcare delivery for over 30 years

### Definition

Nurse Telephone Triage adapted from Connie Goldsmith, RN, MPA accessed at <http://ce.nurse.com/CE438/CoursePage>

*The nursing process provides the blueprint for safe delivery of patient care in all settings, including care delivered by telephone. Telephone triage is the process of systematically and thoroughly assessing a patient, then developing and implementing a plan of care based on the assessment. Completing the nursing process, results are evaluated in a number of ways that may include ascertaining caller satisfaction and understanding of the nurse's recommendations, and internal quality reviews of the nurse's critical thinking and communication skills, and accuracy of documentation.*

*Triage involves sifting through an assortment of symptoms to determine the severity of illness or injury so the patient will receive the right care at the right time in the right place. Telephone triage nurses rely on written or computerized protocols. Such protocols guide nurses through sets of standardized questions designed to deliver consistent and safe outcomes.*

**Nurses do not diagnose, but rather assess urgency of symptoms and assure that patients are seen in the most appropriate setting at the most appropriate time for their current medical condition.**

### The Cochrane Collaboration Review

Telephone consultation and triage: effects on health care use and patient satisfaction, 2008, summary accessed at

<http://www.thecochranelibrary.com/userfiles/ccoch/file/Telemedicine/CD004180.pdf>

*Visits to emergency departments and family doctors have increased. One possible way to decrease the demands is to provide telephone helplines, hotlines or consultations. People can speak with health care professionals, such as doctors and nurses, on the telephone and receive medical advice or a referral to an appropriate health service. Nine studies were found and analyzed to determine whether*

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*telephone consultation was safe and effective. In general, **at least half of the calls were handled by telephone only (without the need for face-to-face visits). It was found that telephone consultation appears to decrease the number of immediate visits to doctors and does not appear to increase visits to emergency departments.** It is still unclear though, whether it is just delaying visits to a later time. Telephone consultations also appear to be safe and people were just as satisfied using the telephone as going to see someone face-to-face. There are still questions about its effectiveness and more research into the use, cost, safety and satisfaction of telephone consultation is needed.*

### History and Managed Care Use

- The first nurse triage call center was established by Kaiser Permanente in the late 1960's.
- Medical Call Centers have flourished since the mid-1980's when computerized guidelines and documentation became widely available.
- Today, all managed care organizations utilize nurse telephone triage call centers for their members to help decrease unnecessary emergency room visits. These toll-free numbers are often published directly on the insurance card if this service option is chosen by an employer.
- Nurse telephone triage has become an important and integral mode of healthcare delivery in many countries, states, health systems and physician offices.
- The availability of nurse telephone triage, or other suitable 24-hour telephone access, is a requirement of providers by most major Medicaid and managed care organizations.
- The availability of telephone triage and advice is a requirement of the American Academy of Pediatrics definition of a Medical Home.

### International Use

The following countries utilize nurse telephone triage either universally or regionally (others utilize these services but not with public funds)

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|----------------------|------------------|
| • Australia          | • Netherlands    |
| • Canada             | • New Zealand    |
| • Denmark            | • Sweden         |
| • Dominican Republic | • United Kingdom |
| • Ecuador            | • Venezuela      |
| • Greece             |                  |

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### Examples of Public Supported Programs in the US

- New Mexico – *NurseAdvice<sup>sm</sup>* New Mexico is a state-wide initiative since 2006. Demonstrated to save \$40.96 per triage call. Estimated annual cost savings to New Mexico is \$3.2 million.
- Texas – Ask Your Nurse Advice Line. Pilot study demonstrated 66% reduction in ED utilization rate in the intervention group. Estimated savings of over \$16 million if the program was expanded to the entire population of Harris County Hospital District.
- Texas – La Linea de Salud of El Paso public program to decrease ER utilization and improve health care access.
- Ohio – pilot program in implementation phase to assess impact of increased marketing of nurse triage line to reduce ER utilization.
- Montana – Nurse First Program for Medicaid recipients.
- Oregon – public nurse advice line for the uninsured.

### Return on Investment (ROI) Studies

- Return on investment evaluations demonstrate ratios from 2.5 – 3.5. Data from the Society of Actuaries accessed at <http://www.lotteract.com/resources/DoveDuncanPart320041008.pdf>
- Reduction of \$1.70 in ER costs for every \$1.00 invested in nurse telephone triage service, reduction of visits by 4.3% and provided savings of \$400,000. O'Connell JM, Johnson DA, Stallmayer J, et al., Satisfaction and return-on-investment of a nurse triage service, *American Journal of Manage Care*. 2001; 7(2);159-169.
- Each nurse telephone triage calls results in health care savings of \$42.61. Two-thirds of all calls for which a parent felt the patient should go to an emergency department or urgent care were deemed not to require an immediate evaluation by the telephone triage nurse. Bunik M, Glazner J, Chandramouli V, et.al. Pediatric telephone call centers: how do they affect health care use and costs? *Pediatrics*. 2007 Feb; 119(2):e305-13.
- Study demonstrated that ED visits made by nurse telephone triage referral were 33% more appropriate than patients making self-decisions to go to the ED (80% vs. 60% of visits deemed appropriate). Barber JW, King WD, Monroe KW, et.al. Evaluation of emergency department referrals by telephone triage. *Pediatrics*. 2000; 105:819-821.
- Implementation of the telephone-based nurse triage service lowered utilization of hospital emergency department by 15%. O'Connell J, Johnson D, 1998 accessed at <http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102234357.html>
- There already exists a national network of federally supported Poison Control Centers that provide targeted services regarding potentially toxic ingestions and other exposures. It is conservatively estimated that every \$1 spent on poison control centers saves \$13 dollars in healthcare costs. Wahl M et al, Poison Centers and Medical Cost Avoidance: Revisiting the Concept \$7 Saved for Every \$1 Spent. *Clinical Toxicology* (2008) 46; 591–645.

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### Patient Safety

- Nurse telephone triage effectively evaluates illness acuity in an urban population. No patient referred for non-emergent care required urgent or emergent care. Frisbee S, Malloy M, Meurer J, et.al. Urban Wisconsin pediatric patients using an after-hours telephone triage service: Outcomes and Compliance. *Wisconsin Medical Journal*. 2001; 100(5):55-57.
- Ninety percent of patients referred for urgent evaluation by nurse telephone triage were judged by the evaluating physician to have been appropriately referred. Kempe A, Dempsey C, Whitefiled J, et.al. Appropriateness of urgent referrals by nurses at a hospital-based pediatric call center. *Archives of Pediatric and Adolescent Medicine*. 2000;154:355-360.
- Under referral by nurse telephone triage is extremely low; occurring in approximately 1 patient in 500 phone calls. Under-referral was defined as a subsequent hospitalization within 24 hours of a nurse call. Kempe A, Luberti A, Belman S, et.al. Outcomes associated with pediatric after-hours care by call centers: a multicenter study. *Ambulatory Pediatrics*. 2003;3(4), 211-217.

### Patient Satisfaction and Compliance

- Three quarters of callers complied with the nurse's recommendations to be seen urgently. Kempe A, Bunik M, Ellis J, et.al. How safe is triage by an after-hours telephone call center? *Pediatrics*. 2006; 118:457-463.
- Nurse telephone triage is well received by patients, results in very high patient satisfaction and does not adversely affect patient-physician relationships. Kempe A, Luberti A, Hertz A, et.al. The delivery of pediatric after-hours care by call centers: a multicenter study of parental perceptions and compliance. *Pediatrics*. 2001; 108:1-7.

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### Recommendations for Making Medical Call Centers a Critical Part of Universal Access to Health Care

1. Make universal publicly-funded nurse telephone triage and advice a central element of healthcare reform, especially for patients who do not have medical insurance or a primary care physician.
2. Establish Medical Call Centers on a state or metro-level, not a national level or insurer level, to provide telephone triage and advice. State or metro-level call centers are in a better position to help callers negotiate access to the local health care system and work closely with primary care physicians.
3. The regional medical call center will act as a partner to primary care physicians to help decrease the fragmentation of medical care that currently exists and to enhance the patient-centered medical home. Accomplish this by providing each regional medical call center with a complete database of local physicians so telephone visit information is transmitted to a patient's medical home.
4. Operate Medical Call Centers 24/7. It should be the right of every citizen to reach a nurse for assistance at any hour day or night, especially for patients without medical insurance or a primary care physician.

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5. Utilize the current network of Medical Call Centers and/or Poison Control Centers to expand services to the public.
6. Fund the national network of Medical Call Centers from the savings associated with less ambulance and emergency room visits, as well as from payers who will no longer need to fund their own medical call centers.
7. Create an American Association of Medical Call Centers to help oversee and regulate the public care provided.
8. Implement programs of disease prevention and wellness promotion as well.
9. Create a real time disease surveillance program from the combined data of the national network of medical call centers. .

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