



Educating Health Care Providers to Deliver Equitable Care Through Simulations

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HRSA Funded project (2008-2010)

- **Addressing Health Disparities with Culturally Competent Nurse Administrators**
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Project purposes

- Prepare nurse administrators to design, implement and manage safe and effective care for patients with **Ischemic strokes**.
- Develop a **virtual simulation** training method with **transferability** among healthcare organizations, populations and conditions.
- Incorporate concepts of **vulnerability, diversity and equitable care** in the training program.



Methods

- Case Methods with **virtual simulation**
- Select conditions and population and training focus for cases
- **Ischemic Stroke** focus of this case simulation series
- **African American Woman** as patient entering the continuum of care from Emergency to Acute phase and discharge home
- **Content development team** for script development (educational specialist, administrator, stroke specialist)
- **Technical support team** for simulation development (web designer, simulation designer, video production team)
- Eastern Virginia Medical School training center for standardized patient learning (**trained actors for cases**)
- Cases to be implemented in fall 2009.



STROKE: Leading cause of serious long term disability in US

- **Stroke is a leading cause of serious, long-term disability in the United States.**
- Stroke killed 143,579 people in 2005.
- **Third largest cause of death**, ranking behind "diseases of the heart" and all forms of cancer.
- 6,500,000 stroke survivors are alive today (2,600,000 males) (3,900,000 females).
- Data from GCNKSS/NINDS studies show that about **795,000 people suffer a new or recurrent stroke** each year. About 600,000 of these are first attacks and 180,000 are recurrent attacks.



Stroke affects women and blacks at increased rates

- **Females accounted for 60.6 percent of stroke deaths (2005)**
- **Death rates per 100,000 population for stroke were 44.7 for white males and 70.5 for black males, and 44.0 for white females and 60.7 for black females.**



Stroke Care: Crosses the Continuum of Care (multiple units and providers)

Phase 1 (emergency or hyperacute phase)

- first 3 to 24 hours after onset of stroke
- the prehospital (activation of emergency medical services [EMS]/9-1-1 and response) and ED care protocols.
- focus is identifying stroke symptoms and infarct location
- assessing the patient for risk of acute and long-term complications,
- determining treatment options.

Phase 2 (acute care)

- 24 to 72 hours after onset of stroke
- the cause of stroke, preventing medical complications
- preparing the patient and family for discharge,
- instituting long-term secondary prevention modalities.



Role of the nurse administrator

- The Stroke Guidelines (AHA, 2009) are incorporated into the training cases of this project
- Establishment of stroke centers of care
- AHA Treatment guidelines on stroke care in the emergency and acute phases are **implemented in healthcare organizations by Nurse Administrators.**
- Guides for evidenced practice are utilized the rules of evidence and formulation of strength of evidence (recommendations) used by AHA writing groups (Table 1).

Table 1

| | | SIZE OF TREATMENT EFFECT → | | | |
|---|--|--|---|--|---|
| | | CLASS I <i>Benefit >>> Risk</i> Procedure/Treatment SHOULD be performed/administered | CLASS IIa <i>Benefit >> Risk</i> <i>Additional studies with focused objectives needed</i> IT IS REASONABLE to perform procedure/administer treatment | CLASS IIb <i>Benefit ≥ Risk</i> <i>Additional studies with broad objectives needed; additional registry data would be helpful</i> Procedure/Treatment MAY BE CONSIDERED | CLASS III <i>Risk ≥ Benefit</i> Procedure/Treatment should NOT be performed/administered SINCE IT IS NOT HELPFUL AND MAY BE HARMFUL |
| ESTIMATE OF CERTAINTY (PRECISION) OF TREATMENT EFFECT | LEVEL A Multiple populations evaluated* Data derived from multiple randomized clinical trials or meta-analyses | <ul style="list-style-type: none"> ■ Recommendation that procedure or treatment is useful/effective ■ Sufficient evidence from multiple randomized trials or meta-analyses | <ul style="list-style-type: none"> ■ Recommendation in favor of treatment or procedure being useful/effective ■ Some conflicting evidence from multiple randomized trials or meta-analyses | <ul style="list-style-type: none"> ■ Recommendation's usefulness/efficacy less well established ■ Greater conflicting evidence from multiple randomized trials or meta-analyses | <ul style="list-style-type: none"> ■ Recommendation that procedure or treatment is not useful/effective and may be harmful ■ Sufficient evidence from multiple randomized trials or meta-analyses |
| | LEVEL B Limited populations evaluated* Data derived from a single randomized trial or nonrandomized studies | <ul style="list-style-type: none"> ■ Recommendation that procedure or treatment is useful/effective ■ Evidence from single randomized trial or nonrandomized studies | <ul style="list-style-type: none"> ■ Recommendation in favor of treatment or procedure being useful/effective ■ Some conflicting evidence from single randomized trial or nonrandomized studies | <ul style="list-style-type: none"> ■ Recommendation's usefulness/efficacy less well established ■ Greater conflicting evidence from single randomized trial or nonrandomized studies | <ul style="list-style-type: none"> ■ Recommendation that procedure or treatment is not useful/effective and may be harmful ■ Evidence from single randomized trial or nonrandomized studies |
| | LEVEL C Very limited populations evaluated* Only consensus opinion of experts, case studies, or standard of care | <ul style="list-style-type: none"> ■ Recommendation that procedure or treatment is useful/effective ■ Only expert opinion, case studies, or standard of care | <ul style="list-style-type: none"> ■ Recommendation in favor of treatment or procedure being useful/effective ■ Only diverging expert opinion, case studies, or standard of care | <ul style="list-style-type: none"> ■ Recommendation's usefulness/efficacy less well established ■ Only diverging expert opinion, case studies, or standard of care | <ul style="list-style-type: none"> ■ Recommendation that procedure or treatment is not useful/effective and may be harmful ■ Only expert opinion, case studies, or standard of care |
| Suggested phrases for writing recommendations† | | should is recommended is indicated is useful/effective/beneficial | is reasonable can be useful/effective/beneficial is probably recommended or indicated | may/might be considered may/might be reasonable usefulness/effectiveness is unknown/unclear/uncertain or not well established | is not recommended is not indicated should not is not useful/effective/beneficial may be harmful (Summers et al, 2009) |



Examples of Phase 1 Recommendations for ED personnel (AHA, 2009)

Class I


- 1. EDs should establish standard operating procedures and protocols to triage stroke patients expeditiously (**Class I, Level of Evidence B**).
- 2. Standard procedures and protocols should be established for benchmarking time to evaluate and treat eligible stroke patients with rtPA expeditiously (**Class I, Level of Evidence B**).
- 3. Target treatment with rtPA should be within 1 hour of the patient's arrival in the ED (**Class I, Level of Evidence A**).
- 4. Eligible patients can be treated between the 3- to 4.5-hour window when evaluated carefully for exclusions to treatment (**Class I, Level of Evidence B**).



Examples of Phase 1 recommendations for in hospital care ED department personnel training and monitoring the quality of care and outcomes (AHA, 2009)

Class I

- 2. Frequent neurological/stroke assessments should be done (**Class I, Level of Evidence C**); these should be done more frequently for patients receiving rtPA.
- 6. Intravenous access should be obtained in at least 2 sites, with 1 site for administration of rtPA and 1 site for delivery of intravenous fluids or other medications if the patient is a candidate for rtPA (**Class I, Level of Evidence C**).
- 7. Only nondextrose, normotonic intravenous fluids such as normal saline should be used in the AIS patient (**Class I, Level of Evidence C**).
- 8. Intravenous rtPA should be administered without delay and should not be excluded in an eligible patient (**Class I, Level of Evidence A**).



Example of Phase 2 (In Hospital) Recommendations for nursing care

Class I

- 1. All nurses should be familiar with the basic neuroimaging testing for stroke patients so that they can educate and prepare patients and families (***Class I, Level of Evidence C***).



Where we are now:

- Developing first three cases on stroke
- African American woman entering the ED with an Ischemic Stroke
- She will progress through the acute phase to discharge
- Cultural content will be imbedded in the case
- The Nurse administrator will plan, implement and evaluate the use of the AHA Guidelines in her units
- Expert panel will review the cases
- Pilot test them in fall 2009 with Graduate Nurse Administrator



How could these simulations be used?

- Consistent training in Stroke Care among healthcare organizations
- Used as training cases or as testing cases for quality measures of Stroke care and culturally focused care
- Used for distance learning to rural and underserved areas
- Healthcare students in training
- Research measures after validity and reliability are established



References

1. **Comprehensive Overview of Nursing and Interdisciplinary Care of the Acute Ischemic Stroke Patient A Scientific Statement From the American Heart Association**

- Debbie Summers, MSN, RN, FAHA, Chair; Anne Leonard, MPH, RN, FAHA, Co-Chair;
- Deidre Wentworth, MSN, RN; Jeffrey L. Saver, MD, FAHA; Jo Simpson, BSN, RN;
- Judith A. Spilker, BSN, RN; Nanette Hock, MSN, RN, FAHA; Elaine Miller, DNS, RN, FAHA;
- Pamela H. Mitchell, PhD, RN, FAHA; on behalf of the
- American Heart Association Council on Cardiovascular Nursing and the Stroke Council
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