

EMS Research
at the
North Carolina Rural Health
Research & Policy Analysis Center

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Today's talk...

- ❖ Overview of NC RHR & PAC EMS research portfolio
- ❖ Key findings from our studies
- ❖ New questions raised by these studies
- ❖ Future research in rural EMS



Emergency Medical Care Projects:

- ❖ Becoming an Emergency Medical Technician: Urban-Rural Differences in Motivation and Job Satisfaction (2007)
- ❖ Issues in Staffing Emergency Medical Services: Results from a National Survey of Local Rural and Urban EMS Directors (2008)
- ❖ Pediatric Care in Rural Hospital Emergency Departments (2009)
- ❖ Rural Volunteer EMS: Reports from the Field (2009)
- ❖ A National Review of Hospital-Based EMS (2009-2010)



Becoming an Emergency Medical Technician: Urban - Rural Differences in Motivation and Job Satisfaction

- ❖ Analysis of 2003 LEADS data comparing rural and urban EMTs
- ❖ Compared to Urban EMTs, Rural EMTs are:
 - More likely to be older, more likely to be women
 - Less likely to be minority and to have post-secondary education
 - Less likely to have become EMTs for pay, benefits or career opportunity
 - Less likely to report that pay is an important aspect of job
- ❖ What would these EMTs say today?
What do EMTs who have left the field say?

**Issues in Staffing Emergency Medical Services:
Results from a National Survey of
Local Rural and Urban EMS Directors**

- ❖ Mailed survey in Summer 2006
- ❖ 1425 local EMS directors
- ❖ 741 in rural areas (59.5%), 684 in urban areas (54.9%)
- ❖ Survey focused on two areas:
 - Designated Medical Director (DMD)
 - Availability, what DMD does, what the local director would like DMD to do
 - EMTs and Paramedics
 - Barriers to recruitment
 - Barriers to retention



**Issues in Staffing Emergency Medical Services:
Results from a National Survey of
Local Rural and Urban EMS Directors**

- ❖ Rural services more likely to have problems getting a DMD. Main barrier is willingness of local physicians not the lack of physicians.
- ❖ Rural DMDs less likely than urban DMDs to:
 - Develop or implement quality improvement programs (47% vs 53%)
 - Provide continuing education for EMTs and paramedics (33% vs 43%)
 - Stay up-to-date on state/regional/local information (51% vs 59%)
 - Stay in touch with local health care community (44% vs 52%)
- ❖ No differences between rural and urban for:
 - Develop medical protocols and standing orders (78%)
 - Adapt protocols for local use (76-77%)



Issues in Staffing Emergency Medical Services:
Results from a National Survey of
Local Rural and Urban EMS Directors

- ❖ Rural local EMS Directors do not differ from urban directors in what they want from their DMD that they are not getting:
 - Support for expanding scope of practice (36%)
 - Regular or more timely review of run reports (29%)
 - Continuing education for staff (27%)
 - Quality improvement programs (24%)

 - Nothing more (29%)



Issues in Staffing Emergency Medical Services:
Results from a National Survey of
Local Rural and Urban EMS Directors

- ❖ What models of medical direction can best serve rural areas given the lack of local physicians, e.g., regional coordination?
- ❖ How can other entities fill the needs, e.g., continuing education through the local hospital?
- ❖ What do physicians in rural areas who are and are not DMDs have to say?



Issues in Staffing Emergency Medical Services:
Results from a National Survey of
Local Rural and Urban EMS Directors

- ❖ Rural local EMS Directors more likely to report always having a problem recruiting EMTs and paramedics (44% vs 29%)
- ❖ Barriers include:
 - Lack of volunteers – no time, no interest, isolation, no employer support
 - Significant difference between rural and urban in training barriers: Training is too long (44%), too far away (32%), or too expensive (25%)
- ❖ Fire-based EMS less likely to have recruitment problems but not retention problems. Role of pay and career path?



Issues in Staffing Emergency Medical Services:
Results from a National Survey of
Local Rural and Urban EMS Directors

- ❖ Rural local EMS Directors more likely to report always having a problem retaining EMTs and paramedics (22% vs 14%)
- ❖ Barriers include:
 - Time / scheduling conflicts (66%), especially in the most rural areas
 - Burnout was reported by more rural directors (42% vs 34%)
 - Continuing education barriers were reported by more rural directors (40% vs 33%)
 - Inadequate pay is a problem in all areas (37 – 40%)



Issues in Staffing Emergency Medical Services:
Results from a National Survey of
Local Rural and Urban EMS Directors

- ❖ Real concerns about the sustainability of rural volunteer systems in today's economy and with today's demographics.
- ❖ Are rural volunteer services converting to paid services? To partially paid services? Who pays?
- ❖ Is there a movement toward billing for services vs. community fundraising?
- ❖ How can rural services that remain volunteer be supported, particularly for training?



Pediatric Care in Rural
Hospital Emergency Departments

Two components:

- ❖ Analysis of Emergency Pediatric Supplies and Equipment Supplement (EPSES) data
 - Availability of specialty physicians
 - Transfer agreements
 - Availability of pediatric-sized equipment
- ❖ Focused surveys with rural ED directors (N=65)
 - Additional questions regarding staff training
 - Identified needs to improve pediatric ED care

**Pediatric Care in Rural
Hospital Emergency Departments**
Preliminary Results

- ❖ Many rural hospitals do not 24/7 access to emergency medicine physicians, pediatricians and particularly pediatric EM (both studies)
- ❖ Few rural hospitals have inpatient pediatric units but virtually all admit pediatric patients (both studies)
- ❖ Few rural hospitals have Trauma Level designation (both studies)
- ❖ Pediatric-sized supplies and equipment less likely to be available in rural hospitals in only 2 categories: vascular access and airway monitoring (EPSES)

**Pediatric Care in Rural
Hospital Emergency Departments**
Preliminary Results from Rural Hospital Survey

- ❖ ED Facilities and Supplies for Pediatric Care
 - 22% have a room in their ED for pediatric cases
 - 82% have a special pediatric crash cart
 - 100% have a pediatric medication dosage chart or tape
- ❖ Staff training
 - Pediatric Advanced Life Support (PALS) training is not universal
 - Few ED staff have participated in Rural Trauma Team Development Course (RTTDC)

**Pediatric Care in Rural
Hospital Emergency Departments**
Preliminary Results from Rural Hospital Survey

- ❖ Needs identified by ED Directors
 - ❖ 40% want more training – low volume problem
 - ❖ Other needs include a peds room in the ED, a peds cart, and better access to pediatricians
- ❖ Barriers – time and money
- ❖ Need distance learning, simulation, and other innovative education techniques

RURAL HEALTH RESEARCH
AT
PECKY ANALYSIS CENTER

Rural Volunteer EMS: Reports from the Field
(work in progress)

- ❖ Anecdotal reports of volunteer services failing
- ❖ Interviews with a random sample of rural volunteer respondents to our previous survey
- ❖ Changes in recruitment and retention?
- ❖ Changes in pay structure and revenue?
- ❖ Predictions for the future



Hospital-based Ambulance Service
in Rural America
(work in progress)

- ❖ How can rural hospitals support EMS?
- ❖ How many hospitals provide EMS services themselves?
- ❖ What are the factors that influence a hospital's decision to implement EMS or discontinue EMS?



Future Research

- ❖ Complexity of rural EMS
- ❖ Impact of State policies/regs on provision of EMS in rural areas
- ❖ Rural EMS and HIT
- ❖ Flex program and trauma center designation
- ❖ And....

For more information...

❖ Research Center papers are available via the Sheps Center website or the Rural Health Research Gateway:

- http://www.shepscenter.unc.edu/research_programs/rural_program/index.html
- <http://www.ruralhealthresearch.org/>

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