Assessing the impact of natural disaster on Mississippi women’s access to reproductive health services

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The Team

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- Theta Beta Chapter\textsuperscript{2}
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- SMART Team\textsuperscript{3}

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Hurricane Katrina was a Category 5 storm with sustained winds of 175 mph.
26 Miles of complete devastation along the Coastline
Basic Stats Information

- 180,000 people displaced
- 120,000 went to shelters
- 70,000 infants and children
- 40,000 women
- 500,000 registered FEMA applicants
- 3,200 LA & MS Gulf Coast students enrolled to other schools
- 1,200 – no compliance form
Epidemiology

- 17,000 Mississippians injured, experienced disease, or died due to the hurricane
- 4,100 injured requiring medical treatment
- 1,810 suffered rash and wound infections
- 650 had diarrhea, nausea, and vomiting
- 1,560 had respiratory disease, i.e. asthma
- 280 reported mental health problems
- 31 suicide related events (documented ideations, with or without attempt)
- 30 developed meningitis/Encephalitis
Healthcare & Immunizations
EMS Information

- DMATs saw 16,275 patients
- VMAT made 1,555 contacts
- MSDH consumed 40,000 doses of the 130,000 ordered for flu season
- 100,000 doses of tetanus; 20,000 Twinrix; 70,000 Hepatitis A ordered from federal resources
- First state to deploy/utilize the SNS
Immunizations

- Supplies delivered for immunization:
  - TD: 132,538 doses
  - Hepatitis A: 25,830 doses
  - Hepatitis B: 2,972 doses
  - Twinrix (Hep A & B combo): 7,580 doses
  - Free Flu: 8,150 doses
None “untouched”
None “untouched”

- Major interruptions in access, availability, utilization of healthcare services
- Problems continue:
  - Changes in patients’ ability to pay
  - Fewer functional healthcare facilities
  - Fewer healthcare professionals serving the area.
Two years later...
Two years later...

- At the 2-yr anniversary coastal health providers reported problems such as:
  - 30% decrease in staffing
  - Difficulty recruiting MD specialists
  - > ½ hospital beds not yet in use
  - Huge increases in uncompensated care.
Two years later...

- Research suggests the storm has increased mental health needs.
- Recent Harvard study:
  - 32% of population with signs of mental illness in 2007
  - Up from 27% right after storm
  - Lingering challenges and frustrations
Maternal & Child Health

- Difficulty accessing healthcare
  - Lower number of facilities
  - Lower number of providers
  - Changes in patients’ ability to pay
  - Changes in priorities of Gulf Coast residents

- Serious, given the historically high infant mortality rate
What to do?

- CDC Division of Reproductive Health
- Develop tool set to assess the reproductive health needs of disaster-affected women
- Data to evaluate services available
- Identify service needs
- Support funding requests to enhance/expand services
- Particularly useful during emergent post-disaster period
The instrument

- Based on PRAMS
- Designed to be a model for nationwide post-disaster assessment
- Pilot study for post-Katrina Mississippi and Louisiana
Topics

- Safe motherhood
- Family planning
- HIV/STDs
- Gender-based violence
- Perceived family mental health issues
- Observed trauma-reactive behaviors
- Symptoms among their children
Methods

- Collaboration
  - STTI – Theta Beta Chapter
  - TA per DRH-CDC
  - UMMC SON Faculty
- Focus area – MS Gulf Coast
- Target population - Women of reproductive age (18-44 years)
- Permanently or temporarily displaced
**Barriers** – Highly mobilized population
FEMA Trailer Parks

Thousands of MS Residents living in transitional housing
(40K 2006, 17K 2007)
FEMA housing
Barriers

- Where are they now?
- Where were they before?
- Unfunded project (~ $15k needed)
- Limited resources
  - Initially focused on recovery & planning with little time for focused data collection
  - Now catching up
- Participant recruitment
Sampling Barriers

- IRB – University of MS Medical Center
- Vulnerable population issues
  - Surfacing of suppressed emotions brought about by reflection on Katrina
  - Confined population – similar to institutionalized but refugee as opposed to incarceration or commitment
  - Invitation-based recruitment
Data Collection Barriers

- Data collection resources limited
- No data collectors without funding
- Only a few interviews completed to date
- Geography – some Gulf Coast bridges remain closed complicating access to entire Gulf Coast
- No funding for travel to & from coast
Funding

- May 2007
- Contacted by CDC Div of Reproductive Health
- A method devised to offer reimbursement funding via purchase order on a pilot study testing their instrument
- The catch – Reimbursement only
Funding

• Find a sponsoring organization that could pay the costs of the pilot study up front and then be reimbursed by the CDC

• Solution?

• Sigma Theta Tau
  – University of MS School of Nursing
  – Theta Beta Chapter
Funding

• Presented idea to Theta Beta Board for consideration
• Project deemed an excellent opportunity to forward the organizational mission to support scholarly work by nurses
• Also good collaborative opportunity to pave way for future CDC and other federally funded projects
The Purpose

• To provide CDC DRH with barriers, obstacles, and logistical issues associated with conducting the survey so that an instrument guide can be developed to facilitate post-disaster assessments in other domestic and international settings.
Research Team

- Co-investigators:
  - Juanita Graham MSN RN
  - Lisa Haynie PhD RN

- Sponsor:
  - STTI Theta Beta Chapter

- Technical Assistance:
  - CDC Division of Reproductive Health
• Data Collection?

• Approached UM SoN Accelerated BSN program faculty
  – LaDonna Northington DSN

• Great timing! Data collection would coincide with Maternal Child Health Course, immediately followed by Research Course
Data Collection

- UM SoN Acc BSN program \((n_s = 13)\)
- Course clinical hours credit
- Stipends $200 for expenses
- Broadens awareness of women’s reproductive health needs, risk factors, perspectives
- Builds communications skills on delicate subjects such as domestic violence
- Project employing data skills & professional writing skills for Research Course
Data Collection

- 3 days during Oct & Nov 2007
- Interviewed 108 women across Gulf Coast
- Survey took ~ 45 minutes each
- Participants receive $10 Wal-Mart card
- Data collected on paper
- Web based data entry
- Laptops with wireless internet services
**Collaborative advantages**

- Broadens awareness of women’s reproductive health needs, risk factors, perspectives on utilizing reproductive healthcare
- Course clinical hours credit
- Builds communications skills on delicate subjects such as domestic violence
- Provides face to face learning on women’s barriers in accessing care
Collaborative advantages

- Data analysis, reporting coincided with Research Course
- Provided their required research project
- Hands-on learning in data analysis
- Field experience in nursing research
- Fostered interest in nursing research
Collaborative advantages

- CDC deliverables included survey results, findings report & logistical information on conducting survey
- Students participated in production of deliverables
- Professional writing
- Computer / data skills
- Critical thinking
Research question

• What impact did Hurricane Katrina have on women’s access to family planning services along the Mississippi Gulf Coast?

• Questions chosen from data based on relevance to the topic of family planning

• Data displayed as frequency charts, tables, & pie charts.
Participant data

Race

- White 64%
- Black 32%
- Other NS 4%
Participant data

Storm

- Katrina 93%
- Rita 1%
- Both 6%
Participant data

- 57% of participants reported that they were not married.
- 47% stated that they were no longer living in the same location as before the disaster.
- 45% of participants said they believe they could physically get pregnant now.
Findings

- 64.7% reported being sexually active within the last month
- Desired to have a baby in the future?
  - 45.5% answered “yes”
- Of those:
  - 5% “within the next 12 months”
  - 10% “within the next one to two years”
  - 17% “within two years”
Findings

• 57.6% were using some form of contraception before the storm
• 88.2% reported their methods were not interrupted by the disaster
• Among those who did experience an interruption
  – 2 indicated wanting to have children now
  – 2 said methods were interrupted because the method became unavailable
Findings

• 34.3% not currently using any method to delay or avoid getting pregnant

• Wants more children, unable/difficulty getting pregnant, not having sex/infrequent sex, postpartum/4 weeks after birth, respondent or partner opposed, fears side effects, knows no source, inconvenient to use, doesn’t know/no response
Key finding

- 37% said received family planning services at a hospital ER or urgent care center
  - Hardly the appropriate location for individualized family planning and continuity of reproductive health care.
Key finding

Where did you last obtain your method?

- Hospital urgent care: 37%
- Private doctor's office: 21%
- Community/public health clinic: 21%
- Pharmacy / Store: 9%
- Other: 6%
- Planned Parenthood: 3%
- HMO facility: 1%
- Unknown: 3%
Discussion

• Need for education
  – Methods
  – Availability
  – Importance of continuity in family planning services
Discussion

- Participants have some link with healthcare system but consistent access unknown
- Ability to easily obtain an appointment?
- Payment source?
- Transportation?
- Wide variances in locations of where FP services obtained suggest lack of continuity and incrementalized care
Discussion

• Greatest barrier to this study was time lapse
• Intent of survey early recovery period assessment (1-3 month post disaster)
• Instrument may be useful long term in long term recovery such as Katrina
• Recall issues may limit findings
• Survey depends upon self-reporting of events occurring during very traumatic & stressful time period.
Future study

- 40% of FP services provided at hospitals and emergent care centers
- Suggests gap exists in access to FP services >2 yrs post storm
- MS historically medically underserved with a growing shortage of healthcare professionals
- Finding due to Katrina, or part of a possibly statewide phenomenon?
- Future study for statewide comparison
Conclusion

- If implemented timely, survey could reveal vital data to support emergent relief efforts.
- Periodic or intermittent re-implementation of survey may prove helpful in long-term recovery.
- Even the few responses from respondents who reported lack of knowledge on available methods or providers suggest that unmet needs continue to exist.
Timeline

- CDC P.O. awarded Aug 2007
- Planning & development Sep 2007
- Training – Oct 2007
- Data collection – Oct & Nov 2007
- Analysis & report by Dec 2007
- Manuscript submitted Mar 2008
- Initial publication acceptance Jul 2008

– Another perk for students for resumes’
Questions?