The Role of Nurses in an Interdisciplinary Care Team Responding to Mass Fatality Disaster

Susan B. Hassmiller, Susan Weeks and Lavonne Adams
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American Red Cross
The Role of Nurses in an Interdisciplinary Care Team: My Personal Reflections

Susan B. Hassmiller, PhD, RN, FAAN

American Red Cross
Susan B. Hassmiller

- Senior Adviser for Nursing, RWJF
- Central New Jersey Red Cross Board Chair
American Red Cross Mission

Prevent and alleviate human suffering in the face of emergencies by mobilizing the power of volunteers and the generosity of donors.
The American Red Cross is there.
Our Reach

500 local chapters

500,000 volunteers

7.1M people worked with global partners to help

Affected by disaster in 19 countries in 2012
Nurses: Backbone of Relief Efforts

- Triage and treatment
- Medication administration
- Medical supply management
- Health education and prevention
- Emotional support
- Advocacy and referral
The Red Cross and Me

Mexican Earthquake, 1975
Red Cross located my parents
Deadly Tornado Cluster: Nearly 350 Killed

ALABAMA, USA
Alabama Tornado, 2011

Pay it forward.
Integrated Care Team

Mental health professional, nurse and social worker:

- Client centered
- Integrated services
- Timely response
Superstorm Sandy and Integrated Care Teams

The American Red Cross has launched relief operations in 11 states, the District of Columbia and Puerto Rico to help people affected by superstorm Sandy.
Equity and Access to Care

“If it wasn’t for the Red Cross, I would not have had any food, water, a place to sleep or a place to take a shower. I wouldn’t have had anyone to talk to in the middle of the night, when I needed to.”

-Myron Johnson, New Orleans resident
Lavonne Adams, PhD, RN, CCRN

American Red Cross
Lavonne Adams

- Associate Professor, TCU Harris College of Nursing & Health Sciences

TCU Harris College

Center for Evidence Based Practice and Research: A Collaborating Center of the Joanna Briggs Institute
Background

- ICT approach first utilized following bombing of Alfred P. Murrah Federal Building in Oklahoma City, USA in April 1995
- ICT utilized in response to World Trade Center incident in New York on September 11, 2001
Rationale for Program Evaluation

• ICT has been viewed as a successful approach to mass casualty incidents
• Feedback from ICT participants and disaster response leadership following Spring 2011 tornado response suggested that the ICT approach had not worked as well as on previous occasions
• Program evaluation suggested
Program Evaluation Process

- Document review, including ICT narratives
- SWOT Analysis with Red Cross leadership Strength-Weakness-Opportunity-Threat
- Online survey of ICT participants
Sample

- All ICT team members from Spring 2011 Tornado Disaster Response Operations (DRO)
- 250 survey invitations distributed via email
- Statistical significance cannot be determined from survey results due to finite small sample size
Response Rate

- 250 survey invitations distributed via email; 7 email bounces.
- 128/243 began survey (52.7%)
- 120/243 completed survey (49.4%)
## Participants

<table>
<thead>
<tr>
<th>Service</th>
<th>N responded/N invited</th>
<th>% responding within activity</th>
<th>% of total respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Services</td>
<td>43/105</td>
<td>41</td>
<td>35</td>
</tr>
<tr>
<td>Mental Health</td>
<td>36/60</td>
<td>60</td>
<td>30</td>
</tr>
<tr>
<td>Client Casework</td>
<td>11/32</td>
<td>34.4</td>
<td>9</td>
</tr>
<tr>
<td>Spiritual Care</td>
<td>32/53</td>
<td>60.4</td>
<td>26</td>
</tr>
</tbody>
</table>
## Results: Roles

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree % (N)</th>
<th>Neutral % (N)</th>
<th>Disagree % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT is an activity I would choose to participate in</td>
<td>95 (113)</td>
<td>4 (5)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>I understood my role in the ICT</td>
<td>89 (109)</td>
<td>7 (9)</td>
<td>4 (4)</td>
</tr>
<tr>
<td>I understood the role of other members of the ICT</td>
<td>88 (107)</td>
<td>10 (12)</td>
<td>2 (3)</td>
</tr>
<tr>
<td>All team members should go to meet the family at the same time</td>
<td>69 (82)</td>
<td>13 (15)</td>
<td>18 (22)</td>
</tr>
<tr>
<td>I knew who the leader of the ICT was</td>
<td>84 (101)</td>
<td>7 (9)</td>
<td>10 (12)</td>
</tr>
</tbody>
</table>
## Results: Professional Skills and Experience

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree (% (N))</th>
<th>Neutral (% (N))</th>
<th>Disagree (% (N))</th>
</tr>
</thead>
<tbody>
<tr>
<td>My professional skills and experiences prepared me well for ICT</td>
<td>94 (115)</td>
<td>6 (7)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>ICT members had sufficient professional experience to function effectively in ICT</td>
<td>74 (88)</td>
<td>16 (19)</td>
<td>11 (12)</td>
</tr>
<tr>
<td>My professional skills were put to good use with ICT</td>
<td>83 (99)</td>
<td>11 (13)</td>
<td>6 (7)</td>
</tr>
</tbody>
</table>
# Results: Experience and Training

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree % (N)</th>
<th>Neutral % (N)</th>
<th>Disagree % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT members had sufficient disaster response experience to function effectively in ICT</td>
<td>61 (73)</td>
<td>24 (28)</td>
<td>15 (19)</td>
</tr>
<tr>
<td>ICT members had sufficient Red Cross training to function effectively in ICT</td>
<td>62 (73)</td>
<td>19 (23)</td>
<td>20 (23)</td>
</tr>
<tr>
<td>My Red Cross training prepared me sufficiently for ICT participation</td>
<td>62 (74)</td>
<td>23 (27)</td>
<td>15 (18)</td>
</tr>
<tr>
<td>ICT members had sufficient ICT-specific training to function effectively in ICT</td>
<td>32 (38)</td>
<td>30 (36)</td>
<td>38 (45)</td>
</tr>
</tbody>
</table>
## Results: When to Use the Model

<table>
<thead>
<tr>
<th></th>
<th>Agree % (N)</th>
<th>Neutral % (N)</th>
<th>Disagree % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ICT model should be used for families of those hospitalized or injured in a disaster</td>
<td>78 (92)</td>
<td>11 (12)</td>
<td>11 (13)</td>
</tr>
<tr>
<td>The ICT model should be used only for families who have had a death related to disaster</td>
<td>30 (35)</td>
<td>10 (12)</td>
<td>60 (71)</td>
</tr>
</tbody>
</table>


## Results: Function

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree % (N)</th>
<th>Neutral % (N)</th>
<th>Disagree % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I received enough direction from my activity lead</td>
<td>67 (80)</td>
<td>15 (18)</td>
<td>18 (21)</td>
</tr>
<tr>
<td>The ICT leader gave good direction</td>
<td>61 (74)</td>
<td>25 (30)</td>
<td>14 (17)</td>
</tr>
<tr>
<td>I understood who I reported to</td>
<td>82 (98)</td>
<td>7 (8)</td>
<td>11 (13)</td>
</tr>
<tr>
<td>I understood how to document for ICT</td>
<td>69 (82)</td>
<td>17 (20)</td>
<td>15 (17)</td>
</tr>
</tbody>
</table>
## Results: Relationships

<table>
<thead>
<tr>
<th></th>
<th>Agree % (N)</th>
<th>Neutral % (N)</th>
<th>Disagree % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ICT leader valued other members of the team</td>
<td>82 (99)</td>
<td>12 (15)</td>
<td>6 (7)</td>
</tr>
<tr>
<td>The ICT members valued other members of the team</td>
<td>84 (102)</td>
<td>13 (16)</td>
<td>3 (4)</td>
</tr>
<tr>
<td>The ICT(s) I worked with worked well together</td>
<td>77 (92)</td>
<td>17 (20)</td>
<td>6 (7)</td>
</tr>
<tr>
<td>I had a good relationship with chapter volunteers</td>
<td>79 (94)</td>
<td>19 (22)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>I had a good relationship with Disaster Response Operation (DRO) leadership/supervisors/volunteers</td>
<td>91 (108)</td>
<td>17 (20)</td>
<td>6 (7)</td>
</tr>
</tbody>
</table>
## Results: Goal

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree % (N)</th>
<th>Neutral % (N)</th>
<th>Disagree % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understood the goal of ICT</td>
<td>94 (112)</td>
<td>5 (6)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>ICT was effective at meeting its goal</td>
<td>84 (100)</td>
<td>13 (15)</td>
<td>3 (4)</td>
</tr>
</tbody>
</table>
Results

- “The goal of ICT is _____________” produced varied responses
- Most common themes
  - “support/help/assist” (n=45)
  - “needs assessment” (n=16)
  - “meet needs” (n=16)
  - “services/resources” (n=20)
## Results: Effectiveness

<table>
<thead>
<tr>
<th>Service Provided</th>
<th>Agree % (N)</th>
<th>Neutral % (N)</th>
<th>Disagree % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT utilized community resources effectively</td>
<td>65 (77)</td>
<td>25 (30)</td>
<td>10 (12)</td>
</tr>
<tr>
<td>ICT provided financial support effectively</td>
<td>68 (81)</td>
<td>18 (21)</td>
<td>14 (17)</td>
</tr>
<tr>
<td>ICT provided mental health services effectively</td>
<td>76 (90)</td>
<td>18 (22)</td>
<td>6 (7)</td>
</tr>
<tr>
<td>ICT provided spiritual care services effectively</td>
<td>61 (73)</td>
<td>29 (34)</td>
<td>11 (12)</td>
</tr>
<tr>
<td>ICT provided health services effectively</td>
<td>85 (101)</td>
<td>9 (11)</td>
<td>6 (7)</td>
</tr>
</tbody>
</table>
## Results: Team Leadership

<table>
<thead>
<tr>
<th>The lead for ICT should be (check one):</th>
<th>% (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Services</td>
<td>31 (36)</td>
</tr>
<tr>
<td>Mental Health</td>
<td>16 (19)</td>
</tr>
<tr>
<td>Spiritual Care</td>
<td>3 (4)</td>
</tr>
<tr>
<td>Client Casework</td>
<td>14 (16)</td>
</tr>
<tr>
<td>No one (it should be a collaborative effort)</td>
<td>36 (42)</td>
</tr>
</tbody>
</table>
## Results: Team Membership

<table>
<thead>
<tr>
<th>Team members of ICT should include (check all that apply):</th>
<th>% (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Services</td>
<td>95 (113)</td>
</tr>
<tr>
<td>Mental Health</td>
<td>95 (113)</td>
</tr>
<tr>
<td>Spiritual Care</td>
<td>81 (96)</td>
</tr>
<tr>
<td>Client Casework</td>
<td>93 (111)</td>
</tr>
</tbody>
</table>
# Results: Promotion of Recovery

ICT promotes recovery best by providing the following services

<table>
<thead>
<tr>
<th>Service</th>
<th>1 (most important)</th>
<th>2</th>
<th>3</th>
<th>4 (least important)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial support</td>
<td>37 (33%)</td>
<td>26</td>
<td>30</td>
<td>21</td>
</tr>
<tr>
<td>Emotional support</td>
<td>52 (46%)</td>
<td>25</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Spiritual Support</td>
<td>9</td>
<td>31</td>
<td>23</td>
<td>49 (44%)</td>
</tr>
<tr>
<td>Health Services</td>
<td>14</td>
<td>32</td>
<td>36</td>
<td>32</td>
</tr>
</tbody>
</table>
Recommendations

1) Develop and implement more consistent ICT-specific training

2) Articulate clear, consistent message about goal of ICT

3) Consider feasibility of expanding use of ICT and/or establish clear, consistent distinction between ICT and outreach visit

4) Determine how “effectiveness” of services is measured

5) Explore variability of resource application

6) Determine how ICT financial assistance differs from standard client casework financial assistance
Recommendations

7) Develop ways to improve communication between chapter volunteers—and their knowledge of resources—and Disaster Response Operation volunteers

8) Provide opportunity for all volunteers to provide both quantitative and qualitative feedback about Disaster Response Operation

9) Determine if lead for ICT should remain Health Services

10) Develop set of desired qualifications for ICT participation

11) Consider separate survey of Mental Health volunteers
Next Steps Based on Program Evaluation

- ICT reaffirmed as a valuable approach in providing care and services to those affected by mass casualty events
- Task Force formed to consider recommendations
- Timeline affected by ensuing disasters
Systematic Review to Synthesize International Evidence on Interdisciplinary Teams Responding to Disaster

Susan Mace Weeks, DNP, RN, CNS, LMFT, FAAN

American Red Cross
Susan Mace Weeks

- Associate Dean, Harris College of Nursing & Health Sciences
- Director, Center for Evidence-based Practice & Research
What Is a Systematic Review?

- Not a literature review
- Literature reviews may summarize, critique, and synthesize articles, but do not use systematic methodology
- Systematic reviews require adherence to explicit and rigorous methods to identify, critically appraise, and synthesize **ALL** relevant evidence
Synthesis vs. Summarizing

- To summarize is to express concisely
- To synthesize is to combine constituent elements into a single unified element
- To synthesize knowledge is to create new knowledge
- Systematic review is at the top of the evidence hierarchy
Systematic Review Characteristics

- Comprehensive
- Systematic
- 2 or more reviewers
- Peer-reviewed
- Transparent
- Reproducible
Recognized Systematic Review Entities

- Joanna Briggs Institute: Roots in Nursing & Allied Health
- Cochrane Collaboration: Roots in Medicine
- Campbell Collaboration: Roots in Education, Criminal Justice, and Social Sciences
Components of a Systematic Review

- Clearly stated objectives with pre-defined eligibility criteria for evidence
- Explicit, reproducible methodology
- Systematic search to identify all evidence meeting eligibility criteria
- Assessment of evidence validity
- Systematic presentation of evidence synthesis
Steps in a Systematic Review

- Formulate review question
- Define inclusion and exclusion criteria
- Locate evidence
- Select evidence to appraise
- Critique evidence quality
Steps in a Systematic Review (cont.)

- Extract data from evidence of highest available quality
- Analyze and synthesize relevant evidence
- Present results
- Interpret results and determine applicability to practice
Meta-analysis

- Statistical combining of results of similar studies (issue of heterogeneity)
- More precise calculation of effect than single study
- May be part of a systematic review
- Typically deal with questions of effectiveness
Meta-synthesis

- Combining results of similar qualitative studies
- Pooling of themes, opinions, experiences
- Used to address questions of meaningfulness, feasibility, and/or appropriateness
- Use qualitative methods to combine independent qualitative studies
- May be part of a systematic review
Multidisciplinary Team Response to Support Survivors of Mass Casualty Disasters: A Systematic Review Protocol

Lavonne Adams, PhD, RN, CCRN
Lisa Smith, MLS
Susan Mace Weeks, DNP, RN, CNS, LMFT, FAAN

American Red Cross
Review Question

- What is the effectiveness of multidisciplinary team response to mass casualty disasters upon the resolution of immediate needs and the support perceived by survivors of mass casualty disaster?
Review Objectives

- Identify the effectiveness of multidisciplinary team response on:
  1) The resolution of immediate needs and
  2) The support perceived among survivors of mass casualty disasters
Background

- Survivors of mass casualty disasters have immense needs (physical, mental, financial, etc.)
- Use of Integrated Care Team (ICT) model as one multidisciplinary response team format
- Lack of existing systematic reviews on topic
- Desire to synthesize international evidence
Inclusion Criteria

- Participants: survivors of mass casualty disasters, all ages and settings
- Intervention: multi-disciplinary response team
- Outcomes:
  1) resolution of immediate needs
  2) support perceived by survivors
- Types of Studies: All experimental, epidemiological, and descriptive study designs
- Published and unpublished studies
Search Strategy

- Three-step strategy:
  1) Search for initial keywords
  2) Search for keywords and index terms from retrieved studies
  3) Search reference lists of retrieved studies
- Databases: PubMed (Medline), CINAHL, SOCIndex, EMBASE, PsychINFO, MedNar
Initial Keywords

- Multi-disciplinary response team
- Disaster response
- Integrated care team
- Disaster response team
- Red Cross team
- Red Crescent team
Assessment of Methodological Quality

- Critique by 2 reviewers working independently
- Disagreements resolved by dialogue or with 3rd reviewer
- Use of standardized critical appraisal instruments from the Joanna Briggs Institute
### JBI Critical Appraisal Checklist for Randomised Control / Pseudo-randomised Trial

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Unclear</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Was the assignment to treatment groups truly random?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Were participants blinded to treatment allocation?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Was allocation to treatment groups concealed from the allocator?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Were the outcomes of people who withdrew described and included in the analysis?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Were those assessing outcomes blind to the treatment allocation?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Were the control and treatment groups comparable at entry?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Were groups treated identically other than for the named interventions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Were outcomes measured in the same way for all groups?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Were outcomes measured in a reliable way?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Was appropriate statistical analysis used?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall appraisal:** Include [ ] Exclude [ ] Seek further info. [ ]

**Comments (Including reason for exclusion):**

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[Image of the American Red Cross logo]
Data Collection/Extraction

- Data extraction by 2 reviewers working independently
- Include: details of population, intervention, study methods, and outcomes
- Author(s) or studies contacted for missing or unclear data
- Use of standardized data extraction tool from the Joanna Briggs Institute
JBI Data Extraction Form for Experimental / Observational Studies

<table>
<thead>
<tr>
<th>Reviewer</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>Year</td>
</tr>
<tr>
<td>Journal</td>
<td>Record Number</td>
</tr>
</tbody>
</table>

### Study Method
- **RCT**
- **Quasi-RCT**
- **Longitudinal**
- **Retrospective**
- **Observational**
- **Other**

### Participants
- **Setting**
- **Population**

### Sample size
- **Group A**
- **Group B**

### Interventions
- **Intervention A**
- **Intervention B**

### Authors Conclusions:

### Reviewers Conclusions:
Study results

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Intervention (___) number / total number</th>
<th>Intervention (___) number / total number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continuous data

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Intervention (___) number / total number</th>
<th>Intervention (___) number / total number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data Synthesis

- Meta-analysis, if possible
- Assessment of heterogeneity, if possible
- Where statistical pooling is not possible, findings will be presented in narrative form including tables and figures to aid in data presentation
Forthcoming Systematic Review

Stay tuned for results!