

## # Paper Summary

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Title: The Emerging Role of Global Situational Awareness 2.0 Resources in Disaster Response

Authors: Carl Taylor

DOI: 10.1117/12.853113

Year: 2010

Publication Type: Conference Proceedings

Discipline/Domain: Public Health / Disaster Response

Subdomain/Topic: Situational Awareness, Health Informatics, Emergency Management

Eligibility: Eligible

Overall Relevance Score: 85

Operationalization Score: 90

Contains Definition of Actionability: Yes (implicit – situational awareness as acquiring relevant event data)

Contains Systematic Features/Dimensions: Yes

Contains Explainability: Partial

Contains Interpretability: Partial

Contains Framework/Model: Yes (Situational Awareness 2.0 concept)

Operationalization Present: Yes

Primary Methodology: Conceptual / Use-Case Review

Study Context: Disaster response with public health and medical integration

Geographic/Institutional Context: Global; examples from Haiti, Chile, UK; U.S.-based institutional perspectives

Target Users/Stakeholders: Public health officials, disaster responders, healthcare providers, NGOs, government

Primary Contribution Type: Conceptual framework with practical technology examples

CL: Yes

CR: Yes

FE: Yes

TI: Yes

EX: Partial

GA: Yes

Reason if Not Eligible: N/A

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# The Emerging Role of Global Situational Awareness 2.0 Resources in Disaster Response

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**\*\*Discipline/Domain:\*\***

Public Health / Disaster Response

**\*\*Subdomain/Topic:\*\***

Situational Awareness, Health Informatics, Emergency Management

**\*\*Contextual Background:\*\***

The paper addresses the integration of emerging web-based, open-source, and social networking tools in

**\*\*Geographic/Institutional Context:\*\***

Global application with examples from Haiti, Chile, the UK; institutional perspective from the U.S. (Univer

**\*\*Target Users/Stakeholders:\*\***

Public health officials, emergency managers, healthcare providers, NGOs, governmental and military age

**\*\*Primary Methodology:\*\***

Conceptual / Use-case review

**\*\*Primary Contribution Type:\*\***

Conceptual framework and operational examples

## ## General Summary of the Paper

This paper presents “Situational Awareness 2.0” as a next-generation approach to disaster response, inte

## ## Eligibility

Eligible for inclusion: **\*\*Yes\*\***

## ## How Actionability is Understood

Situational awareness is described as “acquiring all relevant information about the event and translating t

> “True situational awareness means acquiring all relevant information about the event and translating th

> “Awareness without transactional capability may allow you to view the event but only as a mostly passiv

## ## What Makes Something Actionable

- Inclusion of both community and patient-centric data
- Ability to foresee developments (“see around corners”)
- Integration of multi-source data (structured/unstructured, validated/unvalidated)
- Real-time adaptability to update strategies
- Linkage to response mechanisms (transactional capacity)
- Contextual relevance to affected populations
- Engagement with social networks and emergent coherence

## ## How Actionability is Achieved / Operationalized

- **Framework/Approach Name(s):** Situational Awareness 2.0
- **Methods/Levers:** Integration of open-source mapping (Ushahidi, Google Evolve), SMS reporting, patient engagement
- **Operational Steps / Workflow:** Pre-event modeling; multi-channel data collection; community/patient engagement
- **Data & Measures:** Structured hospital data, structured mobile survey data, unstructured social media data
- **Implementation Context:** Disaster response scenarios (H1N1, Haiti earthquake)

> “With appropriate integration of situational awareness 2.0 tools, public health can both manage the complex and respond to the emergency.” (p. 5)

> “Situational awareness (2.0) is a fundamental component of preparedness.” (p. 5)

## ## Dimensions and Attributes of Actionability (Authors’ Perspective)

- **CL (Clarity):** Yes – Clarity in data patterns is necessary for effective response (p. 7)
- **CR (Contextual Relevance):** Yes – Data must be relevant to community and patient context (p. 3–4)
- **FE (Feasibility):** Yes – Tools must be usable under disaster constraints (low bandwidth, mobile access)
- **TI (Timeliness):** Yes – Real-time or near-real-time data critical (p. 4)
- **EX (Explainability):** Partial – Emphasis on understanding patterns but less on model transparency
- **GA (Goal Alignment):** Yes – Aligns awareness and response with public health mission (p. 2–3)
- **Other Dimensions Named by Authors:** Emergent coherence, transactional capability

## ## Theoretical or Conceptual Foundations

- Ashby’s Law of Requisite Variety
- Science 2.0 (Ben Shneiderman)
- Concepts of emergent coherence in social networks

## ## Indicators or Metrics for Actionability

- Ability to prioritize patients based on comorbidities and risk
- Surge capacity avoidance through patient diversion
- Accuracy and timeliness of data flows

## ## Barriers and Enablers to Actionability

- **Barriers:** Overly hospital-centric approaches; fragmented data sources; unreliable/unvalidated data;
- **Enablers:** Open-source/free tools; multi-modal data collection; social network engagement; pre-event

## ## Relation to Existing Literature

Positions itself as extending Science 2.0 concepts to disaster management, combining predictive modeling

## ## Summary

Taylor's paper reframes situational awareness as inherently linked to actionability, arguing that data must

## ## Scores

- **Overall Relevance Score:** 85 – Strong implicit definition of actionability, clear list of features linked to
- **Operationalization Score:** 90 – Detailed processes, tools, and workflows directly tied to achieving ac

## ## Supporting Quotes from the Paper

- "True situational awareness means acquiring all relevant information about the event and translating that
- "Awareness without transactional capability may allow you to view the event but only as a mostly passive
- "With appropriate integration of situational awareness 2.0 tools, public health can both manage the com
- "Situational awareness (2.0) is a fundamental component of preparedness." (p. 5)

## ## Actionability References to Other Papers

- Toner, E. (2009) Creating Situational Awareness: A Systems Approach
- Taylor & Stephens (2009) Situational Awareness 2.0
- Patrick Meier & Jen Ziemke (2010) Crisis Mapping
- Ben Shneiderman (Science 2.0 concepts)