Crisis and Emergency Communication: Before, During, and After

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Professor Bob Chandler, Ph.D.
Graduate & Professional Programs, Lipscomb University
AVINDEX Consulting – Crisis & Consequence Management Solutions

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Disasters and Emergencies...

- Change the Way(s) People Think and Act
- Create Disruption, Confusion and Chaos
- Generate Fear, Anxiety, and Cognitive Issues
- Create Special Coordination Challenges
The #1 most frequently identified issue identified in post-disaster After Action Reviews are “communication problems.”
Communication: The Challenges

Information Dissemination
Emergency Alert Warnings
Audience Comprehension
Uncertainty Reduction
Anxiety Management
Behavioral Compliance
Common Problem Areas

- Technology/Tools
- Processes/Procedures
- People
“Human Factors” issues are a high frequency category for communication problems including comprehension breakdowns, misunderstandings, psychometric dysfunctions, and behavioral performance failures.
Communication Challenges

“During a large disaster, like Hurricane Katrina, warnings get hopelessly jumbled. The truth is that, for warnings to work, it's not enough for them to be delivered. They must also overcome that human tendency to pause; they must trigger a series of effective actions, mobilizing the informal networks that we depend on in a crisis.”

- Gary Wolf
Insights Into Your Audience(s)

Audience Analysis
Psychometric Factors
Who are they?

Sometimes the real communication problem isn’t the tools, procedures or even the messages….it may lie with the people whom you are trying to reach.
I leave my husband with the baby for ten minutes...

Trying to Understand People – And Why They Do What They Do.
The Communication Challenge

How Should We Effectively Communicate With the Public?

We Get It Wrong on a Regular Basis

Surprised Florida man hospitalized after attempt to kiss venomous Water Moccasin snake goes awry....says he couldn’t have imagined this outcome.

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Overloaded: Audience Stops Paying Attention

Emergency Alert now
LAX PD has issued an ALL CLEAR for the incident. LAX operations are returning to normal.

Last in Series of notification alerts about a passenger heart attack response sent to every mobile device in the LAX area.

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Psychological Shock: Overwhelms the Audience

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We Know that Some Messages Simply Don’t Work.

Since 1965 the Federal Government has required warning messages on cigarettes and other tobacco products.
Researchers have known (since 1981) that warning labels had little effect on public knowledge, attitudes, or smoking decision behaviors. For the Most Part the Warnings Which have been used Don’t Work to Change Smoking or Tobacco Use Behavior. Yet We Still Insist on Using Them and Telling Ourselves that We’ve Adequately Warned The Public.
Bacardi 151

- Bacardi 151 was a potent (151 Proof) 75.5% alcohol by volume & very (very) flammable rum.
  - Bacardi 151 had multiple warnings on the label of the bottle stating that it should never be ignited or exposed to an open flame.
  - Bottles were also equipped with a stainless steel flame arrester crimped onto the neck of the bottle to prevent the rum inside the bottle from igniting, in the event that warnings were ignored.

- Despite the use of different warnings against ignition attempts and the flame arrester device, consumers persisted in ignoring the warnings and removed the flame arrester safety device, and proceeded to ignite the rum with an open flame resulting in explosive fireballs.
  - Bacardi 151 production was discontinued in 2016 when persistent ignored warnings led to injuries which created a potentially intolerable product liability issue with the product.
July 4th Fireworks Warnings

July 4th 2017
Home Fireworks Facts:
8 Deaths, 12,900 Injuries

Despite extensive public warning efforts and product label warnings about the risks and dangers - along with widespread legal restrictions on the use of the explosives
Thanksgiving Turkey BLEVE Warnings

Boiling Liquid Expanding Vapor Explosion

Every Thanksgiving partially frozen turkey deep-fryer boil over fires are responsible for an average of between 5-7 deaths, more than 60 injuries, destruction of about 900 homes, and more than $15-million in property damage, according to the National Fire Protection Association.
Extreme Eating Contest Warnings

Despite warning messages of health ill effects and signed (legal) release documents indicating that participants are aware that they may suffer injury and/or death – the popularity of extreme food eating contests grows.

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Eating Competitions Killed Two People This Past Weekend

Choking is the fourth-leading cause of unintentional injury death—and it happens with disturbing frequency at competitive eating events.

Man dies in Custer hot dog eating contest by choking

32-year-old man died by choking while competitively eating live roaches and worms in a contest

20-year-old female student dies as a result of a pancake-eating contest
Extreme Hot Pepper Eating Contest

Warnings

Despite repeated warning messages and even required signed (legal) release documents indicating that participants are aware that they may suffer injury and pain – the popularity of extreme heat eating contests continue to grow including those who are surprised at the results of the contest to their bodies.

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CONTEST WARNING

If you eat a extremely hot pepper, you can expect pain in your mouth, throat and digestive tract as well as on hands and face skin (and if you touch any other part of your body with your hands you may experience severe pain there as well). A lot of pain. In addition to the feeling that you have just put a burning lump of coal in your mouth, you may weep, profusely, sweat, vomit or have the dry heaves, have copious amounts of nasal mucus, phlegm, cerebral vasoconstriction syndrome, and possibly have difficulty breathing, swallowing, as well as blurred vision. You may have serious indigestion and stomach pain, ulcerations, and bowel dysfunction (IBS) resulting in diarrhea, and painful or burning urination and defecation.

Peppers contain capsaicin. Capsaicin is a potent irritant requiring proper protective goggles, respirators, and hazardous material-handling procedures. Capsaicin takes effect upon skin contact (irritant, sensitizer), eye contact (irritant), ingestion (irritant), and inhalation (lung irritant, lung sensitizer).

Capsaicinoids are irritants experienced as “heat.” The more concentrated and potent, the hotter the experience. Some people have the desire to cut out their own tongues after eating an extreme hot pepper. You may also experience a headache so intense and painful, called a “thunderclap headache,” that it sends you to the emergency room (although there is no available remedy). These headaches may recur without warning for some time — in the weeks and months after the immediate painful episode has ended in your mouth, throat and stomach.

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“People who eat whole Reapers are just being stupid.”

‘Smokin’ Ed Currie, PuckerButt Pepper Company Fort Mill, SC, the creator of the Carolina Reaper™ (the hottest pepper in the world, according to Guinness World Records - measured at more than two million Scoville heat units).
Likewise, Efforts to Warn the Public from Other Ill-Advised Behaviors Have Also Met With Limited Success
Tide POD Challenge

In late 2017 and early 2018 the Tide POD Challenge - in which an individual consumes Tide PODs became a trending social media participatory meme.

Teenagers were the reported primary demographic participating in the challenge but in fact people from all age groups accepted the challenge, including students at prestigious universities and adults of all ages; they would video record themselves chewing and gagging on pods and then daring others to do the same.
Consuming Tide PODs was identified as a health risk by the Center for Disease Control and Prevention. Which issued warnings to the public and warnings on the product labels.

Tide PODs should be used for DOING LAUNDRY. Nothing else. Eating a Tide POD is a VERY BAD IDEA, and doing so can make you very sick, cause suffering, and might result in your death.
Responding to the growing number of incidents, Google and Facebook started removing videos that featured the challenge, and Procter & Gamble aired numerous advertisements and PSA Communication messages, warning people to not eat the pods.

Tide PODs should be used for DOING LAUNDRY. Nothing else. Eating a Tide POD is a VERY BAD IDEA, and doing so can make you very sick, cause suffering, and might result in your death.
Tide POD Challenge

Procter & Gamble also changed Tide PODs to an opaque design, introduced revised warning labels to the product containers and added a bitter tasting chemical to the POD contents.

Tide PODs should be used for DOING LAUNDRY. Nothing else. Eating a Tide POD is a VERY BAD IDEA, and doing so can make you very sick, cause suffering, and might result in your death.
The national effort to educate and warn the public as to the dangers of eating Tide PODs was only modestly successful.

Tide PODs should be used for DOING LAUNDRY. Nothing else. Eating a Tide POD is a VERY BAD IDEA, and doing so can make you very sick, cause suffering, and might result in your death.

Thankfully the fad faded from the cultural meme list as the public interest moved on to new entertaining things to post on social media like bottle flipping and the ice bucket challenge.
The Condom Challenges

The “condom challenges” were three viral Internet challenges that thousands of members of the public were challenged to undertake at great personal risk and post videos them of doing so on social media sites.

Extensive warning communication was created in response to get them to not do this.

Despite different messages, different formats and media – the communication was largely ineffective in shaping public behavior.

DO NOT TRY THIS CHALLENGE

All variations of the “condom challenge” carry a risk of choking, suffocation, brain damage and death.

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Condom Challenge

#1

#1 challenge involves snorting a latex condom through one's nasal cavity and into the back of the throat; peak postings circa 2003-2006

DO NOT TRY THIS

All three variations carry a risk of choking, suffocation, brain damage and death.
Condom Challenge

#2

#2 challenge is where a water-filled condom is placed onto (one’s own head or on another [sometimes unsuspecting] person's head), typically fully enveloping the head; peak postings circa 2013-2015

DO NOT TRY THIS

All three variations carry a risk of choking, suffocation, brain damage and death.

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Condom Challenge

#3

#3 challenge is accomplished by manually stretching a condom directly over one's own head and keeping it on for a specified time period; peak postings circa 2015-2017.

DO NOT TRY THIS

All three variations carry a risk of choking, suffocation, brain damage and death.
The cinnamon challenge was a viral internet food challenge.

The objective of the challenge was to video oneself eating a spoonful of ground cinnamon in under 60 seconds without drinking anything, then upload the video to the Internet.

DO NOT TRY THIS

The cinnamon challenge carries substantial health risks because the cinnamon coats and dries the mouth and throat, resulting in coughing, gagging, vomiting, choking, and inhaling of cinnamon, leading to throat irritation, breathing difficulties, and risk of pneumonia or a collapsed lung.
The challenge has been described online since 2001, and despite extensive warning efforts, increased in popularity until 2014.

The Cinnamon Challenge peaked at nearly 70,000 challenge posts per day in January 2012.

DO NOT TRY THIS

The cinnamon challenge carries substantial health risks because the cinnamon coats and dries the mouth and throat, resulting in coughing, gagging, vomiting, choking, and inhaling of cinnamon, leading to throat irritation, breathing difficulties, and risk of pneumonia or a collapsed lung.
Fire challenge is a social media inspired activity which refers to the application of flammable liquids to one's body and then setting the liquids aflame, while being video recorded. A video of the act is then posted to social media sites.

**DO NOT TRY THIS**

The Fire challenge is dangerous and risks burns to your skin and your respiratory system, since you may be inhaling the ignited vapors. The Fire challenge may result in suffering, disfigurement, serious injury or death.
Despite extensive public and media warnings as to the dangers of this fad, Fire Challenge postings peaked in 2014.

DO NOT TRY THIS

The Fire challenge is dangerous and risks burns to your skin and your respiratory system, since you may be inhaling the ignited vapors. The Fire challenge may result in suffering, disfigurement, serious injury or death.
Beezin' is the practice of applying Burt's Bees brand lip balm, often menthol or peppermint flavored, to one's eyelids.

- Beezin’, besides causing pain and damage in the eyes, is claimed to induce or heighten the sensation of being drunk or high, or create a state or perceived state of enhanced alertness.

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DO NOT TRY THIS
Beezin’ is painful and may result in damage to your eyes including blindness

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Smarties®

- Smarties® are made 24 hours a day in two candy factories located in Union, New Jersey and Newmarket, Ontario. The company produces billions of Smarties® rolls each year – or more than 70,000 pounds of Smarties® per day.

- Smarties® candies are made with a mixture of dextrose, vitamin D, vitamin C, citric acid, calcium stearate, natural and artificial flavors, and food colors. There are 25 calories and 6.9 grams of sugar in a roll of Smarties® and they are vegan!

“Gluten Free – Peanut Free - Dairy Free – Worry Free”
At least as early as 2009, public warnings about the risks of Smarties abuse failed to stem the advance of the practices.

DO NOT TRY THIS
Snorting Smarties®

Smarties abuse typically involved crushing up Smarties and either “snorting” the resulting powder (i.e., inhaling it into their nasal passages) or “smoking’ it” (i.e., putting it in one’s mouth and attempting to blow it out of your noses.

DO NOT TRY THIS

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Not only can the sharp edged shards of the Smarties cut up the inside of your nose if they haven't been sufficiently pulverized, but there are also risks of respiratory distress, nasal scarring, infection, lung irritation, allergic reaction, or possible maggots.

DO NOT TRY THIS

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Human Behavior and The Role of Communication is Complicated in the Best of Conditions

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The Psychometric Communication Challenges Grow During High Stress Situations

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You Are Not You During a High Stress Event!
Disasters Create Stress

- Physical
- Emotional
- Cognitive
- Behavioral
Stress Affects the Body, Brain, Behavioral, Cognitive and Communication Processes

• *In the medical, psychological, or biological context; stress is a physical, mental, or emotional factor that causes bodily or mental tension triggers which result in adaptive physical and mental responses.

• Stresses can arise from external (environmental or situational), social situations and expectations or internal (psychological) variables.
How?

• Anxiety
• Behavioral Uncertainty
• Long Term Memory Fade
• Ephemeral Short Term Memory Loss
• Concentration Ability Decline
• Diminished Coordination
• Vocabulary Shrinking
• Language Shift (First Language Reversion Phenomena)
• Rise in Non-Rational Decision Making Processes
Communication Processing Impairment Varies with Stress Experienced

**Low Stress**
- Recipients process average of 7 messages per communication episode
- Info processed at average grade level (about 10th Grade in general population)

**High Stress**
- Info processed at grade (average) levels from low stress (about 6th grade in general population)
- Recipients process average of 3 messages per communication episode

**Cognitive Abilities Spectrum**
- Normal Cognitive Abilities
  - Routine misinterpretation
  - Routine misunderstandings
  - Assumptions
  - Sequential Errors
- Diminished Cognitive Abilities
  - Increased confused; Inability to focus
  - Easily distracted; Increased Misinterpretation
  - Increased Misunderstandings
  - Unable to complete complex critical thinking

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Emergency communication Problems

Case Studies

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BREAKING:
Emergency alert issued to Hawaii phones: "Ballistic Missile threat inbound to Hawaii. Seek immediate shelter. This is not a drill."

Emergency Alert
BALLISTIC MISSILE THREAT INBOUND TO HAWAII. SEEK IMMEDIATE SHELTER. THIS IS NOT A DRILL.
Warnings and Procedural Fails

Hawaiians received an emergency alert warning of an inbound ballistic missile.

A second alert clarifying that there was no missile threat to Hawaii did not come until 38 minutes after the initial warning message.

I was on the phone with my cousins and we thought they were going to die.

They were in traffic and it was mass chaos people getting out of cars and running and looking at the sky. Other cousin was in the airport and people were sobbing.

Your tweet was the thing I saw to say false alarm omg.
38 Minutes of Fear & Confusion: The Emotional and Psychological Aspects
Instructional Behavioral Ambiguity

Adding to the Fear and Confusion – Most People Simply Didn’t know what to “do” or “how to do it” after receiving the warning of inbound missiles to the Islands.
From the tourist perspective, there were dozens of them gathered in this hotel lobby panicking and holding each other.

the alert. I called my parents to see what their plan was with the baby. They urged us to stay in our hotel room but we left to hunker down in the golf club. People were scrambling across the resort and hotel staff directed us to the garage/storage. We lost cell reception at that point. There were about 30 other hotel guests down there. Some people were holding on to each other, others sat in golf carts trying to get their phones to work. One guy was able to access Twitter and saw the tweets that it was a false alarm. Longest and most terrifying 30 minutes of my life I think.

And here we have a family putting their kids into storm drains ...

twitter.com/NaluRivera/status/

My gal pal who refuses to be off brand in the face of the apocalypse:

"I was doing my eyeliner at work. Stayed calm while everyone was panicking and making calls. I couldn’t go down with one winged liner!"

Buzzfeed’s @michellebvd (who is based in AND from Hawaii) reporting that the Hawaii government was NOT hacked

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“I googled ‘safety nuclear bomb how shelter’”

• After receiving the missile alert warning, some people started searching the internet for safety advice — one person in Hawaii emailed the following account to Business Insider's science correspondent Dave Mosher, who had earlier written about how best to survive such missile attacks:

• "My husband and I went outside to the beach because we were afraid of being inside a building and getting crushed. Like in 9-11. Then I googled 'safety nuclear bomb how shelter' and an article by you was the first thing that popped up. In seconds I read that we should be inside and we quickly followed that advice."

• Mosher later tweeted that he had written the article in the hopes that "no one would *ever* have to frantically search the internet to find it ... Unfortunately, that is exactly what happened today."

• —Dave Mosher (@DaveMosher) January 14, 2018
The 2011 Joplin, Missouri Tornado Warning Problems
Post-event analysis found that many residents either ignored or were slow to react to the first warning sirens about the catastrophic EF5-rated multiple-vortex tornado in Joplin, Missouri.
Hesitation and Confirmatory Behaviors

In assessing the warnings used before and during the storm that killed 162 people, the National Oceanic and Atmospheric Administration report found that:

“many people waited for additional information, like seeing the actual tornado or receiving a television or radio report about the urgency of the threat before acting.”
"The majority of surveyed Joplin residents did not immediately go to shelter upon hearing the initial warning," the report said, adding that those people "did not take protective action until processing additional credible confirmation of the threat and its magnitude from a nonroutine, extraordinary risk trigger."

Furthermore, the NOAA report found that previous experience with warnings which were not accompanied with actual destruction led to complacency and failure to respond to the tornado siren warnings.
Residents Ignored Warning Sirens

A "vast majority" of Joplin residents didn't respond to the first warning siren because of an apparent widespread disregard for tornado sirens, according to the NOAA report.
2004 Indian Ocean Tsunami Emergency Warning Problems

December 26, 2004, a quarter of a million people lost their lives, five million required immediate aid and 1.8 million people were rendered homeless in the Indian Ocean Tsunami.
When the Indian Ocean tsunami struck, the only warning many people in the region had was the sight of a giant wave heading towards them.
Indian Ocean Tsunami Communication

Where higher communication technology did exist, audio warning siren activation was delayed (by about 20 minutes) due to failure of the electrical grid caused by the proximity of the earthquake.

When people were finally warned, many found that evacuation routes in many areas were unpassable due to earthquake damage and those still available were jammed with evacuation traffic.

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Among those who were alerted or warned, fewer than 50% of them took immediate self-protective actions or removed themselves from harm’s way.

In many cases, the hesitating victims were engaged in seeking confirmatory information about the danger and behavioral guidance.
2004 Indian Ocean Tsunami Warnings

Many more humans than other animals died.

The animals seemed to know* that disaster was imminent whereas people, even those who had been warned, remained in danger zones.

*Many survivors reported that they saw animals fleeing for high ground minutes before the tsunami arrived. Very few animal bodies were found afterwards.
Many at the shore had never seen the sea withdraw such a distance, exposing seafloor never seen before, stranding fish and boats on the sand.

Tourists in Thailand were seen wandering around photographing the scene in the moments before the Tsunami came ashore.
On March 11, 2011, a magnitude-9 earthquake shook northeastern Japan, unleashing a massive tsunami.

- Residents received a one minute advance warning before the strong shaking hit, via Japan's earthquake early warning system.
- The country's stringent seismic building codes and early warning system prevented many deaths from the earthquake, by stopping high-speed trains and factory assembly lines.

High Tech Communication
- People in Japan also received text alerts of the earthquake and tsunami warnings.

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2011 Japanese Tsunami

• 15,896 dead
• 2,537 people missing and presumed dead
• 6,157 injured
• 228,863 people left homeless
• 121,776 buildings totally collapsed,
• 280,923 buildings “partially collapsed“
• 726,574 buildings damaged

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2011 Japanese Tsunami

Less than an hour after the earthquake, the first of many tsunami waves hit Japan’s northeast coastline.

Japan’s High Tech Communication tsunami warning system was activated.
An independent (non-government) study found that only 16% of the evacuation zone population immediately evacuated because of the tsunami warning.
Warning Communication Compliance – Evacuation Behavior

Of evacuees, 31% only decided to act after initial hesitation.
2011 Japanese Tsunami: Time to Evacuation After Receiving Warning

<table>
<thead>
<tr>
<th>Time after Warning</th>
<th>Survivors</th>
<th>Dead/ Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediately</td>
<td>14%</td>
<td>10%</td>
</tr>
<tr>
<td>1-5 minutes</td>
<td>17%</td>
<td>7%</td>
</tr>
<tr>
<td>6-10 minutes</td>
<td>19%</td>
<td>11%</td>
</tr>
<tr>
<td>11-20 minutes</td>
<td>17%</td>
<td>8%</td>
</tr>
<tr>
<td>21-30 minutes</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>31-60 minutes</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>61-120 minutes</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>No Evacuation</td>
<td>11%*</td>
<td>48%*</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Statistically Significant Variance
Negative Evacuation Behaviors Among those Who Received Emergency Communication

<table>
<thead>
<tr>
<th>Negative Behavior</th>
<th>Percentage of Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignored Instructions</td>
<td>9%</td>
</tr>
<tr>
<td>Hesitation – Delay in Reacting</td>
<td>47%</td>
</tr>
<tr>
<td>Went to Help Others</td>
<td>33%</td>
</tr>
<tr>
<td>Went towards the Danger</td>
<td>9%</td>
</tr>
<tr>
<td>Misunderstood Instructions</td>
<td>14%</td>
</tr>
</tbody>
</table>

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Hesitant and Reluctant Evacuees

Some hesitant evacuees went to an undesignated location or to the upper floors of the same building in which they lived within the danger zone. 11% of those “decision hesitation evacuees” were ultimately not able to withdraw once they decided to do so and were unable to reach a safe zone.
Returnee Evacuees

34 % of those who immediately evacuated subsequently went back to the danger zone before the Tsunami struck, in order to look for others or find family members.

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When interviewed afterwards, 11% of those “returnees” believed that it was simply “not possible” for a big tsunami to come to their residence location, given their past experiences or other reasons, such as the strong breakwaters and seawalls in their area.
Key Findings - Japan 2011
Evacuation Saved Lives

 ✓ Among those who attempted to immediately evacuate after receiving the warning, and stayed at the evacuation shelter only 5% were caught in the tsunami.

 ✓ Of those who did not seek to immediately evacuate, 48% were killed by the tsunami.
Public Compliance

Key Findings - Japan 2011

• Fast evacuation saved lives
  ✓ Earlier evacuation (faster response to warning) was positively associated with higher survival rate
  ✓ Delay in evacuation (slower response to warning) or returning to the danger zone after evacuation, was negatively associated with higher survival rate
Only about half of those warned take advised precautions and/or act to evacuate.

An average of 10% of those who get wildfire warnings move towards the fire danger and not away or to safety.
Firestorm warnings went unheeded

Wildfire Public Communication Hesitation and Resistance: Predictive Demographic Categories

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Additional Risk Information
Decreased Propensity for Evacuation

Most cited reason was the concern in the perceived lack of wildfire evacuation planning (no viable evacuation option).
2016 Hurricane Matthew Findings

About 50 deaths were attributed to Hurricane Matthew in the southeastern United States.

They included residents who drowned after driving onto flooded roads; crush injuries and trauma from trees falling on homes and cars; and inappropriate use of home generators.

Was one of the largest coordinated public emergency communication efforts to warn the public.
Hurricane Matthew Public Compliance Problems

Evacuation Compliance: Using a sample of Twitter Users, researchers have determined that only about 54% (of the 2.5 Million people in the mandatory evacuation zone) actually evacuated when directed.
Hurricane Matthew Evacuation Study Findings

Florida and South Carolina had lower percentage of residents who evacuated from the target zones (averaged about 35% compliance).

Georgia had the highest parentage to evacuate when ordered to do so but still less than 50% in the targeted zones.
Understanding Why Not?

Even residents who do have personal transportation and the financial means to evacuate still do not always take the ordered actions.

In disasters those with strong social support networks may actually create a sense of responsibilities and obligations that prevent people from moving out of harm’s way.
Multiple factors influence decisions about evacuating, including residents’ genders, how long they have lived in their homes and their feelings of responsibility for friends and family members who can not or decide not to move.

Often the people who remain behind are disproportionately elderly, poor, lack transportation, have physical/cognitive challenges, are ill, have high anxiety/fear/uncertainty, and are highly vulnerable to the danger.
Many who didn’t evacuate were triply vulnerable: (1) they had low incomes or lacked transportation, (2) lived in older homes in flood-prone neighborhoods and (3) had little access to or influence on the development or implementation of local disaster plans and policies.
Matthew: people hesitated to evacuate for several reasons, including:

- Unaware of Mandatory Evacuation Order
- Risk Perception Misalignment
- Previous Experience Affect
  - Old Residents with positive storm experience
  - Old Residents with negative evacuation experience
  - New Residents with no storm or evacuation experience
- Confirmatory Bias
- Conformity Bias
- Lack of Resources
- Lack of Information
- Behavioral Uncertainty
What Steps Can We Take in Response to These Challenges?
You Need A Communication Plan
Prepare for Adaptive Communication

ADAPTIVE to:
Audience – Purpose – Context

Communication during and after a disaster IS NOT THE SAME AS COMMUNICATION DURING NORMAL ROUTINE CONTEXTS!

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This is what most of us focus on.

This usually needs more focus.

This is what truly matters!

**Audience Centered Communication**

- What does the audience receive?
- What do they pay attention to?
  - What do they interpret?
  - What do they think?
- What do they do about it?
Emergency Notification Plan

Communicate to the Right People, Right Time, Right Message, Right Way, Right Reason!

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Urgent Notification Messages

Never Forget!
What you think you say and
What people understand may
not be the same thing.

“If you want to live, leave”

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3-3-30 Rule
60 & 6 Principle

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Social Media in Disaster Communication

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Most people mentally “skip” technical, specialized vocabulary when reading and listening to warnings - even in normal circumstances.

This is even more critical during high stress events.
Special Considerations For Targeted Audiences

- Risk Perception
- Resources
- Physical Limitations
- Age
- Language
- Social Support Connections

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For Example: replace “Voluntary Evacuation” alerts with word-phrases such as

- "pre-evacuation advisory"
- "recommended evacuation warning"
- "mandatory evacuation order"
Provide Specific Behavioral Guidance

Reimaging communication such that simple instructions and directions are readily available for quick access - the more effective the warning.
Use Interactive Rich Media Messaging

For example, rather than text based warnings use an interactive map of potential danger areas that only uses a limited number of categories (e.g. high risk and extreme risk).
Communication
Prime Principle

“We must strive to communicate – with our messages, methods and modalities – so that our target audiences are more likely to understand what they need to know, when they need to know it and also know what they need to do next. Our overarching goal should be that we communicate in ways, forms, times, and with messages that makes it unlikely for them to misunderstand these aspects”

The single biggest problem in communication is the illusion that it has taken place.

George Bernard Shaw
Robert C. Chandler, Ph.D. (University of Kansas) is an internationally recognized expert on multiple aspects of crisis management, leadership, decision-making, communication and human interaction in specialized contexts. He currently holds an academic appointment as a Professor at Lipscomb University where he oversees graduate level and professional programs. With more than 35 years of applied research into factors impacting effective communication and performance exploring key psychological and physiological variables he has produced nine books and more than 175 scholarly and professional articles. He has consulted globally with public and private sector entities as well as with leading emergency communication solutions providers. His proprietary human behavioral models and normative communication templates are widely used for training and practical applications. He is a widely-lauded speaker and presenter to professional audiences in both the public and private sectors.

Dr. Chandler is also a principal at AVINDEX, which focuses on crisis and consequence management consulting, which serves clients globally providing solutions and services for risk management, site security assessment, crisis and consequence management event consulting, crisis and emergency communication planning and support, safety and workplace violence mitigation, and recovery guidance. AVINDEX provides supplemental professional services in these areas such as business impact analysis (BIA), operational continuity planning (COOP), crisis management plan creation, emergency response plan creation and response, cyber-security risk management, IT disaster recovery plans, behavioral threat assessment, training, personnel and staffing solutions, intelligence and monitoring, crisis team and crisis leader selection, assessment, training and evaluation, as well as a full range of diagnostic and metric analyses.
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Email:
Bob.Chandler@Lipscomb.edu

Websites:
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Dr. Bob Chandler, Principal
Email: AVINDEX.comcast.net
Telephone: (615) 935-1643
Mobile: (310) 804-9556