

# 2014 – 2015 RRAIN WASHINGTON REPORT

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RESPONSE & RECOVERY APP IN WASHINGTON  
A Statewide Disaster Information Partnership



**RRAIN**   
Response & Recovery App in Washington

*This project is funded partially through a Disaster Health Information Outreach and Collaboration Project Award from the National Library of Medicine, NLM Contract No. HHS-N-276-2014-00658-P.*

# EXECUTIVE SUMMARY

The University of Washington Health Sciences Library, led by the RRAIN project team, designed and built an iOS mobile app and website for use in state disaster response efforts. In support of the goal to improve access to state-specific and National Library of Medicine (NLM) disaster information resources, RRAIN's initiatives in 2014–2015 have focused on:

## 1 / Development of a website (rrain.org)

- An effective disaster response environment relies on a high level of land and maritime safety, security and resiliency to ensure the unimpeded flow of information to recovery efforts in local, state, and regional efforts aimed at improving safety and resiliency. Kerry Kirk led the development of the website.
- Focused content to expand access to disaster planning, situational awareness, and response and recovery information to the emergency preparedness workforce in Washington. Relevant content was identified through solicitation of stakeholder needs throughout the state via focus groups.

## 2 / Development of mobile app for iPads and iPhones

- Librarians and IT professionals worked during weekly meetings, fostering community and collaboration among librarians, policy makers, and IT professionals. The app developer received input on the project and interface design from advisors and community partners. **(See Table 1: Advisors and Community Partners)**
- The Washington Community Emergency Management Plan (CEMP) is available on the mobile app.
- UW IT and RRAIN project team members interacted with Apple and other technology experts around innovative, emerging trends in mobile app development at the University.

## 3 / First Responder education outreach to support train-the-trainer efforts in WA counties

- Train-the-trainer workshops, led by Jamie Gray, Gail Kouame, and Emily Glenn, prepared first responders who are licensed health professionals throughout the state with active learning and hands-on teaching methods.
- Exhibits and presentations at conferences brought together first responders to share experiences and discuss the use of mobile technology for emergency preparedness. **(See Table 2: Outreach Training and Workshops)**

**To support these initiatives, RRAIN's infrastructure emerged over the past year to include the following:**

- **A Project Manager:**

Adam Garrett was hired as RRAIN's first project manager in fall 2014.

- **National Network of Libraries of Medicine partnership:**

A partner role for the regional medical library, NN/LM Pacific Northwest Region, based at the University of Washington, was established to actively participate in the project. This role was spearheaded by Emily Glenn, a Seattle-based coordinator, who facilitated relationships the NN/LM program had with tribal, public health, and eastern Washington communities.

- **Institutional and Regional Partnerships:**

RRAIN Washington is actively cultivating local, regional, national and international partnerships to create educational and collaborative research opportunities for the project. Tania Bardyn was invited by the Office of the Program Manager, Information Sharing Environment and UW Center for Collaborative Systems for Security, Safety, and Regional (CoSSaR), directed by Mark Haselkorn, to participate in discussions on the Maritime Operational Information Sharing Analysis: Project Puget Sound.

I credit the past year's accomplishments largely to the dedicated work and commitment of the RRAIN Project Team as well as the steadfast support of the Washington Department of Health Office of Emergency Preparedness. In the future, RRAIN will continue to serve the disaster planning community. RRAIN Washington has the potential to provide substantial benefits to a variety of stakeholders that extends significantly beyond its program sponsors and program partners. Mobile technology use "in the field" for emergency response and recovery efforts has the potential to improve access to National Library of Medicine resources.



**Tania P. Bardyn, MLIS, AHIP**

Associate Dean of University Libraries

Director, Health Sciences Library

Director, National Network of Libraries of Medicine, Pacific Northwest Region

RRAIN Project Director

University of Washington

# AIMS

The University of Washington Health Sciences Library, in partnership with the Washington State Department of Health, Office of Emergency Preparedness and Response aims **to improve access to National Library of Medicine (NLM) disaster information resources** by developing a project website and mobile application (app) for iPhones and iPads. The Response & Recovery App in Washington (RRAIN) **helps ESAR-VHP first responders during disaster events by providing an open, free, authoritative, mobile knowledge base and situational awareness tools.** Content was selected following a focus group. The focus group provided critical, constructive feedback and strengthened the project team's understanding of the disaster community. The mobile app and website will be used by over 17,000 Washington first responders in order to build community resilience in Washington.



## PROJECT TEAM

### Project Director

#### Tania P. Bardyn

Associate Dean of University Libraries  
Director, Health Sciences Library  
University of Washington

### Project Manager

#### Adam Garrett

Systems Manager & Technology Coordinator, National  
Network of Libraries of Medicine, Pacific Northwest Region  
University of Washington

### TRAINING & CONTENT DEVELOPMENT

To create an environment where first responders can learn to use mobile apps and online disaster information resources from the NLM.

#### LEADERS

**Jamie Gray** Associate Director for Administration and Liaison Services, Health Sciences Library, University of Washington

**Gail Kouame** Assistant Director, HEALWA, Health Sciences Library, University of Washington

**Emily J. Glenn** Community Health Outreach Coordinator, National Network of Libraries of Medicine, Pacific Northwest Region

**Darryl Parks** Librarian, Heritage University

### STATE & NN/LM COLLABORATION

To equip the project team with the necessary expertise into new communities of practice in order for the project to be successful to the state.

#### LEADER

**Emily J. Glenn** Community Health Outreach Coordinator, National Network of Libraries of Medicine, Pacific Northwest Region

### OUTCOMES & ASSESSMENT

To foster assessment and evaluation across the project continuum and build in feedback.

#### LEADERS

**Tania P. Bardyn** Associate Dean for University Libraries & Director, Health Sciences Library, University of Washington

**Mary Beth Simiele** Librarian, Virginia Mason Medical Center

**Kerry Kirk** Web Specialist, HEALWA & Health Sciences Library, University of Washington

### MOBILE APP DEVELOPMENT & WEBSITE

To create a website and mobile app to meet the needs of the first responder community.

#### LEADERS

**Adam Garrett** Systems Manager & Technology Coordinator, National Network of Libraries of Medicine, Pacific Northwest Region, University of Washington

**Kerry Kirk** Web Specialist, HEALWA & Health Sciences Library, University of Washington

**Nathan Bruno** Consultant, iOS App Developer

## FOCUS GROUP

The project team participated in the planning, design, and implementation of the focus group, held on October 30, 2014, at the University of Washington Health Sciences Library.

Participants met in-person and via conference call. Previous work with Washington state first responders revealed that they lacked consolidated access to state-specific response and recovery mobile resources. The focus group provided critical, constructive feedback and strengthened the project team's relationships with informal partners. A content development team selected resources for a mobile-optimized website. The focus group informed the content and clarified information use scenarios. Content was redeveloped for an iOS app by a programmer and app developer.



Above: RRAIN Washington Focus Group Participants, October 30th, 2014

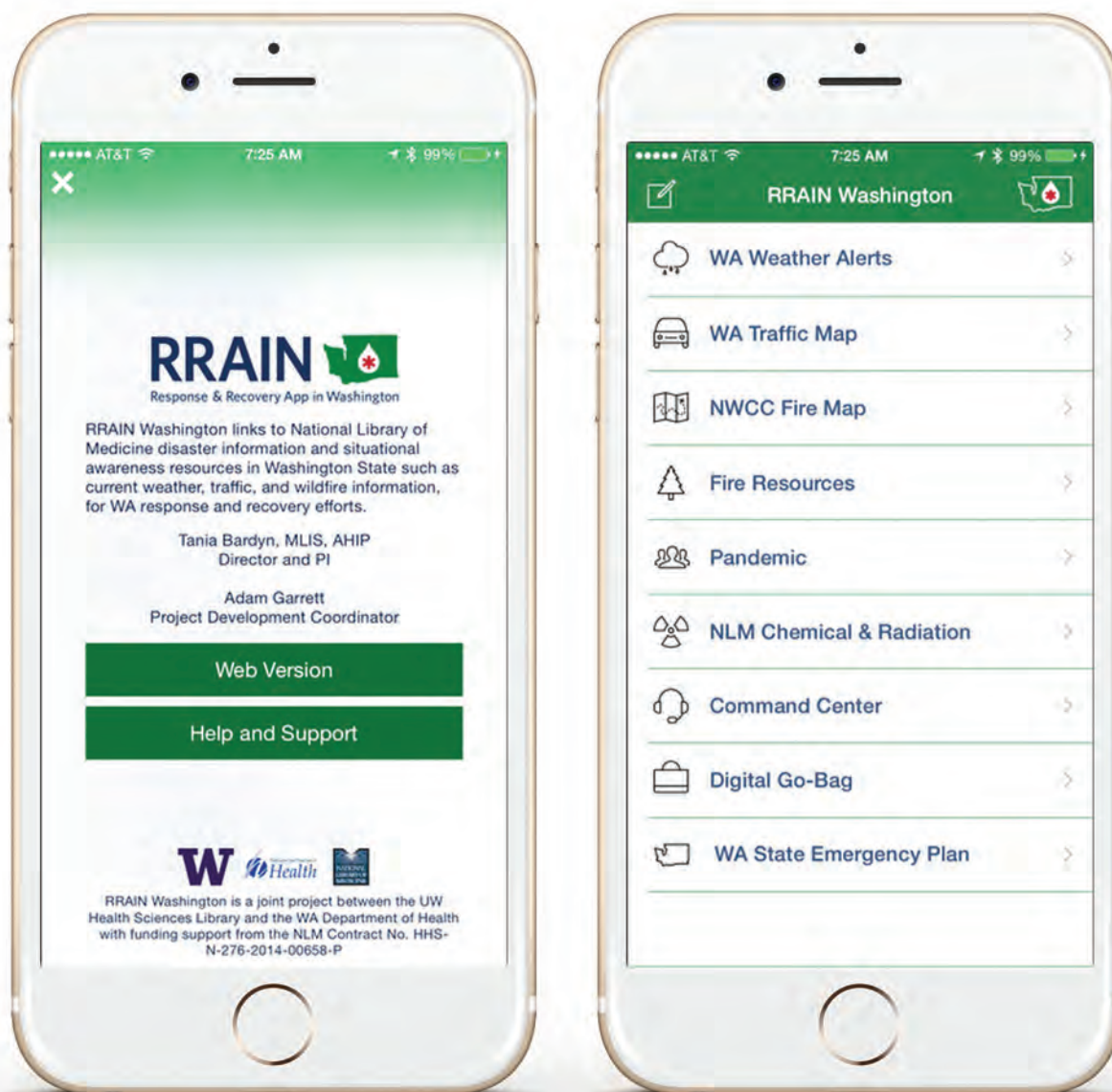
### Table 1: Advisors & Community Partners

**Community partnerships—key components for effective outreach**

Name	County	Affiliation
Kellie Boylon	King	King County Search & Rescue Incident Support Team
Michael Davenport	Pierce	City of Tacoma Emergency Management
Mark W Douglas	King	Emergency Management Division, WA Military Department
Lawrence Eichhorn	King	Emergency Management & Security Advisor, Director's Office, Seattle Dept of Transportation
Zane Gibson	Pierce	Fire Chief, Orting Valley Fire & Rescue
Shelly Glenn	Pierce	Emergency Management Division, Camp Murray, WA
Scott Preston	King	University of Washington, Emergency Management
Janice Rahman	King	Hazard Mitigation & Recovery, King County Office of Emergency Management
Ken Spohn	King	Eastside Fire & Rescue
Ute Weber	Pierce	Emergency Management Program Manager, City of Tacoma
Jade Broglio	Snohomish	Emergency Preparedness Manager & Compliance Officer, Edmonds Community College
Michael Dingle	Douglas	Douglas County Dept of Emergency Management, East Wenatchee
Carolyn Driedger	Clark	Hydrologist/PIO/Outreach Coordinator, USGS-Cascades Volcano Observatory, Vancouver WA
Joe Gagner	King	Kent Police Department
Alisha Griswold	King	Training & Exercise, King County Office of Emergency Management
Elizabeth King	Spokane	Emergency Management Coordinator, Washington State University
Thomas King	King	Planning Section Chief, Seafair EMG
Jennifer Schaal	Spokane	Washington State Emergency Management Association
Pascal Schuback	King	Global Emergency Manager, Office of Global Affairs, University of Washington
Pete Suver	Thurston	ALS Coordinator, Thurston County Medic One
Andy Ward	King	Manager Technology Business Continuity, UW Information Technology, University of Washington



## RRAIN WASHINGTON APP



### FEEDBACK FROM THE COMMUNITY

“Up to date, easily accessed information.”

“Great. The CEMP will be useful on an iPad.”

“People at the Washington Department of Health have been asking about this app.”

## TRAINING HIGHLIGHTS

The primary target audience of first responders was reached through on-site workshops, with higher attendance at emergency management professional conferences. Workshop evaluations assessed participants' knowledge of response and recovery resources and of disaster information management tools. With the support of a diverse project team and strong existing relationships with community stakeholders, similar state-specific disaster information projects can be deployed to meet first responder information needs. The deliverables from this collaboration will be used by over 17,000 Washington state first responders in order to build community resilience in Washington state.

*Training was provided to interested first responders, public health professionals, librarians, and individuals designated in the ESAR-VHP system.*

## RRAIN WASHINGTON IMPACT

RRAIN Washington is providing first responders and the public with the means to make more informed choices in Washington about situational awareness in disasters and emergencies, on mobile platforms, through resources such as Wiser, REMM, CHEMM, ReUnite, traffic on highways and interstates.

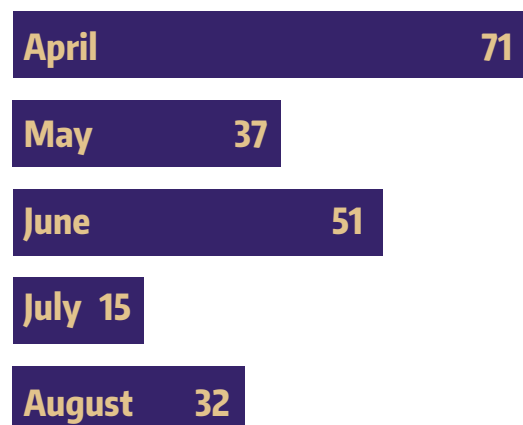
The University of Washington Health Sciences Library developed the sixth (6th) mobile app at the university in March 2015. RRAIN Washington is a mobile app for iPhones that supports the delivery of high-quality, efficient, real-time, weather, traffic, wildfires, chemical, radiologic, and hazardous substance information to aid in response and recovery efforts in Washington state. It expands coordinated response and recovery efforts to the mobile arena; and promotes the use of technology in the field and other National Library of Medicine information resources. RRAIN is also working to train and provide access to resources among public health professionals, librarians, and county managers. Domain names were purchased and the RRAIN Washington website was created in September 2014. The RRAIN Washington site is: <http://rrain.org/>. The iOS app RRAIN Washington was released on March 30, 2015.

**Website Visits:** There were 478 visits to the [rrain.org](http://rrain.org) website from within Washington state between March 30 and August 31, 2015. While most were centered in the Puget Sound area, the site was accessed from 67 cities across the state. The average visit length was roughly 6 minutes long. Of the 478 visits, 205 or roughly 43%, were first time visits.

**App Downloads:** There were 206 downloads from the Apple Store of the RRAIN Washington mobile app for iOS platforms in its first five months (see Figure 1). Of app downloads, 82% have been for the iPhone and 18% for the iPad. Of the 432 users who viewed the app, 206 have downloaded it either to an iPhone or iPad.

**Figure 1: App Downloads**

*Total downloads of the RRAIN Washington iOS app (iPhone and iPad) March 30–August 31, 2015.*



# RRAIN WASHINGTON OUTREACH IMPACT MEASURES

Training targeting first responders was offered in Seattle, Tacoma and select locations in conjunction with state, regional or national meetings and conferences. These sessions introduced participants to the RRAIN Washington app and NLM resources via case-based learning and scenarios employing Washington-specific examples. This teaching method contributes to creating interactive and engaging learner experiences and asks participants to name the RRAIN app resource that can best help responders act and respond in the case or event of a disaster or emergency.

Table 2: Outreach & Training Workshops

Workshop	Presenters	Audience	Date	Attendees
University of Washington New Faculty Orientation (Seattle, WA)	Tania Bardyn	UW School of Medicine Physicians	09.01.15	21
NW Tribal Emergency Management Conference (Spokane, WA)	Emily Glenn, Adam Garrett	Tribal first responders	08.14.15	5
Seattle Public Library	Jamie Gray, Emily Glenn	First responders and public library staff	06.18.15	6
American Association of Medical Colleges, Group on Information Resources (San Diego, CA)	Emily Glenn	Directors of IT and Academic Health Sciences Libraries	06.04.15	60
Medical Library Association Annual Meeting (Austin, TX)	Tania Bardyn Emily Glenn Adam Garrett	Medical Librarians	05.19.15	35
Seattle Public Library	Jamie Gray, Gail Kouame	First responders and public library staff	05.08.15	5
Partners in Emergency Prepared- ness Conference (PIEPC) (Tacoma, WA)	Jamie Gray, Gail Kouame	First responders	04.16.15	26
Partners in Emergency Preparedness Conference (PIEPC) (Tacoma, WA)	Jamie Gray, Gail Kouame, Emily Glenn, Adam Garrett, Kerry Kirk, Mary Beth Siemle, Tania Bardyn	First responders	04.15.15	140



Left: Adam Garrett exhibiting at the Tribal Emergency Management Conference in Spokane, WA

Above: Emily Glenn teaching at the National Joint Emergency Management Conference, Spokane, WA , August 14, 2015



## EDUCATION TO PHYSICIANS & NATIVE AMERICAN EMERGENCY MANAGERS

Our two high profile education sessions that reached physicians and Native American first responders were conducted in Seattle and Spokane. The largest gathering of Native American emergency managers and homeland security personnel in the country met in Spokane, Washington. The largest gathering of newly appointed physicians affiliated with the University of Washington takes place in Seattle quarterly. As a result of both training opportunities, RRAIN Washington will continue to explore ways of improving education to Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) in the state. In addition to thought-provoking presentations, speakers held one-on-one discussions with individuals who were interested in RRAIN Washington.

Table 3: Training Physicians & Tribal First Responders

Presenter(s)	Group/Meeting	Audience	Date	Attendees
Emily Glenn Adam Garrett	National Joint Emergency Management Conference & NW Tribal Emergency Conference, Spokane, WA	Tribal first responders	08.14.15	5
Tania Bardyn	University of Washington, School of Medicine	Physicians	09.01.15	21



Above: The exhibit table and demo of RRAIN at the Partners in Emergency Preparedness Conference reached over 300 people in Tacoma, WA in two days. The app was available for download.

# **PARTNERSHIPS**

## **Washington Military Department, Emergency Management Division**

The mission of the State Department of Health, Emergency Management Division (EMD) is to minimize the impact of emergencies and disasters on the people, property, environment, and economy of Washington state. The Division notifies and alerts state agencies and local governments of impending emergencies and disasters. During state emergencies, EMD manages the State Emergency Operations Center located at Camp Murray, near Tacoma, and coordinates the response to ensure help is provided to those who need it quickly and effectively. The EOC is designated as the central location for information gathering, disaster analysis, and response coordination. Other state agencies with emergency roles may come to the EOC to help coordinate the state response. Federal government agencies, along with state and local volunteer organizations, also may provide representatives. An outcome of this partnership is that the state CEMP Community Emergency Management Plan (CEMP) is available via the RRAIN website and mobile app.

## **Partners in Emergency Preparedness Conference (PiEPC)**

The Partners in Emergency Preparedness Conference is the largest and most successful regional emergency preparedness conference in the Pacific Northwest. Partners in Emergency Preparedness annually hosts nearly 700 people representing business, schools, government, the nonprofit sector, emergency management professionals, and volunteer organizations. Speakers and exhibitors provide cutting-edge information on subjects such as business continuity planning, school safety, public health preparedness, homeland security, and public information. Seven RRAIN team members participated in exhibiting and teaching a hands-on, interactive, RRAIN workshop at the 2015 meeting.

## **National Network of Library of Medicine, Pacific Northwest Region**

Under the sponsorship of the National Network of Libraries of Medicine, Pacific Northwest Region, RRAIN Washington and NN/LM PNR's partnership centers on two key areas: (a) a joint pursuit of improving access to the National Library of Medicine's disaster information resources and (b) collaboration around public health efforts in our state and region. To date, this partnership has resulted in three national posters at library, academic medicine and public health association meetings. Emily Glenn will give the poster at the APHA Meeting on November 2, 2015, in Chicago, IL. Tania Bardyn, Emily Glenn and Adam Garrett gave a paper presentation at the Annual Meeting of the Medical Library Association on May 19, 2015, in Austin, TX.

## **American Public Health Association (APHA) Annual Meeting**

During this 12-month project, Emily Glenn has been designated as the "NN/LM PNR Disaster Information Coordinator" and is included in all discussions among NN/LM regions on disaster information initiatives. She attends skill-building courses and represents RRAIN at national meetings. This fall RRAIN Washington will present a poster at the American Public Health Association meeting.

## **Local Area Hospitals**

**Virginia Mason** and **Seattle Children's Hospital** are partnering with RRAIN Washington by offering training to its ESAR-VHP members and staff responsible for emergency preparedness. Three types of training sessions are scheduled according to needs and coordinated by Jamie Gray.



## REFLECTIONS & NEXT STEPS

- Understanding disaster information sharing requirements for Washington state required understanding stakeholder needs, resources, shortfalls, and common barriers. These were effectively described by volunteers who participated in a focus group to help the RRAIN Washington project team determine the first step to get appropriate content identified for the mobile app.
- It is easier to reach emergency managers, via established partnerships, than the ESAR-VHP workforce. Even in academic medical centers with affiliated hospitals, reaching ESAR-VHP credentialed healthcare providers proved to be a challenge. It is easier to work through the well-established emergency management community to get NLM disaster information projects advanced in the healthcare arena.
- Train-the-trainer sessions had low turnouts. We learned that most people believe that they can figure out how to use mobile apps and related tools on their own.
- An effective state-wide information sharing environment on the West Coast must include port and maritime environment information going forward, in order to have further relevance to Washington state. The Puget Sound is an ideal location to further the use of WISER, REMM, CHEMM, and other NLM tools, as we have multiple ports and the largest maritime geographic area of operations in the US.
- Projects that share situational awareness and chemical/radiation information resources across a diverse set of stakeholders are of future interest to the Department of Homeland Security.
- Supporting technologies are often available, but not always accessible. When power goes out RRAIN Washington will not be of great value.
- The next step to further mature the project is to secure funding to build an Android app and to continue to work with the emergency management community to better understand daily operations vs. operations in times of disaster.
- Lessons learned from this research will help guide and align future library investments into special projects and inform key decisions associated with mobile and technical solutions. Librarians should play a role in developing mobile apps in the future.
- RRAIN Washington seeks to provide substantial benefits to a variety of stakeholders that extend significantly beyond its program sponsors.

### FEEDBACK FROM THE COMMUNITY

“It is a useful, rich resource.”

“This will be good to use for tribal information awareness – especially the chemical resources ...”

“It was smart to anchor this at the university, rather than the state.”



Response & Recovery App in Washington

*RRAIN Washington links first responders with disaster information and situational awareness resources in Washington state such as current weather, traffic, and wildfire information, plus chemical, radiologic, and hazardous substance information resources to aid in response and recovery efforts. This statewide collaboration provides access to selected National Library of Medicine disaster information resources and vetted state-specific information via an iOS mobile app and mobile-optimized website.*

#### RRAIN WASHINGTON PARTNERS

