



# Contents

A broader vision in shrinking libraries Judit H. Ward & William Bejarano .....	1
<b>The ubiquitous information professional</b>	
From saliva samples to the classroom and beyond: What college students are telling us about genetic and environmental influences on substance use and emotional health Julie Arendt, Nita Bryant, Kenneth S. Kendler, Danielle M. Dick, Amy Adkins .....	4
The information professionals' role in monitoring the international proliferation of novel psychoactive substances Chad Dubeau, Matthew Young.....	11
Embedding librarians in clinical practice and continuing and community health education: The CAMH library experience Sheila Lacroix, Sharon Bailey .....	16
<b>Opposing trends: Information dissemination and information literacy</b>	
Life as a Tweeter: Information dissemination in the world of Twitter Christine Goodair .....	20
Dissemination 2.0: Bench, bedside and beyond Meg Brunner .....	25
CICAS: Toward a critical framework of information literacy in addiction science William Bejarano, Judit H. Ward.....	33
<b>A year later: Follow up and updates</b>	
Marijuana policy update: One year later, after SALIS 2015 Sheila Lacroix, Isabelle Michot.....	42
Reading for recovery: Bibliotherapy for addictions Judit H. Ward, William Bejarano, Nicholas Allred.....	50
Understanding the rainbow: Hispanic girls and their peers' relative risks for mental health and AOD problems Barbara Seitz de Martinez .....	60

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The *Substance Abuse Library and Information Studies* is the eProceedings of the 38<sup>th</sup> Annual Conference, entitled *A Broader Vision: The Value of Multidisciplinary Lenses*, organized by the Substance Abuse Librarians and Information Specialists (SALIS) partnering with the Association of Mental Health Librarians in Denver, Colorado, May 4 – 7, 2016.

SALIS is an international association of individuals and organizations with special interests in the exchange and dissemination of alcohol, tobacco, and other drug (ATOD) information ([salis.org](http://salis.org)).



# A broader vision in shrinking libraries

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## Introduction

It is our great honor and pleasure to welcome readers to browse the third issue of the eProceedings of the Annual Conferences of the Substance Abuse Librarians and Information Specialists (SALIS). Partnering with the Association of Mental Health Librarians in 2016, the joint conference, entitled A Broader Vision: The Value of Multidisciplinary Lenses, was held in Denver, Colorado, May 4 – 7, 2016.

Given the positive feedback of the previous two conference proceedings, the editors are delighted to present a select collection of articles stemmed from the presentations at the conference. The goal remains the same. We wish to share the vast knowledge of SALIS members presented and accumulated over the years at the Annual Conference. The conference hosts understand the difficulties SALIS members face when it comes to actively participate in the organization, and especially to attend the conference, due to lack of funds or time. This

publication aims to involve those who were unable to travel to the annual conference. With the next conference in mind, the editors also wish to extend the invitation to all members to contribute to the success of the next SALIS programs in any way they can.

Similarly to the previous two issues, the variety of perspectives, styles, language and tone is meant to represent SALIS, an international, multicultural, and multi-disciplinary organization.

## The ubiquitous information professional

Information professionals can be found everywhere, spanning research institutions and labs to classrooms or at the bedside, as demonstrated by many of the conference presentations. The first block of this issue provides a glimpse into the variety of roles and venues in which librarians and information professionals are considered as highly valued members of a team. These articles are prime examples of how the information professional, working in a special research, education, or

clinical environment, contributes significantly to the teamwork and rounding of the founding fathers big five of addiction science: research, education, treatment, information dissemination, and publication.

The first article, written by Julie Arendt, Nita Bryant, Kenneth S. Kendler, Danielle, M. Dick, and Amy Adkins from Virginia Commonwealth University presents a recently launched project called "Spit for Science." This collaboration between a researcher and an interdisciplinary team of librarians demonstrates how the data can be integrated into the classroom to enhance undergraduate students' understanding of the research process. The DNA component in this multidisciplinary collaboration represents cutting edge on its own, but the project also promises a replicable model with the potential of better understanding the associations between genes and substance use and mental health disorders.

The indispensable role of the information professional is demonstrated in the second article of this block, written by Chad Dubeau and Matthew Young from the Canadian Centre on Substance Abuse. The authors discuss the efforts of monitoring the harm related to the proliferation of novel psychoactive substances (NPS), a serious public health issue all over the world. Using Internet media reports captured by the Global Public Health Intelligence Network (GPHIN), the Public Health Agency of Canada's Internet-based early-warning system can serve as a model to detect early warning indicators, which can provide an opportunity for rapid response.

Also from Canada, a third article presents an outstanding example of the emerging role librarians can assume by becoming more active in the various new education and knowledge exchange opportunities via several projects. Written by Sheila Lacroix and Sharon M. Bailey from the Centre for Addiction and Mental Health, this paper outlines some of the successes and strategies towards taking the initiative to find the librarian's role, which supports the discovery of the library's unique resources within newly established communities of practice.

## **Opposing trends: Information dissemination and information literacy**

Amidst the abundance of sources, tools, delivery methods, and individual preferences of information seeking, there seems to be a dissonance between the available information opportunities and information seekers taking full advantage of these opportunities at the right time. The second section of volume III of the SALIS journal addresses some of these phenomena.

Christine Goodair, representing St George's, University of London and the Society for the Study of Addiction (SSA), shares her first-hand experience as the professional SSA tweeter. The report reviews the potential of various contemporary information dissemination methods, focusing on Twitter as a social media-providing information tool. The insights and guidelines for tweeting for academic and research purposes are of interest to anyone who wishes to establish a professional social media presence in academia.

Meg Brunner of the Alcohol and Drug Abuse Institute, University of Washington, elaborates on a related topic reviewing the latest trends in faster, cheaper, and broader means for dissemination of the results of research studies. In addition to new journal-based dissemination tools, such as AudioSlides, video and graphical abstracts, the paper also presents the most important scholarly social media platforms. Six suggestions conclude the article, of value to any librarian and information professional who wishes to make themselves more relevant with the latest tools of information dissemination.

A more theoretical approach, the recently introduced ACRL Information Literacy (IL) framework is the topic of the next paper written by William Bejarano and Judit H. Ward from Rutgers University. The authors have been experimenting with addiction-related IL sessions in various settings aiming at establishing best practices and setting up

guidelines to translate the ACRL IL general principles into addiction science, research, and education, claiming that an applied and transdisciplinary science requires a particular emphasis on evaluating sources and a special regard for the sensitive nature of the information sought.

## **A year later: Follow-up and updates from projects presented at the last year's conference**

Rarely does it happen in conferences that participants have a chance to follow several projects back to back, but one advantage of the familiar setting of SALIS members is that it allows for these unique types of presentation. To some extent, the next three papers partly built on their presentations from the previous SALIS conference, thus providing a better insight into these three important topics.

In San Diego in 2015, an entire panel was dedicated to the topic of marijuana policies, moderated by Sheila Lacroix. Denver presented the perfect venue to follow up on the latest issues. Partnering with Isabelle Michot from French Monitoring Centre for Drugs and Drug Addiction, this paper collects different but complementary perspectives on issues around drug policy reform relating to the non-medical use of marijuana. The summary of the key messages of the presentations can be of interest to every substance abuse librarian, while it also documents the state of affairs in 2016.

The second paper in this issue follows up on a poster presentation in San Diego on the authors' two-year, ALA-funded bibliotherapy project, called R4R, Reading for recovery. Accompanied by eight mini posters at the Denver conference, this publication, written by Judit H. Ward, William Bejarano, and Nicholas Allred (all from Rutgers University), presents the Rutgers project aiming to develop a tool with the purpose of facilitating library resources for creative and informal bibliotherapy. The paper complements the presentation and workshop at the 2016 conference, where they experimented with a novel interactive format of sharing knowledge

to inspire substance abuse librarians to promote bibliotherapy as a potential treatment modality.

The last paper in this block, written by Barbara Seitz de Martinez and Melissa Cervantes from the Indiana Prevention Resource Center, IU School of Public Health, compares mental health and alcohol and other drug (AOD) use by US and Indiana Hispanic high school girls to other non-White and White female peers. Similar to her previous year's paper mostly in the studied population using meticulous research methods, the reader will be touched by the passion with which Barbara Seitz de Martinez handles the topic. The article is also exemplary with its presentation of various cultural perspectives that a researcher should be aware of, such as cultural beliefs and traditions, gender roles, real or perceived discrimination, social conditions, community and family dynamics, and child development.

## **Acknowledgements**

This year, again, the editors wish to express their gratitude to all who seized the opportunity to share the SALIS conference experience. Special thanks to the reviewers for all the suggestions to improve the articles. Thanks to all SALIS members for understanding the challenges of the past year the editors had to face before finding a new home for the SALIS journal.

# From saliva samples to the classroom and beyond

What college students are telling us about genetic and environmental influences on substance use and emotional health

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## **Abstract**

*In 2011, researchers at Virginia Commonwealth University launched “Spit for Science,” a large-scale longitudinal study in which nearly 9,900 undergraduate students are currently enrolled. Students will be followed across their college years and beyond to understand how genetic and environmental factors influence substance use and emotional health over time. This presentation highlights several facets of the project. A collaboration between a researcher and an interdisciplinary team of librarians demonstrates how the data are being integrated into the classroom to enhance undergraduate students’ understanding of the research process. We also discuss multidisciplinary collaborations that have evolved from the project as well as the DNA component, including work in progress and work that*

*remains. If replicated at other universities, this model holds promise for better understanding the associations between genes and substance use and mental health disorders.*

## Keywords

collaboration, research experiences for undergraduates, teaching, genetics, environment

## What is Spit for Science?

Spit for Science ([spit4science.vcu.edu](http://spit4science.vcu.edu)) is a research project directed by Dr. Kenneth Kendler and Dr. Danielle Dick at Virginia Commonwealth University (VCU). The scientific goal of the project is to understand how genetic and environmental factors impact the development of substance use and behavioral and emotional health outcomes, particularly in an undergraduate population. Beginning with the freshmen entering VCU in 2011, students were invited to participate in a study investigating how genes and environments affect alcohol use, substance use, and emotional health outcomes across time in college students. Students who agreed to participate completed an online survey at the start of college, were invited to submit a saliva sample for DNA analysis, and have been invited to participate in follow-up surveys each subsequent spring (Dick et al., 2014).

Students who completed the survey received \$10 and a Spit for Science T-shirt, emblazoned with humorous statements, such as, "Actually give a Spit." Students received an additional \$10 for submitting a saliva sample and additional payments and T-shirts for participating in subsequent surveys.

The overarching goal of linking genetics with environmental pathways is a complicated question with many parts. Because multiple environmental and genetic factors are known or suspected of contributing to alcohol and illicit drug use and abuse, as well as mental health problems, the survey went well beyond asking only about alcohol, drugs, and mental health. It included questions about topics such as students' family histories, life events, social support, religiosity, and peer group deviance (Dick et al., 2014).

Spit for Science has been able to get close to a 70% participation rate among VCU students, with close to 97% of the 70% agreeing also submitting a saliva sample (Dick et al., 2014). In the four years of enrolling incoming freshmen (2011-2014), over 9,600 students participated (Dick & Hancock, 2015). For a web-based survey of students in the United States, typical participation is close to 40% (Cook, Heath, & Thompson, 2000).

## Collaborations

Because of the large scale of the project, the Spit for Science researchers have worked with many other organizations from the start - - university administrators to get approval, the Institutional Review Board to make sure students knew participation was optional and to address the privacy and other concerns, and the university Wellness Resource Center to develop information about alcohol use on campus to send to parents along with information about the study. Spit for Science has worked with student and local media to build awareness of the project and regularly has presented information about the research to student groups. VCU has a diverse student body, and African Americans often are underrepresented among the participants in this kind of research. To be successful in recruiting students and to be sensitive to research participant needs, in addition to its regular recruitment, an African American faculty member of the Spit for Science research team conducted focus groups with African American students, parents, and VCU employees (Dick et al., 2014).

Some of these collaborations have grown and evolved as the Spit for Science project has continued beyond its first couple years. For example, after the Wellness Resource Center

developed resources to send with the recruitment materials, Spit for Science provided the Wellness Resource Center with a “data dump” about the genetics of substance use that the Wellness Resource Center posted in the *Stall Seat Journal*, a single-page wellness newsletter posted on the inside of many of the bathroom stalls on campus.

That collaboration has grown into a more integrated collaboration between researchers and student services on campus (Dick & Hancock, 2015). Acknowledging these collaborations, VCU formally launched COBE: The College Behavioral and Emotional Health Institute ([cobe.vcu.edu](http://cobe.vcu.edu)). COBE brings together the practitioners in health promotion, emotional / behavioral health and substance use with students who want to work in health careers or in creative media, researchers who are studying substance abuse and mental health across the university, clinicians and staff who work in relevant fields, and interested members of the community. Instead of working in isolation, the research going on at the university on behavioral and emotional health feeds into the programming and services for VCU students and vice versa (Dick & Hancock, 2015).

Although undergraduates were the main targets of the recruiting efforts of Spit for Science, because of the large scale of the publicity efforts from the research team, awareness of the Spit for Science project has extended much further. People unaffiliated with the project have seen the data dumps in the Stall Seat Journal and have seen students in the Spit for Science t-shirts. Dr. Dick regularly presents about her research to groups on campus and to community groups, such as Science Pub RVA and TEDxRVA.

Because the Spit for Science project is so high profile around campus and has such rich data about VCU students, people from many groups that were not associated with the initial development of the project have become aware and interested in it. Groups on and off campus realized that the rich Spit for Science survey data could potentially answer questions that they had about student substance use, health, and academic success.

One way that Spit for Science has addressed these questions is through the Spit for Science class.

### ***Spit for Science class***

The Spit for Science class incorporates these real-world questions in a research class for undergraduates. Developing research experiences for undergraduates (REUs) is a strategic priority for universities worldwide. Working closely with faculty mentors on authentic projects, students are socialized into a professional community of practice and become active stakeholders in scientific research. Through this apprenticeship model, students are encouraged to enroll in STEM graduate programs and build careers in research and (Healey and Jenkins, 2009; Hunter, Laursen, & Seymour, 2007; Zimbardi, K., & Myatt, 2014). The innovative Spit for Science research project at Virginia Commonwealth University exemplifies this model by involving students in all parts of the research process and by bringing data directly into the classroom to address questions posed by campus stakeholders and the larger community.

The Spit for Science course gives the students information to help them to gauge their own interest in research careers and in continuing with the Spit for Science research team. The course structure combines elements of mentoring and real-world experience that can be gained by working in a research lab with the formal structure of a traditional academic course. The Spit for Science class meets in person regularly and includes some didactic components that would be seen in a traditional classroom. Students in the Spit for Science course work on the ongoing education and recruitment projects for Spit for Science. They distribute t-shirts and create materials that Spit for Science uses in its educational programming and in its social media presence.

The bulk of the Spit for Science course, however, is a group project. Instead of the professor or the student generating the ideas for these projects, the ideas come from the questions raised by the partner organizations. Students use the Spit for Science dataset to

answer or at least illuminate these questions. For example, one group of students worked with VCU Residential Life and Housing -- the campus dormitories -- and examined the health outcomes in students living on versus off campus. Another group worked with VCU Recreational Sports and looked at alcohol use and its relationship with participation in exercise and sports. Off campus organizations, such as CARITAS -- a major provider of homeless services in the Richmond area -- have worked with Spit for Science students as well.

Initially the student groups meet with the partner organization to learn about its goals and what the organization would like to get from their research. The students use the library to examine research that has already been conducted that is relevant to the partner organization's question.

For several semesters, as outreach librarians in biology and behavioral and social sciences, coauthors Julie Arendt and Nita Bryant have been guest lecturers in a Spit for Science lab, PSYC 494 / BIOL 391, co-directed by Dr. Amy Adkins, a Spit for Science researcher and the course's faculty mentor. The librarians introduce students to discipline-specific databases appropriate to the research questions. Depending on the topic, the databases may be related to medicine, sports, psychology, or other areas. While we introduce these databases, we place as much, if not more, emphasis on the research process -- understanding different types of scholarly articles, reading research papers, and using a review matrix to organize the literature. While this seems like standard fare for university librarians, there is far more to this class than finding research articles.

Based on their literature searches and on the information from the partner organizations, the students examine the data dictionary of the Spit for Science project to find the relevant measures to see both what can be answered with the data they have and to operationalize the ideas that the partners want to know about. Students then decide what statistical tests they will use and what additional variables to include in their tests

that may moderate or interact with the main independent and dependent variables.

A graduate student or postdoc is paired with each group to assist them and guide them through the process. For example, after the students decide what parts of the large multi-year dataset they will use, the group mentors pull just the portions of the dataset the students will need to run the analysis.

After running their analyses and producing reports, students present their results at an end-of-semester event attended by the partner organizations and by the principal investigators of the Spit for Science Research project. Scholars Compass, the institutional repository provided by VCU Libraries, provides web hosting to provide long-term access to the research posters the Spit for Science students produce, including posters produced by independent study students and by students in the Spit for Science class.

## Extensions

### ***Quest Grant***

The level of questions that students are able to answer in a one-semester class is not as detailed as the holistic view of what contributes to students' academic success and to students' health, of which the Spit for Science project is capable. To build this larger picture, Dr. Adkins applied for a local grant to bring this holistic view together. This year, her project, "Understanding Connections Between Behavioral and Emotional Health, Co-Curricular Engagement and Student Success," was awarded a grant from the VCU Quest Innovation Fund (McNeill, 2016). This grant brings together on-campus collaborators such as those in VCU's Division of Strategic Enrollment Management and Division of Student Affairs -- many of the same organizations that worked with the Spit for Science class. These units on campus will merge data from their respective divisions with the Spit for Science dataset to carry out a comprehensive study on the factors that contribute to behavioral and emotional health

and to academic success for VCU students. This research could contribute directly back to the university as well as to research publications.

### ***Research extensions***

In addition to the collaborations that evolved from the student Spit for Science projects, Spit for Science has numerous scientific research collaborations that have grown from the project. The PIs, and associated faculty and trainees, on the project have published multiple manuscripts (for example, see Kendler, Myers & Dick, 2015; Salvatore, Kendler & Dick, 2014; & Cooke et al., 2016). Spit for Science also has mechanisms for researchers to ask for and obtain access to the Spit for Science data for secondary data analysis to address their own research questions. Finally, it has mechanisms for spin-off projects to get permission and contact Spit for Science participants for additional data collection (Spit for Science, 2016).

Aside from the collaborations directly connected to the Spit for Science project, the genetic component may call for a different kind of collaboration. Even though approximately 9,900 participants in Spit for Science is large for a research project conducted on a single university campus, it is small relative to the number of participants needed to understand the multiple genetic and environmental factors that contribute to risk for substance use and mental health disorders.

With the exception of a handful of disorders, research into the genetics of mental and behavioral health problems generally has not produced clear association between a single gene and a disorder but instead has produced a collage of polygenic risk factors. If the genetic analysis component of Spit for Science goes well, it likely will contribute to a list of multiple genetic variants associated with disorders (e.g., Alcohol Use Disorder) and traits (e.g., impulsivity). Within the dataset, people who, for example, are high on impulsivity and people who have much lower impulsivity levels may carry different versions of one or more associated genes. Detecting these types of associations requires a large

amount of statistical power. Thus, the number of participants in Spit for Science is probably too small to produce a complete understanding on its own. To draw a parallel, to identify parts of the genome and environmental pathways for human height -- something commonly understood to involve genetic contributions from families and environmental contributions, like diet, the research involved studying samples from over 180,000 people (Lango Allen, 2010).

Large-scale global collaborations are discovering the genetic and environmental contributors to substance use and mental health disorders, and the individual research contributions also can separately contribute to meta-analyses that combine the results from multiple research studies. Another way to build the large amount of data would be for other researchers at other institutions to replicate the Spit for Science approach to data collection. Although each institution has its own culture and procedures for ensuring the privacy, security and other human subjects' protections for students who might participate in a project like Spit for Science, the Spit for Science team has developed an approach and worked through many of the complications and pitfalls, so they could provide guidance on how to conduct such a project effectively.

### **Why it matters**

As academic librarians, we have an important role to play in research experiences for undergraduates. In the Spit for Science Labs, we focus less on tools and skills, placing greater emphasis on helping students understand and negotiate the culture and discourse of scientific research (Elmborg, 2006). Moreover, given the interdisciplinary nature of complex problems like drug abuse and mental health, interdisciplinary teams of librarians have much to offer. And as a result of our collaboration with Dr. Adkins, we have become far more aware of the potential and promise of this research project. Our hope is that members of SALIS and the Association of Mental Health Librarians will help

disseminate information about this research to others.

As research participants, approximately 9,900 undergraduate students have become stakeholders in an institution-wide study that will help researchers better understand how genetic and environmental factors come together over time to influence substance use and emotional health.

This data is being integrated into the classroom, providing authentic opportunities for undergraduates to conduct research that is personally relevant and important to the wider campus community. Findings are already informing policy and programming, and additional grants have been secured to

make the research more useful to students and the university. But the research has implications far beyond this institution.

One of the most significant outcomes of the Spit for Science project is a workable organizational model that can, and hopefully will, be replicated at other universities. In a recent article on the project, Dick et al. (2014) note, "If our efforts could be duplicated and expanded at other universities to create a series of projects of this sort, it could hold considerable promise for obtaining the very large numbers of subjects necessary to critically advance our understanding of genetic pathways."

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# The Information Professionals' role in monitoring the international proliferation of novel psychoactive substances

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*Although the proliferation of novel psychoactive substances (NPS) is regarded as a serious public health issue, monitoring the harms associated with NPS is challenging. This paper describes what the Information Professional's contribution could be to enhancing monitoring efforts. Specifically, this paper will describe the lead author's role in an initiative seeking to test the viability of using Internet media reports captured by the Global Public Health Intelligence Network (GPHIN), the Public Health Agency of Canada's Internet-based early-warning system, to quickly identify clusters of NPS-related harms. This paper also describes the possible role of the Information Professional in the monitoring of media and other open-source information in the future.*

## Keywords

Novel Psychoactive Substances, Library Science, Monitoring, Early warning systems

## Introduction

Information Professionals in the addiction field must strive to stay informed on emerging issues in order to properly serve their clients and provide valuable current awareness services. One such trend is the proliferation of novel psychoactive substances (NPS) and the harms associated with them. This paper

describes the first author's (an Information Professional) contribution to a project aimed at identifying clusters of harms related to NPS by using Internet media reports.

## Novel Psychoactive Substances

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) defines a NPS as "A new narcotic or psychotropic drug,

in pure form or in preparation, that is not controlled... but which may pose a public health threat..." (Hughes, Gallegos, & Sedetov, 2011). NPS are also referred to as "designer drugs," "herbal highs," "synthetic drugs," "research chemicals," and "legal highs" and are sometimes uncontrolled by applicable drug legislation when they first appear for sale. They are designed to mimic the effects of commonly misused drugs and are often sold as legal alternatives to more traditional illicit drugs. The United Nations Office on Drugs and Crime's 2016 World Drug Report notes the significant volume of new substances being reported (United Nations Office on Drugs and Crime, 2016). As of 2014, the EMCDDA's early warning system was monitoring over 450 new psychoactive substances, 101 of which were newly identified products. The EMCDDA also reported a seven-fold increase in seizures of these substances between 2008 and 2013 (European Monitoring Centre for Drugs and Drug Addiction, 2015).

NPS can be purchased in "head shops" or online and are frequently marketed in attractive packages and given compelling names such as "Gold Max" or "Sparklee". One of the great challenges and dangers associated with these products is that there is no regulation nor any quality assurance and they often do not indicate the identity, quantity, or potency of the chemicals or chemicals included. These unknowns can lead to adverse consequences (Zamengo, Frison, Bettin, & Sciarrone, 2014) as well as pose great challenges in monitoring the emergence and spread of harms related to the substances.

## Challenges of monitoring NPS

In the past the illicit drug market was relatively stable – led by a few dominant illicit drugs such as heroin, cocaine, and methamphetamine with new ones such as MDMA, appearing only occasionally. During this time (approximately pre 2000s), conventional strategies for monitoring drug use such as general population surveys, functioned relatively well. However, these methods are not very useful for the rapid

detection of NPS because the time required for these methods means that by the time the information has been collected and analyzed the substance may have already disappeared from the marketplace or already caused significant harm. What is required to monitor NPS is early warning indicators of harms that may signal a problem and permit an opportunity for rapid response. The unique challenges of monitoring NPS have led to the development of innovative solutions (Corazza et al., 2013), including Internet monitoring strategies.

By observing websites that sell NPS, it is possible to detect and monitor emerging substances (Bruno, Poesiat, & Matthews, 2013). User-based message boards are also important sources of information (Davey, Schifano, Corazza, & Deluca, 2012; Deluca et al., 2012; McNaughton, Black, Zulueta, Budman, & Butler, 2012). Internet media reports, although used to monitor the spread of infectious diseases since 2002, are not widely used to track NPS. One initiative that monitors media and open source information, The Global Public Health Intelligence Network (GPHIN), captures some information on NPS.

## Global Public Health Intelligence Network

GPHIN is a collaboration between the Public Health Agency of Canada and the World Health Organization. The GPHIN tracks Internet media reports around the world in nine languages and sends alerts on potential disease outbreaks or other health threats to international subscribers (Keller et al., 2009). Between July 1998 and August 2001, 56% of the 578 disease outbreaks investigated by the World Health Organization were first identified by the GPHIN (Heymann, Rodier, & the WHO Operational Support Team to the Global Outbreak Alert and Response Network, 2001).

## Using the GPHIN to monitor NPS

In 2014, the authors tested the feasibility of using the GPHIN to monitor the spread of

NPS by examining English media reports on synthetic cannabinoid receptor agonists from 1997 to June 2013 (Young, Dubeau, & Corazza, 2015). To do so, the authors required a search strategy that would detect media reports on synthetic cannabinoids stored in the GPHIN system. The Information Professional on the team created a query using known search terms and working within the limitations of the searching capabilities of the system. Some of these limitations included a restricted query length and the inability to use typically standard searching methods such as truncation.

Below is a copy of the query used:

“synthetic cannabinoids” OR “synthetic cannabis” OR “synthetic marijuana” OR “synthetic weed” OR “synthetic pot” OR “synthetic grass” OR “synthetic THC” OR “fake cannabis” OR “fake marijuana” OR “fake weed” OR “fake pot” OR “legal weed” OR “legal pot” OR “legal blends” OR “cannabimimetics” OR “legal highs” OR “herbal highs” OR “herbal blends” OR “herbal incense” OR “herbal mixtures” OR “herbal smoking blends” OR “synthetic cannabinoid” OR “legal blend” OR “cannabimimetic” OR “legal high” OR “herbal high” OR “herbal blend” OR “herbal mixture” OR “herbal smoking blend.”

The results of the search (i.e., number of media reports about synthetic cannabinoids captured by GPHIN) were plotted over time and compared with other available indicators of synthetic cannabinoid use, namely U.S. poison control data center exposures and volume of discussion about synthetic cannabinoids on the harm reduction forum Bluelight. Results indicated that the number of media reports over time very closely mirrored the number of poison center exposures and volume of discussion, indicating that media and other open source information can help monitor the presence, usage, local policy, law enforcement responses, and spread of NPS in a rapid and effective way. An important consideration raised by this study is how do we search for and detect media stories on drug

related health threats when so little information is known?

## Searching for new drugs

The next logical step in detecting clusters of drug-related harms via media reports is to set up a query that could identify clusters of harms related to NPS and other new drugs. The challenge is that there are no specific drug names to search for. That said, most Information Professionals are routinely faced with the challenge of searching for something while being provided with very little information. They are often approached with vague descriptions (e.g.: the red book on harm reduction) or may be asked to track the origin of a paraphrased statement lacking proper citation. Regardless of the problem, the solution in such circumstances is to work with the information at hand.

## What do we know?

We know that clusters of harms related to NPS have been identified via media reports in the past, and that these are fairly easy to identify by searching for the drug in question in a search engine for media reports such as Google News.

We also know that journalists use specific language or phrases in these articles when referring to the emergence of a new drug crisis or harms related to unidentified drugs.

What if we collected these phrases and used them in a query?

## Our approach

To create our test query we first chose the drug alpha-pyrrolidinopentiophenone a NPS (synthetic cathinone) that was associated with clusters of harms in the US and Canada in 2014 in 2015. We searched for “flakka” or alpha-pyrrolidinopentiophenone in Google News and restricted the search to media articles published between January 1, 2014 to December 31, 2015. We chose these dates because at that time alpha PVP was a new drug of which reporters and drug experts knew very little. After acquiring reports of adverse

drug events related to alpha-PVP, we then scanned the articles for generic phrases used by the reporters when referring to this new drug. From these reports phrases were extracted and assembled into the following query:

“new drug” OR “new synthetic drug” OR “first seizure” OR “first significant seizure” OR “newest drug” OR “drug trend” OR “new stimulant” OR “newest designer drug” OR “new designer drug” OR “drug turning up in” OR “drug that is spreading” OR “drug on the rise” OR “latest drug” OR “latest designer drug” OR “latest synthetic drug” OR “emerging drug” OR “increasingly popular drug” OR “increasingly popular synthetic drug” OR “the new crack” OR “the new cocaine” OR “the new marijuana” OR “the new ecstasy” OR “the new meth” OR “the new crystal meth” OR “the new bath salt” OR “next designer drug” OR “new street drug” OR “latest street drug” OR “newest street drug” OR “new recreational drug” OR “latest recreational drug” OR “newest recreational drug” OR “drug surfaces” OR “drug craze” OR “new, scary street drug” OR “new, scary drug” OR “new, scary designer drug” OR “drug that is sweeping” OR “new legal drug” OR “new legal drugs”

The terms within this query were tested using Google News (limited to past week) and the searches yielded 24 media reports on harms related to psychoactive substances. After further testing, it is expected that using this query will increase the system’s sensitivity to detecting media reports related to NPS, therefore improving GPHIN’s effectiveness as an early warning system for

identifying clusters of harms related to psychoactive substances. We will assess the efficacy of this approach by analyzing the results for relevancy and if we find a consistent influx of media reports on adverse drug events generated by this method, the query will then be refined and regularly updated with new phrases to improve its effectiveness. The same exercise will eventually be repeated in languages other than English to broaden the pool of results.

## Conclusion

Monitoring and surveillance activities are an integral part of a proactive approach in the reduction of harms related to problematic substance use and Information Professionals can play an important role in these initiatives. Surveillance requires scanning of vast amounts of information, which means a well-crafted search strategy that is constantly being updated, tested, and improved is essential. The expertise of Information Professionals in this regard can improve results, save time, and ensure comprehensiveness.

Our proposed approach to searching for clusters of harms related to new and emerging drugs consists of identifying generic phrases used in relevant media reports and applying these to ongoing searches generated by the GPHIN system, however, there may be other methods that are also worth exploring. Given the expertise of the audience of this journal, we would be very grateful for any other suggestions or ideas for alternative approaches that may have been overlooked.

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# Embedding librarians in clinical practice and continuing and community health education

## The CAMH Library Experience

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*The CAMH Library has always supported CAMH's education and publications units, as well as clinicians and other health-related professionals, both staff and community. In 2012, its role expanded to support the newly restructured Education Department with a broader mandate to "Revolutionize education and knowledge exchange (KE)". The library was well recognized as playing a traditional role, but this was an opportunity for the CAMH librarians to carve out a more active, participatory role in the various education and KE programs and projects, and enhance the discovery of the library's unique resources within newly established communities of practice. This paper outlines some of the successes and strategies towards becoming an active participant including: the library's emerging role in supporting Portico Network, Canada's Addiction and Mental Health Network; the experience of providing embedded librarian service in Project ECHO Ontario Mental Health, CAMH and University of Toronto; the challenges of enhancing the discoverability of library resources and services through CAMH's KE networks.*

### Keywords

Embedded Librarian, Library Services, Knowledge Exchange, Resource Discovery, Project ECHO

### Introduction

The Centre for Addiction and Mental Health (CAMH) is the largest mental health and teaching hospital in Canada. The CAMH Librarians have always played an active role in

supporting the research, clinical and policy development work of CAMH, a tradition dating back prior to the merger that created CAMH from institutions that included the Addiction Research Foundation and the Clarke Institute of Psychiatry. In 2012, a reorganization and change in direction resulted in the CAMH

Library being moved from reporting to Research to reporting to the newly restructured Education Department with a mandate to “revolutionize education and knowledge exchange (KE)”. Later a new director was hired to lead both the library and other knowledge portfolios, including CAMH’s knowledge exchange (KE) portal, Portico. This presented the opportunity to play a more active, participatory role in CAMH’s education and KE initiatives.

The above changes also coincided with ongoing changes in the field of librarianship: embedded librarianship, push technologies, interdisciplinary teamwork to name a few. Shumaker and Tully (2010) describe the embedded services model as one that brings the information professional into closer working relationships with a customer group or team that enhances the ability to understand the team’s work and provide highly customized and targeted information services.

In this paper, we will provide examples of CAMH librarians’ successes and strategies in moving beyond the traditional role to a more collaborative role. These include:

1. The emerging role supporting Portico, CAMH’s KE Portal;
2. The new role as embedded librarians for Project ECHO (Enhancing Community Health Outcomes) Ontario Mental Health;
3. Efforts to enhance discovery of library services and resources through CAMH KE networks.

### ***Portico, Canada’s Mental Health and Addiction Network***

Portico is a collaborative platform that offers content curation, content creation and hosting communities of practice. Its main goals are to:

- Encourage collaboration among clinicians, social service professionals, educators and patients;
- Facilitate KE and the collaborative creation of tools and resources;

- Provide tools and resources that can be used in day-to-day practice.

It is separate from the CAMH corporate website, but CAMH content as well as content from Portico partners is searchable through the Portico search engine. The soft launch of Portico was in 2014; however, the official launch took place in 2016 after a critical mass of content had been developed which included: the Addiction Toolkit and Psychiatry in Primary Care, both content and an app, based on the book published by CAMH (Goldbloom & Davine, 2011).

CAMH librarians’ involvement in Portico is evolving. Being colleagues working under the same director certainly opens up communication and collaboration. The Portico content developers, writers from CAMH’s writing and editorial team frequently use library services. We also assist in taxonomy and helped improve the ‘About Us’ section which did not adequately describe Portico’s scope. Librarians are invited to submit content. Overall, we are aiming for improved collaboration and it is felt the librarians can offer a lot more support both to the Portico team and to Portico users, as a ‘go to’ when information cannot be found. As yet, there is no online link to library services or the CAMH Library as a source for more information, which is unfortunate as the library does serve non CAMH staff such as community professionals.

### ***Project ECHO: Librarians’ role***

Project ECHO (Extension for Community Healthcare Outcomes) is a model developed at the University of New Mexico to promote lifelong learning for health professionals and best practices in specialty health care delivery at the community level, particularly in underserved communities. The structure is based on hub-and-spoke knowledge sharing networks using multi-point video conferencing. The Hub is led by expert teams. ECHO projects can be found around the world and are used to build community capacity to deal with challenging issues such as HIV, liver disease, chronic pain, and mental health. The impact of the ECHO approach is being assessed

and evaluated. A recent systematic review reports that studies to date show ECHO to be effective in increasing health care providers' knowledge and increasing access to health care in remote locations, but efficacy and potential barriers to implementation require further study. (Zhou et. al, 2016)

The CAMH librarians are a part of the Hub team of Project ECHO Ontario Mental Health, CAMH and the University of Toronto. Portico hosts the project providing those involved with access to a networking forum as well as presentations, case studies and supportive resources. CAMH Librarians were fortunate to be invited to be on the Hub team which includes psychiatrists, pharmacists, addiction medicine specialists, primary care physicians, therapists, an evaluation specialist and guests as required. Spoke members include family physicians and Family Health Team members (nurses, social workers, psychologists) throughout Ontario. Many of the spoke locations are under serviced, remote areas.

Sessions are structured as follows: 3 hours, once a week, for 12 weeks. Spoke members receive CME credits for participation. Each session includes: a pre and post quiz; a didactic presented by a Hub member or guest specialist; a case presentation by a Spoke member; a discussion in which Hub and Spoke members offer treatment suggestions; finally, a summary of the interventions and recommendations by a Hub member. This is followed up by a Hub wrap up meeting.

The three CAMH librarians rotate joining the Hub for weekly sessions. Their contribution involves: noting resources from the didactic or the case presentation that should be recorded and sourced; suggesting additional resources to support the issues that arise; researching a topic selected by the teams as relevant to the condition or case; assembling the information with links if possible for posting on Portico, accessible to participants via password.

Benefits to the CAMH librarians and the library are numerous. It provides an opportunity to be truly embedded in a project. It is an opportunity to learn and network and

to be involved in decision making. It promotes library services to both Hub and Spoke members. It reignites the CAMH library's provincial role, to serve community health and social service professionals, which has eroded with the popularity of the internet. Also, librarians are involved in literature reviews for Hub members researching the effectiveness of both ECHO Mental Health and ECHO Projects in general. Offering this embedded service does require a substantial and regular time commitment that must be built in to the library's work plan.

### ***Discovery issues through KE networks***

Librarians are constantly challenged by the emergence of KE networks and portals, which often do not have librarian involvement and frequently exist in a separate silo. The potential synergy and relationship between the two is often ignored or not even considered at all. How can KE networks be used to push library services to the community? Many hospital libraries are denied participation in social media, not being allowed to have Twitter accounts or blogs. Here are some of the successes and challenges experienced by CAMH librarians in ensuring resources and services are more readily discovered through KE networks.

On a positive note, CAMH librarians have had opportunities to use 'push' strategies. Being part of Education enables librarians to post on the CAMH Education Blog. Special awareness weeks are often targeted. Some recent blog posts are: Refugee Mental Health: Supporting Transitions; Beat Diabetes, a common comorbidity with mental health patients; Changes to PubMed/Medline MeSH Terms for 2016. Education's Creative Services staff provide graphics to make posts visually appealing. The library also subscribes to Springshare's LibGuides which provides more creative options in presenting content than is allowed under corporate policy and are easy to 'push' via social media.

However, there are challenges. One is how to better connect with Portico. The CAMH

Library's webpages are hosted by corporate CAMH's website. CAMH.ca content is searchable through the Portico search engine. However, as CAMH Library content moves to LibGuides, it will not be retrieved through Portico. Some of our recent LibGuides such as 'Occupational Therapy' and 'Housing and Homelessness' that include helpful resources for community health professionals remain buried. Indexing solutions must be explored. Also, there is no link from Portico to the CAMH Library webpages. This would provide visitors with another level of service and assistance when content on a topic cannot be found. Traditional reference service should be offered as part of the continuum of information provision. An 'Ask a Librarian' feature could be added.

## Conclusion

To remain viable and relevant, library services should strive to work towards being active participants in corporate projects, multidisciplinary teams and KE networks. This is not without challenges, as highlighted in this article. However, CAMH Librarians have shown a willingness to be involved, identify the challenges and to overcome the roadblocks. In particular, being imbedded in Project ECHO Ontario Mental Health has been a positive opportunity to engage in new ways.

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Project ECHO, University of New Mexico  
<http://www.unm.edu>  
CAMH Education Blog  
<http://www.camhblog.ca/learn/>

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# Life as a Tweeter: Information Dissemination in the World of Twitter

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## Abstract

*Current awareness bulletins, reading lists, and bibliographies are all methods of information dissemination, and considered as the preserve of librarians and information specialists. However, with the advent of the internet and social media, sharing of information has become much easier and can be done by anyone. For example, some medical journals require researchers to submit articles with an abstract to also provide a tweetable version, and in some journals it is a requirement for academics seeking to be published.*

*All of us can tweet and share our views on a range of matters but what is the role of Twitter as a means of disseminating information on professional topics? What are the potential benefits? What are the pitfalls? This paper, from the perspective of a professional tweeter for the Society for Study of Addiction, explores these and other issues.*

## Keywords

Substance abuse, Social Media, Twitter

## The Society for Study of Addiction (SSA)

The Society was founded as the Society for the Study and Cure of Inebriety in 1884, and is the oldest organisation of its type in the United Kingdom. As a learned society its key objective is to support the communication of scientific knowledge about dependence on alcohol, nicotine and other drugs. The mission of the Society is to broaden and promote the scientific understanding of addiction, and aims to help

clinicians and policy makers get research evidence into practice.

In its early days the mission of the Society was met through meetings at which papers on inebriety were read, discussed and then published as proceedings. In July 1884 the Society's first proceedings were published, and a journal was born. Today the journal is the longest established scientific journal in its field and is now in its 132nd year of being published (Edwards, 2006).

The SSA communicates through a variety of ways including its journal *Addiction*, emails, newsletters, its website and for the past year or so has been using Twitter as an

information dissemination tool to keep its members, those working in addictions, and interested general public informed about new resources, research, conferences, training and other events, and SSA news.

## What is Social Media?

Social media has emerged over the past 10 years in various forms to play a fundamental role in our lives. But do we actually understand these networks? And are we using them in the right ways?

The online Oxford Dictionaries defines social media as "Websites and applications that enable users to create and share content or to participate in social networking" (Social media, 1989). Wikipedia describes social media as computer-mediated tools that allow people or companies to create, share, or exchange information, career interests, ideas, and pictures/videos in virtual communities and networks (Social media, n.d.).

### Twitter

Twitter started 10 years ago in March 2006, and is an online social networking service that enables users to send and read short 140-character messages called "tweets." It is said that on average, around 6,000 tweets are tweeted on Twitter per second which corresponds to over 350,000 tweets sent per minute, 500 million tweets per day and around 200 billion tweets per year.

<http://www.internetlivestats.com/twitter-statistics/>

### Getting started

Twitter has considerable potential as an information dissemination tool and can be used in a myriad of ways within libraries and the research community. For ideas on its potential, a useful blog is [http://philbradley.typepad.com/phil\\_bradleys\\_weblog/2009/01/using-twitter-in-libraries.html](http://philbradley.typepad.com/phil_bradleys_weblog/2009/01/using-twitter-in-libraries.html) and a report from Taylor & Francis (2014) Use of social media by the library - current practices and future opportunities.

<http://www.tandf.co.uk/journals/access/white-paper-social-media.pdf> explores fully

the uses that social media have for libraries and the benefits it can bring.

Prior to setting up Twitter accounts or any other social media services, it is important to establish why you, your library, or organisation wants one, and what it hopes to achieve. Carscadden and Chapman (2013) provide very useful advice on spending time planning your library's approach.

Questions to consider include

- Who is it aimed at?
- Set goals - what does the library wish to achieve through use of social media - is it promoting services, professional exchange library to library, current awareness from users, feedback.
- Select your channel/platform - Twitter Facebooks. RSS email or newsletter
- Style and types of message - use of language - grammar, written style
- Use of language - written style
- Selection policy/assessment of content - sourcing your content
- What resources do you have - staff time; skills required etc. training needs?
- How will you monitor it? Statistics
- Indexing/hashtags?
- Develop clear guidelines/policy - make this public

Having been through the above, the SSA set up two accounts with specific aims. The SSA main account is used to disseminate information about addiction matters including new resources, research, conferences, training, and other events. This account is not used for discussion or comments. This avoids causing any difficulties for a professional body that has a reputation to maintain.

The second, ad-hoc, account, is the SSA's Symposium account which is dedicated to sharing targeted information about Symposium themes, presentations, and for attendees to use and share comments about presentations. This feed is for use during the Symposium and protocols on use of social media are given to attendees. Groves (2016) explores the issues regarding tweeting and rule breaking at conferences.

The SSA Social media policy sets out how we use social media; what you (as a follower) can expect from us and how we will communicate if required with our followers.

## <https://www.addiction-ssa.org/social-media>

The next stage is to set up an account and undertake training in using Twitter and then find time to explore or 'play' with Twitter prior to going live, and become familiar with key twitter vocabulary.

***Tweet:*** message of up to 140 characters posted on Twitter (can include pictures)

***Twitter stream:*** series of tweets from a Twitter account

***Retweet (RT):*** a tweet forwarded by someone to their followers

***Followers:*** individuals or organisations who choose to follow your Twitter account and receive your tweets

***Following:*** individuals or organisations that you have chosen to follow on your Twitter account; you will receive their tweets

***Mention:*** using @username to talk to or mention a specific Twitter account in a Tweet.

***Hashtags:*** words or phrases with starting with a #; used like keywords or indexing terms so clicking on a hashtag will search for all public instances of its use.

The Twitter Help website provides much advice on using it <https://support.twitter.com/> and another useful site and guide to twitter is <http://mashable.com/guidebook/twitter/>.

Selecting content - for an information dissemination feed subscribing to specialist- or subject-based sources is an excellent way of identifying content. These include blogs and news feeds that are addiction focused. Agencies working in the sector and key government sites that issue health information and useful statistics are also a good source for content. As with book selection it is important to be selective of the lists subscribed to. For example you may need to consider not subscribing to those that appear to have a political bias, or are campaigning for a cause such as "legalisation of drugs" - this will hopefully avoid undermining your organisation's professional standing and reputation. A useful source is tweets from those that follow you and from those you follow.

A question that has arisen on many occasions has been "How much time are you

spending on tweeting?" Clearly, this is dependent on how you are using it. In my role as a disseminator of information, I spend 30 minutes to an hour per day on twitter and that includes both finding and assessing content. There is useful guidance about tweeting and the optimum number of posts from <http://michaelhyatt.com/12-ways-to-get-more-twitter-followers.html>

There are some useful tools to help with managing Twitter and these are listed below and in appendix.

- Buffer - tool for helping you to schedule tweets in advance. It has a free and paid version.
- Tweriod - analysis of your tweets and your followers' tweets to show best times for tweeting.
- Twitter Analytics -detailed report on followers and individual tweets, including impressions, clicks, and engagement.
- The Tweeted Times - content curation from your twitter account showing key stories, links.
- Tweepsmap - map showing locations of followers

## **Twitter in research communities; libraries (special/academic)**

Within the academic/ research sectors there is considerable data and information. Paulli (2012) stated in a blog post that there are "1.5m academic publications every year and two new articles are uploaded to UK PubMed Central every minute of the day." Keeping up with this mass of information is challenging and whilst there are issues of intellectual property and ownership, by using twitter for current awareness and ensuring that sources are cited properly, libraries can provide a valuable service to the research community. However, in recent years the role of libraries has been challenged by the advent of the Internet and development of social media, and many specialist libraries, particularly in the addictions sector, have disappeared. Academics and others working in the field use the new platforms of blogs, email groups, twitter, and sites such as Researchgate to share their work as well as communicate it

to a broad audience of other researchers, decision makers, journalists and the general public.

Tim Hitchcock (2014) in a recent blog about twitter's value to the academic community cites "Dan Cohen – the director of the Digital Public Library of America – always says about Twitter that the important thing is that at the end of the week, it makes you aware of all the publications and developments, calls for papers, and conferences, you need to know about in order to keep up with your corner of the academy. It is not about what you had for breakfast. It is about being on top of your field."

This view applies equally to libraries and Hawn (2009) suggests that the power of social media lies in its ability to disseminate and collect information rapidly among many users. This is where librarians and libraries have an advantage in being skilled in information literacy, which is the ability to recognise when information is needed, ability to locate it, evaluate it, and disseminate it. Twitter provides an opportunity to communicate with your users, share information, and present it in an easily accessible way.

Depending on how you or your library decides to use Twitter you can tweet about other library services and activities such as

- Events and promotional activities
- New books/journals/ E-resources
- Seek feedback on your services and reply to comments people make about your library

It is important to monitor your account and Twitter analytics provides data on tweets such as what is popular or not so popular, tracking number of retweets, and looking at what time of day tweets are recirculated. You can also request a log /archive of all your tweets. These data can be used to plan your staff time on twitter, and assist with planning your content.

### Pitfalls

Twitter is a powerful tool but there are some pitfalls to avoid. Be cautious when using it for two-way communication, and

avoid getting into long and heated discussions as this can impact negatively upon your organisations reputation. Keep your written style professional and on topic, too many tweets about how wonderful your library is maybe seen as spamming, and is a breach of Twitter's unwritten rules.

### Conclusion

Social media is clearly an effective tool that can be harnessed by libraries for many uses including current awareness and selective dissemination of information; internal communications; professional communication (e.g., library to library); and externally as a marketing and promotional tool to raise one's profile.

### Top tips

- Know why you want to use social media.
- Develop a policy on content and process.
- Take a strategic approach – for example start small and gain experience in using Twitter.
- Consider having separate accounts for different services such as feedback; reference enquires; current awareness.
- Be professional – reflect your library/organisation through your tweets – use a brand voice so avoid 1<sup>st</sup> person singular.
- Regular, effective use is the key to be successful as tweeter.
- Follow credible sources – such as Medscape, Mental Elf, EMCDDA, NIDA, and SAMSHA,
- Retweeting can help keep the time under control.
- Manage and monitor the service, analyse usage – use twitter analytics
- Use services such as Buffer –a tool that helps you schedule tweets in advance.
- Check who is following you.
- Share useful/validated information resources
- Have a strong password, one that is not easily guessed
- Provide regular reports for organisation on twitter

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## Appendix: Useful tools

Buffer: <https://buffer.com/>

Tweriod: <https://www.tweriod.com/>

Twitter Analytics:  
<https://analytics.twitter.com/about>

The Tweeted Times:  
<https://tweetedtimes.com/>

Tweeps Map: <https://tweepsmap.com/>

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# Dissemination 2.0: Bench, Bedside, and Beyond

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## Abstract

*A critical component of any research study is the presentation and dissemination of findings. Traditionally, this has been the role of peer-reviewed journals or other print publications, as well as conference presentations and posters -- all platforms with limited accessibility to the very people most likely to benefit from those findings, including practitioners and the public at large. Considering that the impact of a study's results is largely dependent on how effectively those results are disseminated, the use of faster, cheaper, and broader means for dissemination is a growing trend. Not only have journal publishers long been using social media and other technologies to disseminate their current contents, but research institutions and individual researchers themselves are increasingly promoting and discussing their work and the work of others via Twitter and other social media outlets as well. Additionally, a growing number of platforms developed specifically for this purpose are available to scientists, including ResearchGate, PubPeer, and Academia.edu. This article will examine some of the research related to the impact of these and other online tools in the dissemination of scientific information, as well as discuss some of the caveats and best practices to consider when determining which, or whether, to use more informal platforms for the sharing of research findings and other scientific information.*

## Keywords

Dissemination, Social Media

## Introduction

A critical component of any research study is the presentation and dissemination of findings. Traditionally, this has been the role of peer-reviewed journals and other publications, typically accessible only to subscribers (individuals, institutions, libraries), and conference presentations and

posters, often seen only by fellow conference attendees or in a collection of abstracts presented in a published proceedings.

Considering that the impact of a study's results is largely dependent on how effectively those results are disseminated, using faster, cheaper, more engaging, and more efficient means for dissemination, like multi-media and social media platforms – *Dissemination 2.0* – is an exciting idea.

The role of libraries and librarians in research dissemination used to largely involve waiting for our users to come to us to ask for something. Then we would go find the thing, and perhaps a few related things, and pass those along, ending the interaction. These days, however, many of us, particularly those of us in smaller, academic, special libraries, are noticing fewer and fewer reference requests with every passing year. Our users are not coming to us for access to information anymore; where are they going? Are they going to PubMed? PsycINFO? Are they using Google Scholar?

As it turns out, for many people seeking health and related information these days, the answer is: none of the above! A survey done in 2013 (Blinkx, 2013) found that 40% of people aged 18-34 don't even search Internet search engines like Google for information anymore, including health information, they search social media. In fact, the second most-searched site on the web is YouTube.

You know what you don't find in YouTube? PubMed results.

Social media platforms are being used to disseminate study results not just to scientists and health professionals, but also to community treatment personnel, who often lack easy access to journals and conferences, and to the general public of patients, clients, and family members, who often have *no* access to those things. Why are these good platforms for them? Because these are the platforms they are already using.

Also using social media is a population particularly relevant in the mental health and substance use fields: policy makers. There is a lot going on at the policy level these days related to mental health, parity, integration with primary care, marijuana legalization, and more. And the majority of policy makers in the United States are fairly active social media users. A 2015 study (Kapp, Hensel, & Schnoring, 2015) analyzed all the federal health policy makers – people actively involved in writing health legislation on various congressional and other committees – and found that 95-100% of those people had Twitter accounts. They were tweeting

anywhere from 184-14,800 tweets each over the lifetime of their accounts, they followed anywhere from 1 to 47,000 other accounts, and had attracted anywhere from 959 to 514,000 followers. Each!

Community providers, clients, family members, even policy makers: these are people who, by and large, do not have access to traditional dissemination routes, even if they happen to know about these routes in the first place. They don't subscribe to journals. They don't go to conferences. Yet participation in their own or a family member's healthcare decision-making is a growing trend. Empowering people to be more involved in those kinds of care decisions is part of the new Patient Centered Approach to health care, an approach increasingly integral to modern medicine.

The old catchphrases like "bench to bedside" or "bridging the gap between research and practice" used to refer to dissemination of information from researchers to providers. But these days, it's more accurate to look at it as dissemination from researchers to providers *and* patients, families, and the public, all of whom have and want to have more and more agency over their health-related decision-making.

Since these groups are already using social media and other informal platforms to find health information, rather than trying to push them back to the more traditional services in *our* comfort zones (like databases), proactive librarians and information specialists should start thinking about how we can make the health information they're already finding better.

A study by Metzger and colleagues (Metzger & Flanigan, 2011) can help provide us with some simple guidelines to do exactly that. They found that the information likely to get the most attention from users is information that is easily and quickly able to be judged on three criteria: accessibility, relevance, and credibility. The more we can do to facilitate those speedy determinations, the more attention will be paid to the information we are disseminating. Let's look at those three more closely:

Accessibility doesn't just mean full-text copies of articles; in fact, for some people, that isn't helpful at all. It also means being understandable, which is where a well-crafted blog or Facebook post can come into play. Different platforms are relevant to different user groups, and so are different writing styles and levels of information presented. The most important detail about a study from a researcher or clinician's perspective is likely to be different from that of a parent, for example.

Accessibility also means being heard over that incredible glut of noise that is modern day Internet information. If people don't see or can't find your information, your information is not really accessible, right?

Relevance and credibility are also kind of about noise, too. The Internet is massive, with millions of sources constantly trying to outshout each other for attention. Given that constant racket, the user has to be able to quickly and accurately determine: is this relevant to me and can I believe it?

Keeping these three criteria in mind, let's examine some of the newer or more unique Dissemination 2.0 techniques and platforms.

## Journal-based dissemination tools

Journal publishers have been using blogs and social media themselves for quite some time now. But one thing they're doing these days that a lot of us librarians or information specialists should be doing instead (or at least in addition to) is teaching and encouraging authors how to promote their own work.

For example, most of the major publishers now offer detailed toolkits for authors that include a variety of tips on promoting their work, from writing titles and abstracts that are optimized for search engines, to wording tweets in the most effective way. Authors promoting their work is good for the publishers' bottom line, of course, but it can help information get past the cost barrier created by those same publishers, by pushing

the core points, if not some version of the paper itself, directly to people who need it.

Even more interesting from a new media perspective are the multi-media products that publishers are now encouraging authors to create and submit along with their papers: AudioSlides, video abstracts, and graphical abstracts.

These products hit all three of the Dissemination 2.0 targets too: they're accessible in that they're free not just to subscribers but to everyone; they are usually around 3-5 minutes long, which also helps to quickly convey relevance or non-relevance to the user; and the information is easily judged to be credible not just because it is on the page of a reputable journal, but because it is the author talking about their own work, the author sharing their own work, the person who knows the most about it and, frankly, cares the most about it, telling you exactly why you should care too.

### AudioSlides

AudioSlides are essentially mini-webinars about an article, typically made out of PowerPoint slides with recorded narration. Elsevier is a big proponent of AudioSlides and even offers a free online tool for authors to use to create them. The resultant video is available for the public to view, and typically is used to provide a sort of "in a nutshell" overview of the paper's purpose, results, and relevance to the field.

Other publishers allow authors to submit AudioSlides as well, and even without the Elsevier tool, they're extremely easy to make simply using PowerPoint. You can record narration for each slide using PowerPoint's built-in "record audio" feature, even importing music or video clips. Save your file as a video instead of a standard slide deck and you're done. The final file can be embedded in a blog post, uploaded to YouTube or Facebook, linked to from your Twitter feed, etc.

### Video abstracts

Video abstracts are another promotional product being used more and more to publicize articles. These are different from

AudioSlides in that they typically use little or no on-screen text and instead focus on the author talking into a camera, sometimes coupled with animation, embedded charts, or other visuals.

The *Journal of Visualized Experiments (JoVE)*, launched in 2007, provides one of the earliest examples of video abstracts. In fact, *JoVE* markets itself as a “peer-reviewed video journal,” which is a pretty unique concept. They embed a professionally-produced video alongside each traditional full-text article on their site, documenting the experimental method used, and featuring a video interview with the author describing the study and its relevance.

Making a video abstract can be as simple as using your smartphone to record yourself talking in your office, or as complicated as a professionally-edited *JoVE* example. For something in between, a quick Google search turns up tons of free or cheap software applications that let you edit videos, add music, credits, splice in graphics, and all kinds of other fancier tricks. All it really takes is someone talking into a camera about something that matters to them, and suddenly that thing takes on an added level of interest or relevance to the user as well.

### **Graphical abstracts**

Graphical abstracts might be the easiest way to get started. They’re a simple still image that typically presents the results of the paper in a visual format. They don’t usually work alone, like AudioSlides or video abstracts, but instead are presented alongside the text abstract.

These can be easily made using PowerPoint too; you don’t need fancy graphic software like Photoshop. You can create a slide that has your data graph on it, or some other descriptive element, add circles, arrows, or other shapes or objects, and then save the slide as an image file like a JPG.

While AudioSlides and video or graphical abstracts may be fairly easy to create, they still require extra time and effort. That leads to the obvious next question: are they worth doing?

While there haven’t been a lot of studies on the impact of these tools yet, a 2013 analysis (Spicer, 2014) looked at video abstract usage data for the *New Journal of Physics*, tracking stats for video abstracts on the *NJP* site and also on YouTube for *NJP* articles. It found that the top 25 and top 100 most-read articles had a significantly higher presence of video abstracts than articles overall in the data set. That seems promising.

We also know from research on instructional design that brains learn better when information comes into them via multiple sensory input channels (Mayer & Moreno, 2003), which means that adding visuals or audio to plain text is almost always helpful. Replace some plain-text bullet points with something that engages a different part of the brain, employing the ears as well as the eyes, e.g., and you spread out that brain’s capacity to take in and retain the information.

### **Social Media Platforms**

As librarians and information specialists, we can help researchers promote their work by telling them about and helping them use new multi-media products, and by promoting research our staff publish ourselves, on behalf of our institutions or libraries or organizations. We can also – and should also! – be teaching them how to do it themselves.

In terms of the various social media platforms used for research dissemination, many of us already know about and are using the most prominent ones like blogs, Facebook, and Twitter, and we already know these are effective for dissemination, especially if they are used together. Two studies of the impact of those tools on article downloads found that blogging plus release on Facebook, Twitter or another platform increased the number of clicks on a paper (Allen, Stanton, Di Pietro, & Moseley, 2013; Shema, Bar-Ilan, & Thelwall, 2012).

Not only can we help educate our staff and patrons about the use of the major platforms like Facebook and Twitter, but there are also several newer platforms specifically designed for researchers to use to connect to and

network with others in their fields or related fields all over the world. These may be an even better place for researchers unused to digital dissemination to begin getting involved, as they have lower barriers, particularly in terms of time requirements, compared to applications like Twitter, which require frequent updating and carefully crafted messages.

The most popular of these research-focused social media platforms appears to be ResearchGate, which is kind of like LinkedIn for science. Users create profiles using their real identities and fill in detailed information about their specialties and interests. You can post citations or pre-print or open access full-text versions of your papers (depending, of course, on publisher restrictions), participate in discussion forums, and network with others in your field or beyond.

In a survey of 3000 scientists and engineers published in *Nature* in 2014 (Van Noorden, 2014), more than half the participants reported using ResearchGate “regularly,” beating out every other social media and research-profiling site except for Google Scholar.

Academia.edu is a similar platform, and a PLoS ONE study (Niyazov et al., 2016) compared papers from the same journal and found that a paper uploaded to their site received 16% more citations in a year than a similar one not online at all. Over 5 years, that number was 69%. It also found that articles posted to Academia.edu had 58% more citations over 5 years than articles only posted to venues like personal or departmental home pages.

On the other hand, Academia.edu has also gotten into some legal trouble, worth mentioning here because it impacted individual scientists as well as the network itself. In 2013, Academia.edu was sued by Elsevier for allowing researchers to post thousands of copyright-protected post-print journal articles in downloadable format on their profiles. Elsevier sent take-down notices both to the platform *and* to the individual researchers, something that triggered a backlash among many of the scientists, who

angrily declared Elsevier to be “unrepentant enemies of science” (Taylor, 2013).

When teaching your staff how to use these various sites, then, it is important to also educate them on what is and isn’t legally allowed in terms of posting full-text articles.

Many publishers, for example, allow for pre-print (manuscript) versions of papers to be uploaded onto institutional websites or into repositories, where they can be shared with the world at large, and those are outlets worth exploring when it comes to dissemination too. (A great database that can be used to figure out which publishers allow what, by the way, is the SHERPA/RoMEO system:

<http://www.sherpa.ac.uk/romeo/index.php>)

Copyright questions aren’t the only thing we can help our staff navigate as they start using these tools, though. There are also some valid concerns related to the use of informal platforms to share formal information, not just because the risk of misinformation is high, but also because increasing your visibility can make you a target for criticism as well as praise.

This is an issue the platform PubPeer has had some major issues with. In fact, that platform has been so controversial at times in this way that it has spawned a whole new buzzword: “Vigilante science.”

PubPeer is a social media site that markets itself as an “online journal club.” It can only be used by published authors; to sign up, you have to provide the DOI for your published paper and be verified as one of the authors of said paper. But once you’re on there, you can set up an anonymous account and post anonymously.

The site is mostly focused on “post-print” or post-publication peer review: scientists talking about papers that have been published. Twitter is also frequently used this way, by the way. For both platforms, the ability of a user to be completely anonymized seems to be a driving factor in the risk of aggressive or angry backlash to a comment or even an individual or research project as a whole. On Twitter, those anonymous comments could be from anyone, but on PubPeer, the registration

requirements mean the anonymous comments are coming from a published author, something that seems to sometimes make the aggression worse, as some scientists have been accused of using their anonymity to sabotage the work of competitors in their field (Oransky, 2015).

However, Twitter post-print peer-review has also had some remarkable successes, demonstrating that post-print, social-media-based peer review can play a role in improving the quality of science overall. In 2012, for example, NASA gave an extremely-hyped press conference announcing the results of a study, soon to be published in *Science*, that had found that a bacteria was able to use arsenic to build its DNA. This, if true, would have been a huge discovery, with the potential to unravel most of what we thought was certain about the building blocks of life on Earth, not to mention life on other planets.

When a copy of the pre-print manuscript was added to a repository online ([arXiv.org](https://arxiv.org/)), however, scientists around the globe started digging into the methods and results, finding a lot of unanswered questions and unsubstantiated conclusions. They took to Twitter in droves to discuss it, and the hashtag #arseniclife was born, quickly becoming a sensation (Rosen, 2012). NASA pushed back. *Science* pushed back. But ultimately, a group of open-science advocates in the microbiology field attempted to replicate the original study and couldn't, providing a clear refutation of its key findings (Hayden, 2012). *Science* eventually published two papers criticizing the original study, though, to the great frustration of many in the field, they still have not formally retracted the original paper.

One of the things that made this controversy of particular interest to the information specialist and librarian fields were questions it raised about "the proper way to engage in scientific discourse." NASA in particular tried to downplay the backlash against the paper by referring to the critics as "bloggers in pajamas." But, critically, most of those bloggers and Tweeters were not commenting anonymously – and, in fact, they were largely wearing lab coats, not jammies.

What NASA failed to understand was that the "proper way" to conduct scientific discourse, as well as scientific dissemination, is constantly evolving. Frankly, the "proper" way probably ought to simply be summed up with the phrase "whatever works." As disseminators, we librarians/information specialists need to stop being so fixated on the ways in which we think people *should* access information, and instead shift our focus to the ways in which they *are already* accessing information, and try to facilitate that access by maximizing those three criteria: accessibility, relevance, and credibility.

How do we do that?

## Six suggestions

1. First of all, **YOU BE YOU**. Your presentation of your information and your critiques of others' are only useful if they can be readily judged as credible. That means no anonymous accounts. Not only that, but you and your research staff should be as detailed as possible about your credentials, experience, and focus when setting up social media accounts.

2. Improve "accessibility" by writing clearly and simply. Consider the audience you are writing for; know who they are and what information is most useful for them. Read their posts and tweets to get a sense of their language, and then write for them, not for yourself.

3. Further facilitate confirmation of credibility by describing things concisely but completely and referencing relevant citations and sources. The goal is to make it easy for the person reading your tweet or Facebook post to assess the legitimacy of the information.

4. Monitor, moderate, and manage online discussions of the work you are disseminating. Watch for replies to your tweets or your blog or Facebook posts, and don't let misinterpretations or misinformation about the work stand uncorrected. At the same time, remain professional and reply with care and respect, as well as with accuracy.

5. Get an ORCID ID at [orcid.org](https://orcid.org/), and include that ID in your user profiles on

platforms so that users can quickly and reliably identify you and your other works. ORCID IDs are kind of like DOIs for people: they're permanent identifiers for individuals, particularly helpful in resolving the issues created by inconsistent author name formats in papers and databases.

6. As with most things: keep it simple. Before you post something, always think about those three criteria for information consumers: accessibility, relevance, and credibility – am I conveying these three things quickly and clearly? If not, how can I do better?

Dissemination is one of the most vital parts of science, and it is a realm in which librarians and information specialists have uniquely relevant skills. The old ways worked great for a very long time, but as technology changes, so too do our users and their needs. The Internet, social media, and other novel

communication tools, like AudioSlides and video abstracts, have massive power to enrich not just dissemination and science, but our field as well. Lean in, librarians! Now is your chance to make yourselves more relevant than ever before!

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# CICAS: Toward a critical framework of information literacy in Addiction Science

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## Abstract

*This paper is an attempt to suggest a critical framework for addiction information literacy. Since the ACRL information literacy standards were updated in 2015, our field is in need of guidelines about how to translate its general principles to meet the special needs of our diverse audiences. The authors wish to identify the unique application of the ACRL standards to the field of addiction science. An applied and transdisciplinary science requires a particular emphasis on evaluating sources and a special regard for the sensitive nature of the information sought. The authors' exploratory information literacy sessions have been presented in various settings with researchers ranging from post-docs to distinguished professors; counselors at the bachelors, masters, and continuing education levels; undergraduate and graduate students; and the general public. This presentation draws upon these sessions and calls for the collective effort of substance abuse librarians to provide both a general overview and specific customized training programs for our distinctive field.*

## Keywords

Information literacy, Addiction Science, Infrastructure

## Introduction

In 2015, the Association of College & Research Libraries (ACRL) updated its definition of the information literacy (IL) competencies it had first developed in 2000.

ACRL defines this framework as a "set of frames, or lenses, through which to view information literacy, each of which includes a concept central to information literacy, knowledge practices, and dispositions" (Association of College and Research Libraries, n.d.). Contrasting the 2015

definition with that from 2000, the association has moved beyond the basic “need—search—find—use” understanding of information, and instead places a greater emphasis on its creation, its value, and the ethical standards surrounding it. It is essential for those in the information profession, particularly in the heart of the information age, to carefully articulate a general set of competencies for themselves and their constituencies. This new framework serves as a petition to develop this understanding and customize it for the various academic and professional settings in which it may be useful.

The Addiction Science field is in a prime historical and logistical position to rapidly adopt a set of IL guidelines, should they be properly developed. In terms of history, the field has had a strong affiliation with the information profession since its modern inception in the late 1930s and early 1940s. The Center of Alcohol Studies, the first interdisciplinary research center devoted to alcohol and its problems, owes its existence in no small part to a project funded by the Carnegie Corporation to the Research Council on Problems of Alcohol, designed to review, abstract, and organize the alcohol literature to date (Jellinek, 1941). Because the field emerged from the academic dark ages of the post-prohibition era, it was essential that the alcohol question not be resolved simply by appealing to moral arguments, but that enough information should be made available to take reasonable, fully informed action on the matter. Thus, its early founders Norman Joliffe, Howard Haggard, E. M. Jellinek, and Mark Keller placed a strong emphasis on a systematic, organized, and sustainable documentation process, one that was wholly original and unique to this nascent field.

Second, addiction science is well-organized along professional lines, which even a cursory look at the landscape makes evident. Readers of this publication are likely familiar with the Association of Substance Abuse Librarians and Information Specialists (SALIS), devoted to information professionals in the field. Similarly, and on a larger scale, NAADAC is a professional organization that

allows for the communication of essential information to alcohol and other drug counselors and others who aim to translate knowledge into practice. INCASE, the International Coalition for Addiction Studies Education, deals with educational standards in the field. The International Society of Addiction Journal Editors (ISAJE) meets annually to discuss the trends, challenges, and opportunities of the publishing arm of the field. The Research Society on Alcoholism (RSA) and the Society for the Study of Addiction (SSA) are just two of the many international organizations comprising the field’s top researchers. And one of the most promising organizations is the emergent International Confederation of ATOD Research Associations, or ICARA, which aims to serve as the umbrella organization or metasociety to which the rest of the field can adhere. Such a highly organized set of societies offers an opportunity to quickly and efficiently disseminate protocols and standards, as evidenced by instances like the 1997 Farmington Consensus, which established some shared procedural and ethical “ground rules” for addiction journals (Edwards, Holder, West, & Babor, 1997).

With this opportunity ahead of us, let us now turn to a brief explanation of each of the six ACRL IL frames, and how they are currently applied and might be further developed in the various addiction professions. What follows is merely a thumbnail sketch of each frame, and is by no means comprehensive or exhaustive. The aim of this article is to serve as a beginning point, a discussion starter, with some ideas and a few concrete examples of how we might redefine our roles in a rapidly changing profession within a rapidly growing field.

## **Frame 1: Authority is constructed and contextual**

Because addiction science is a multidisciplinary—oftentimes *transdisciplinary*—field of science, experts spanning the academic spectrum often attempt to work in harmony to address the public health issue of alcohol and drug use

from several perspectives (Fuqua, Stokols, Gress, Phillips, & Harvey, 2004). Inherent in a field made up of several disciplines is the question of who can speak with authority on the broad topic of addiction. The various disciplines that make up the field lead to a multitude of perspectives, equally authoritative, and arguments from one discipline may very well conflict with, if not outright contradict, those from another. When addiction is understood through a psychological or sociological lens, the focus is often on cultural or individual motivations to use substances. Simultaneously, addiction research is taking place in the natural sciences, applying the principles of biology, chemistry, or genetics to the issue. Further, law and policy play an enormous role in shaping the culture and structure that may lead to addictions, so understanding the socioeconomic and legal frameworks are important. Other disciplines can easily be added into this mix—an expert philosopher, anthropologist, historian, or even information scientist all see the problem through their unique lenses. What is ultimately essential to anyone working in the field in any capacity is to know what discipline any individual argument is grounded in, and understand that the idea of authority in this field is a constantly shifting concept, ultimately dependent on who is speaking, on that person's educational and experiential background, and in what context that person is speaking. As an example, nothing precludes a psychologist from making a claim about the role of information in addiction, but that person's authority on the subject is likely to be eclipsed by someone more heavily invested in that particular aspect of the field, and vice versa.

As a way of applying this principle to practice, an understanding of the concept of online presence is important. When someone makes a claim, be it in a scholarly or popular forum, it behooves the reader to attach that claim to the person making it, and by extension to that person's educational background, experience in the field, previous work on the topic at hand, organization represented, etc. And with an understanding

about the various venues to which one's online presence is established, particularly in academia, these bona fides can typically be compiled and evaluated in a fairly comprehensive way. Consider the rapidly emerging venues for researcher profiles, which have had major implications on scholarly communication and how researchers are perceived outside of their fairly stagnant and cautiously curated CVs (Ward, Bejarano, & Dudas, 2015). A working knowledge of this landscape can lead to a better understanding of the more popular scholarly social media tools and their unique uses, such as ResearchGate, ORCID, Academia.edu, Mendeley, and MyNCBI, to name but a few.

This of course raises the question of why you should be listening to the authors of this piece. By what or whose authority can we support our claim that online profiles are an important and useful way to verify one's authority, and thus worth paying attention to? A cursory look at our online presence might lead one to our profiles from LinkedIn, ResearchGate, or PubMed. Advanced degrees in linguistics and in labor and employment relations appear, which may give pause, as these are seemingly irrelevant to this topic! But a little further investigating will show library and information science degrees, which perhaps lends some credibility. What should also emerge is a consistent pattern of documented experience working intimately with addiction research faculty, instructors, counselors, journal editors, and other information professionals to assess and meet specific information needs. At the risk of singing our own praises, we could venture to say that these credentials should serve to at least meet the minimal requirements of authority on this narrow topic.

## **Frame 2: Information creation as a process**

With our credentials established, we move on to the second frame, which may be the most relevant to librarians and information professionals—namely, understanding and

articulating the *processes* involved in information creation. Librarians' unique skill set allows for the evaluation of the infrastructure of the knowledge base. Of particular interest in the era of the Social Web is that most everyone is now both a *consumer* and *contributor* of content, and information no longer travels primarily in a single direction. Information is now more than ever an iterative, self-perpetuating cycle, building upon itself, including in the health sciences, which includes the study of addiction (Thackeray, Neiger, Hanson, & McKensie, 2008). The evaluation of the innumerable knowledge creators (harkening back to Frame 1), and understanding the use of different voices in the scholarly and popular conversation (foreshadowing Frame 5) is paramount. Particularly in a field as sensitive and widespread as addiction science, it is crucial to be able to detect, tease out, and evaluate each step of the information creation process, in all of its forms.

This frame is a useful one, because information products can be distinguished and organized by the ways they are created. One of the first lessons that CAS provides to undergraduates is the ability to distinguish between popular and scholarly materials. Even though a scholarly journal may physically look like a magazine, the processes generating them vary by leaps and bounds, which ultimately determines how each should be evaluated. To an established researcher, of course, this fact should be obvious. But the addiction science field does not begin and end with scholarly research. Counselors, educators, and everyday citizens are not usually getting their health information directly from scholarly research, but instead through popular media formats like the daily news, magazines, blogs, or curated websites. And because these venues are exploding in form and function, it is always of the utmost importance to know how the information being provided was created.

A peer-reviewed journal, because of its inherent conservative and deliberate methods of creating and distributing information, is considered the gold standard in terms of

credibility. An article found in a magazine, while not peer-reviewed, likely had to at least go through some editorial process. Things like social media accounts or personal blogs are often directly posted with no intermediaries. By stressing the process of information in each of these cases, it becomes clearer what is behind the final product, and how much trust one can put in its claims. Confusing the matter more, expert researchers are often represented on popular health blogs, providing their opinion on addiction-related topics. A keen eye is necessary to distinguish between the degree of authority of different types of texts, which can often come from the same author.

Further complicating matters are the levels of credibility established within each of these admittedly overly broad categories. For example, what exactly constitutes a peer-reviewed journal? There is no one definition of peer review. Some journals demand peer review be blinded, while others advocate for reviewers to be transparent (Van Rooyen, Godlee, Evans, Black, & Smith, 1999). Arguments arise over the definition of a "peer," over its effectiveness, and whether it is reaching its ultimate aims (Smith, 2006). This is to say nothing of so-called "predatory publishers" who may shirk peer review altogether. And there has of late been a focus on some of the issues in academic publishing that in years past were considered to have been minor at best in the perceived self-correcting world of science, including plagiarism and fabricated data. This has led to some resources devoted solely to the process of scholarly knowledge creation and its issues, such as the Society for Scholarly Publishing ([sspnet.org/](http://sspnet.org/)), its subsequent blog *The Scholarly Kitchen* ([scholarlykitchen.sspnet.org/](http://scholarlykitchen.sspnet.org/)), and the more narrowly-focused but incredibly useful academic watchdog site Retraction Watch ([retractionwatch.com](http://retractionwatch.com)).

These are but a few examples of a much broader concept, but the important takeaway is that by focusing on the process of information creation, one can potentially spot potential systemic issues at their root, which

can lead to more sustainable processes in the future.

### Frame 3: Information has value

The explosion of information via the internet has created myriad ways to use information. Information is valuable inasmuch as it is a commodity, in its educational and influential value, or in the general enlightenment and understanding it can provide. For the sake of brevity, we will discuss only the first of these values—information being used to generate revenue, and a few of the ways it impacts academic research.

#### *Information as a commodity*

Perhaps the most obvious example of information being used as a commodity is in the subscription model of academic journals and databases. To fully understand this use, we must ask why these institutions charge a fee for information that is so often publicly funded. Part of the answer can be determined by building off of Frame 2, looking again at the process of disseminating high quality, well-organized information for maximum discoverability. Editing, copy-editing, peer-review, vetting, indexing, typesetting, file format conversion, and all of the rigorous (perhaps tedious) work necessary in producing a top-quality product comes at a cost, with some estimates ranging around \$3,500-4,000 per article (Van Noorden, 2013). The cost involved is not always monetary (some of the work is technically free, e.g., peer review), but a not insignificant time commitment is also required to produce a worthwhile product.

Some publishing companies may take advantage of the leverage they have, leading to skyrocketing subscription rates and so-called “Big Deals,” which package journals together and charge a flat fee. These packages often include journals that a library might otherwise not subscribe to, and is a shift that has been criticized on many grounds, including potential antitrust violations (Edlin & Rubinfeld, 2004). This animosity has in no

small way contributed to the emergence of the Open Access movement.

But the OA model also treats information as a commodity. The theory is of course that the products of often publicly-funded research initiatives ought to be available to the public, free of charge. Presumably there is a vetting process and editorial board and all the other accoutrements of subscription journals, but the money to fund this process often comes from the authors (via their grants or directly from their pockets) or the institutions paying for the privilege of being seen and shared. The value in this model is that, unfettered by pay walls, proliferation and dissemination of information is *fast*. The danger in this model is the potential conflict of interest that arises when it becomes more profitable to publish a higher quantity of articles. The emergence of “predatory publishers,” those who publish with very low standards, presumably with a profit motive, has been an unfortunate consequence of this model, and the addiction field is not immune (Babor & Ward, in press).

For a more general information-as-commodity example, there is of course Google’s model. Put simply and admittedly superficially, this model is funded by advertiser dollars. The more clicking and moving around on the web, the more money is generated. Quality is sacrificed for efficiency, which encourages a very superficial interaction with information (Carr, 2008).

Copyright law and policies are important to understand in this context. While sometimes Google and Open Access journals are presented as a panacea, some of the very best information available is still found in journals and books that require a subscription or appear only in physical form. A major part of information literacy is in the understanding of what value libraries and information centers can add to the research process, not only as intermediaries to match the best information to the user’s needs, but also as subject experts on how information can be accessed, used, and displayed within the legal limits. Copyright is a complex law, attempting to foster creativity and productivity through policies that give incentive to knowledge and

information creators, while ensuring the maximum access possible without infringing on their rights.

## Frame 4: Research as inquiry

Just as information creation is a process (Frame 2), so is information seeking. Anyone involved in the addiction field ought to be familiar with this process. Perhaps the best way to articulate this peculiar phrasing of “research as inquiry” is to distinguish between *searching* and *researching*. In librarian parlance, the former is usually presented as “ready reference” questions—that is, searching for known items. The latter, however, can be understood as the backbone of this entire endeavor to support a common sense set of Addiction Information Literacy competencies.

First, those in the field should be aware of the best group of resources for the topic of addiction, how to access them, and where to find more. For example, when training best research practices at the Center of Alcohol Studies, it is imperative that our students walk away with a solid understanding of particular databases that address addiction and to which Rutgers University has access (in our case, we primarily use PsycINFO, Academic Search Premier, and MEDLINE). Additionally, there are numerous open access and governmental resources that those in the field should be familiar with, including the Substance Abuse and Mental Health Services Administration (SAMHSA) along with its Data Archive (SAMHDA), MEDLINE Plus, and the PubMed and PubMed Central databases. A primer on the benefits (free!) and drawbacks (often poorly organized or curated) of using free databases like these should be established. Advanced training can even be provided for lesser known items, such as grey literature.

Once the resources have been identified, it is equally important to learn how to best use them. A primer on basic principles of searching ought to be given, including setting search strategies (see Frame 6), an understanding of taxonomies and controlled vocabularies, how to best balance between

precision and recall of search results, and when to use more advanced techniques like footnote chasing. Perhaps most important in this process is the understanding that research is an iterative process, in which the information gained from preliminary searches should be productive, and lead to more refined and targeted searches as the process evolves. Further, the knowledge that a single concept can be represented by a multitude of search terms, or conversely, a single search term represented by a multitude of concepts, is essential. And the method of organizing these concepts and their corresponding terms is as multitudinous as the indexes available.

Finally, the evaluation and organization of these results should be approached in a systematic manner. The evaluation of an article, website, or other research product is partly tied to Frame 1 (authority), but that is just the first “A” in the oft-used library teaching tool, the CRAAP test, an acronym which also covers the assessment of said product’s currency, relevance, accuracy, and purpose (Wichowski & Kohl, 2012). And once these items have been vetted, the next step is how to properly store and organize them for use. We strongly advocate the use of a reference management tool, be it RefWorks, Zotero, EndNote, or Mendeley, to name but a few.

Training in this area cannot realistically be more than a crash course in this frame, as the bulk of the information profession is dedicated to it. We can provide a general overview of how information is organized, particularly in databases but also on the web and in print material, and how to go about accessing these information sources, and we can customize training sessions according to our audience, but ultimately, a successful session focusing on this frame should result in an understanding that the information profession exists for a reason, and at best will serve to point out that the recipient often does not know what he or she does not know.

## Frame 5: Scholarship as conversation

Scholarship can be thought of as an ongoing and endless conversation, as it is built on the past, and its products of inquiry are developed alongside peers. Information and knowledge are not produced in a vacuum, but rely upon the input of those who have come before and those simultaneously pursuing similar topics, while being designed for future generations to further build upon. This frame correlates strongly with the concept of translational science, in which research is used in future research, in clinical practice, in everyday life, or in setting policy.

Because research is disseminated to so many diverse populations, this “conversation” takes place in a variety of venues. A core competency of this frame is the ability to understand one’s audience before, during, and after designing a research agenda. For example, if the subject at hand is oriented to peers (e.g., this article directed to fellow substance abuse librarians) then an assumed base level of knowledge on the topic can be assumed, and one can delve a bit deeper into a topic, using insider terminology and field-specific jargon.

But a piece of scholarship is only fully understood when placed into the context of the larger whole. The Center of Alcohol Studies, for example, is organized by division, with research working as a separate entity from education & training, which itself is separate from the information services division and its publication arm. Researchers often speak to other researchers. Education & training attempts to translate research for practicing addiction professionals, including counselors and clinicians. Publication of scholarly material is meant to advance science, but can also be translated into a lay summary for these audiences. The information division, ideally, would be entrusted to assess the needs of each of the populations being served, and provide customized services to further optimize performance. The latter would potentially have the luxury of being able to take a “big picture” view and analysis of the

field, as it is not beholden to any one specific part of it. Our specialty as information professionals lies in *not having a specialty*, and we should use this unique position to determine the field’s direction, gaps, needs, and future directions.

## Frame 6: Searching as strategic exploration

The final frame can be seen as the fulfillment of Frame 4 (Research as Inquiry). The strategy of a search ultimately depends on the type of investigation taking place. Once an inquiry is articulated, its scope, direction, and type must be defined. Selecting the database or sources of information and developing search terms, understanding the field’s typical terminology and potential synonyms depending on the database used, and more knowledge practices and dispositions should come to the researcher over time.

As mentioned at the top of this article, the addiction field comprises several disciplines, so in order to adequately run a systematic review within the current landscape of resources available, one must comb through multiple domain-specific databases. Beyond the three core databases mentioned earlier (PsycINFO, MEDLINE, Academic Search Premier), a comprehensive search might also require a user to explore Biometrical Reference Collection, SCOPUS, ScienceDirect, Web of Science, Westlaw, LexisNexis, and even open resources such as Google Scholar and the aforementioned government-run websites. Due to the differing coverages of these databases, there is unfortunately not a lot of overlap in their respective results. While there is no one true signal for when a search has been exhausted, a good sign is when redundancies begin to appear even when using different search terms and searching within different databases. Because these redundancies tend to be few among these databases, one can never be certain that all of the most relevant literature has been found on a particular topic.

The full realization of this frame in the addiction field would ideally be a one-stop

database for the information needs of an addiction researcher. While no database can claim to be entirely exhaustive, such a tool could go a long way toward making research in the field more efficient, and simplifying the exploratory process that embodies this frame. Some previous attempts have been made to provide a tool of this nature, most prominently the ETOH database, which concentrated on alcohol literature, and was canceled in 2003. In retrospect, the decision to cease the database instead of build upon it has proven to be shortsighted, as its absence is still felt in the addiction field over a decade later. To quote alcohol historian William White in reaction to closures like this one, “it feels like the field has died and its most valuable possessions are being auctioned” (White, 2013). To properly execute an ideal database of this type goes far beyond the scope of this paper, but the idea serves as an exemplar of how the addiction information profession can add value to a field by assessing the strategic exploration process, determining areas in which that process may be lacking, and formulating innovative solutions to fill those gaps.

## Conclusion

This paper explored the potentials of the 2015 updates of the Information Literacy Competency Standards for Higher Education for the transdisciplinary field of addiction science. In order to conceptualize each frame (Authority Is Constructed and Contextual; Information Creation as a Process; Information Has Value; Research as Inquiry; Scholarship as Conversation, and Searching as

Strategic Exploration), the IL Standards were interpreted and evaluated in terms of their prospective application in addiction science and demonstrated by multiple examples from the field.

Translating the frames into addiction science indicates a strong potential if adopted as guidelines in the research process. A group uniquely positioned to facilitate adding value to research by promoting addiction information literacy consists of information specialists and librarians, who possess the skills and abilities to understand the implications of the framework in researching addiction science and to educate addiction researchers. The development and adoption of guidelines customized for addiction science would greatly enhance the research experience and research output. In the process of understanding IL Standards, researchers could benefit tremendously from learning to appreciate information, gaining a better understanding of how information is organized, updating their essential searching skills, respecting the implications of processes over end results, and exploring the latest venues in scholarly communication, including their hazards and benefits.

Information specialists have always placed a strong emphasis on the development and dissemination of information. Promoting addiction science information literacy by structured instruction, including best practices for the translation of research findings, could be another area of expertise to augment research.

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# Marijuana policy update

## One year later, after SALIS 2015

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*The 2016 SALIS/AMHL conference featured three presentations offering different but complementary perspectives on issues around drug policy reform relating to the non-medical use of marijuana. This paper provides a summary of the key messages of these presentations under one umbrella with the purpose of tracking the changing landscape in marijuana policy since the 2015 SALIS Conference one year earlier. Dr. Julie Netherland from the Drug Policy Alliance presented a brief history and update of the legal status of marijuana and insights into the harm that criminalization has inflicted on both individuals and the state. She also presented recommendations for reform as well as issues to flag in the process. Being in Colorado, one of the first U.S. states to legalize adult recreational non-medical marijuana use, conference attendees were fortunate to learn from Elyse Contreras and Ali Maffey from the Colorado Department of Public Health and Environment about the control of production, distribution and use in Colorado as well as the strategies used to ensure safe use and the dissemination of research based health messages to the public. Finally, Isabelle Michot, OFDT, presented on the complex situation in the European Union, where the public debate is being influenced by the reform of drug laws elsewhere, conventions are being challenged, drug use and attitudes are diverse, and changes around use and possession of marijuana have been made in some countries.*

### **Keywords**

Cannabis; Marijuana; Decriminalization; Policy; Legalization

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Dr. Julie Netherland, Drug Policy Alliance, *Marijuana Policy Reform: Where have we been and where are we headed?*

Elyse Contreras, Retail Marijuana Health Monitoring Coordinator, and Ali Maffey, Retail Marijuana Education Program Manager, Colorado Department of Public Health and Environment, *Legalized marijuana: What can we say? How should we say it? And how do we protect public health?*

Isabelle Michot, Co-author of this paper, Observatoire Français des Drogues et des Toxocomanies (OFDT), *New cannabis regulations implemented in Americas; Perceptions and repercussions in Europe (France, United Kingdom, Italy, Spain, Switzerland)*

## **Introduction**

At the SALIS 2015 conference in San Diego, experts in law, drug and alcohol policy and campus prevention were invited to provide insights on policy issues, options and challenges faced by jurisdictions planning to move towards decriminalization or legalization options for non-medical, recreational marijuana use (Lacroix, 2016). This includes Canada and many US states, and dovetails with the mainstreaming of cannabis use for medicinal purposes.

Being in Colorado for SALIS / AMHL 2016, provided an excellent opportunity to continue the discussion. The passage of a year undoubtedly brought new data, research and issues. As Colorado is one of the few US states where, to date, marijuana use is legal for adult recreational use, it was beneficial to learn of its progress and experiences in rolling out legalization, balancing public health and safety with controlled production and accessibility for the public. Many view Colorado and Washington State as 'petri dishes' for study. Moving beyond the state level, input from the Drug Policy Alliance was beneficial for the broader US perspective with a harm reduction lens. Adding to this, the European perspective provides a well-balanced, macro level perspective.

This paper incorporates information provided by the speakers whose themes naturally fit together in a complementary way.

## **Marijuana policy reform**

### **History**

It is always helpful to have a historical perspective to current issues. Dr. Julie Netherland provided a chronology for marijuana. To elaborate, cannabis/marijuana has been used medicinally for centuries. More recently, in the late 19<sup>th</sup> and early 20<sup>th</sup> century in the English speaking world, it was classified as a sedative, hypnotic and anticonvulsant agent as indicated in the *British Pharmacopoeia* and the *US Pharmacopeia* until 1932 and 1941 respectively.

In 1973 it was listed under Section 1 of the *US Controlled Substances Act*, rendering it one of the substances subject to the US 'War on Drugs'. This included the prohibition of use for medicinal purposes. This was part of a global movement towards control.

Like the US, United Nations drug conventions classified marijuana among the most dangerous substances, which has resulted in serious societal consequences, given that this is a popular drug used by many occasionally and without harmful consequences.

Moving on in the chronology, in 1996 medical marijuana law reform began in the US and by 2007, state licensing and distribution for medical use. In 2012 both the states of Colorado and Washington legalized the non-

medical use of marijuana. In 2014 Uruguay also legalized non-medical, recreational use.

As of May 2016, 24 states have medical marijuana laws, 16 states have decriminalized marijuana and 5 have legalized non-medical use. The trend towards state sanctioned medical use and the decriminalization / legalization of recreational use in the US is apparent. However, federally in the US, marijuana remains prohibited.

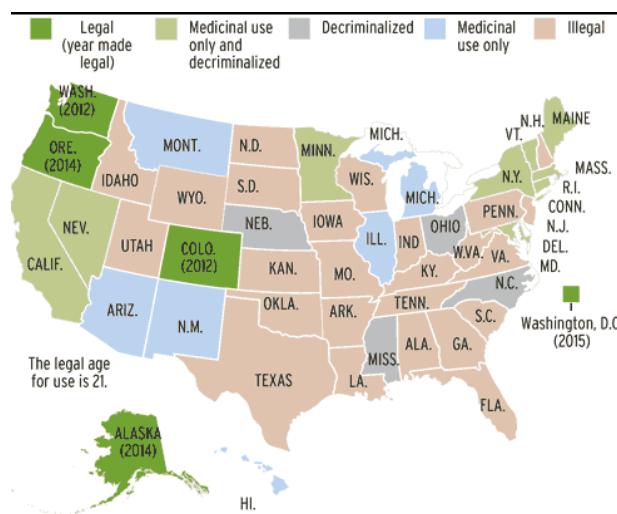


Figure 1. Provided by Drug Policy Alliance

## Consequences of Prohibition Policy

Dr. Netherland addressed some of the consequences of the War on Drugs and the State versus Federal challenge in legislation. One such challenge has been the restriction on banking for marijuana-related business, including those providing medical marijuana. This has resulted in a cash economy which is a serious public safety issue and has affected the perceived legitimacy of these businesses. Since Dr. Netherland's presentation, the Senate Appropriations Committee has allowed banks to do business with marijuana-related businesses. However, this is an example of the type of roadblock resulting from inconsistent law and policy.

Then there is the issue of the criminal justice system. In 2010, over 50% of drug-related arrests in the US were due to marijuana possession or marijuana sales / manufacturing. Arrests over time climbed

steadily from 1970, up to over 800,000 and holding steady from 2006 to 2010, in spite of the trend towards law reform.

Not only do arrests and incarceration cost the state an enormous amount of taxpayers' money, but there are personal consequences that are experienced disproportionately by Black and Latino Americans. These include: being denied or losing a professional license; for students, being denied financial aid; being denied public housing and other types of social assistance; being barred from adopting a child; for immigrants, being deported.

These stigmatizing consequences also carry an economic cost. Dr. Netherland reported an estimated economic loss of not hiring those with a criminal record to be 57 – 65 billion dollars. Looking at the other side of the coin, legalizing marijuana can raise money for the public coffers. In Colorado, a year after legalization, marijuana sales tax generated \$3.5 million.

## Reform

Public support in the US for legalizing marijuana continues to grow, in particular among the younger cohort – a Gallup report found, in 2015, 71% of those born between 1981 and 1997 supported marijuana legalization and support continues to rise. What are key issues to address in the changing landscape of marijuana availability and control?

Dr. Netherland flagged the following: the issue of persistent racial disparities; repairing past harms affecting the lives of Americans, in particular in communities of colour; determining who has access to the industry and profits; the effect on the ongoing 'War on Drugs'; balancing regulation and free market forces; continuing to research a range of issues relating to marijuana use and marijuana policy reform.

The Drug Policy Alliance advocates that marijuana be removed from the criminal justice system and regulated like alcohol and tobacco. Monitoring this organization's work is recommended for keeping up to date with news and its research and recommendations

as marijuana legalization continues to break new ground.

## **Checking in on Colorado**

### **Legalized marijuana: What can we say? How should we say it? And how do we protect public health?**

It is beneficial to learn how Colorado, one of the first US states to legalize recreational marijuana use, through a commercial model with government controls, works to inform and educate the public of the potential health and safety issues, responsible adult recreational use, and the prevention of youth access and use. This is the responsibility of multiple programs within the Colorado Department of Public Health and Environment (CDPHE), funded by recreational marijuana sales tax revenue. It should be noted that state regulations and legislation have incorporated lessons learned from alcohol and tobacco. CDPHE has a mandate that ranges from research to public education and it is recommended that the reader visit the CDPHE website for a complete overview of its work. The gateway to this information is: <https://www.colorado.gov/cdphe/retail-marijuana>. Here are selected highlights of the presentations made by Elyse Contreras and Ali Maffey from CDPHE.

### **Work of the CDPHE: Research and Knowledge Transfer**

Keeping up to date with the research literature, conducting surveillance research specific to Colorado, and subsequent knowledge translation are part of the work of the CDPHE. The Retail Marijuana Public Health Advisory Committee of CDPHE is responsible for rigorous literature reviews on several topics, including marijuana use in pregnancy and lactation and use among adolescents and young adults. Reviews are conducted of the peer-reviewed literature and the evidence is rated using a system similar to the GRADE (Grading of Recommendations Assessment, Development and Evaluation) system. Findings are grouped by: Population; Exposure (level of use); Outcome;

Demographics. Exposure is defined as follows: Occasional Use (less than weekly); Regular Use (weekly, 1-4 days per week); Heavy Use (daily or near daily, 5-7 days per week); Recent Use (within the past hour). This builds a body of evidence, routinely updated and classified as follows: Substantial; Moderate; Limited; Insufficient; Mixed. The evidence is translated into Public Health Statements, educational resources to support the work of community agencies and health providers, and public messaging, disseminated through <http://www.colorado.gov/marijuana> and other campaigns, listed below.

An example of translating evidence to public messaging:

“Substantial evidence was found that adults who use marijuana heavily are more likely than non-users to have memory impairments for at least seven days after last use.” This translates into the following message for the public:

“Heavy use of marijuana can damage your memory. This damage can last a week or more after the last time you used.”

### **Population Health Monitoring**

Population health monitoring research is also conducted to study both trends in marijuana use and trends in health indicators. The initial report, *Monitoring Health Concerns Related to Marijuana in Colorado: 2014*, currently being updated, is available on the CDPHE website. It pulls together data from different surveys and information sources and includes findings from research reviews. Trends from Colorado specific sources such as hospital discharge data and data from the Rocky Mountain Poison and Drug Center are analyzed, as well as data from national sources.

### **Public Education: Good to Know, Marihuana en Colorado, and other Campaigns**

The *Good to Know* marijuana public education campaign, was launched in 2015:

<http://www.GoodToKnowColorado.com>.

This campaign emphasizes clear, factual messages to encourage responsibility and

safe, legal use. It covers the following: laws; important things to be aware of before use, including safe use and information for tourists; health basics on topics such as respiratory issues and mental harm; messages for specific populations such as pregnant or breastfeeding women, and youth. As adolescents / youth are vulnerable to the harms of marijuana use, the legal age for purchasing, possessing or using retail marijuana is 21. One of the *Good to Know* messages relating to adolescents / youth is: "Underage use is not OK. Their brains are still growing so keep it away." Additional resources for parents and other adults entrusted to talk with youth about health are included in campaign messaging.

As edibles are a challenge, there are messages on how to store these products safely to protect children and pets. This campaign was well planned out, established with several objectives, designed with input from a stakeholder survey, and focus group tested. To evaluate its effectiveness, pre-launch and 3-month post 'height of campaign' surveys were conducted to measure change in knowledge and attitudes. Knowledge of key laws increased statistically significantly. To serve the Spanish speaking population, found to have a lower knowledge of laws but a higher level of agreement that there are health risks, a Spanish campaign has also been established.

The Colorado Department of Transportation provides public information in English and Spanish to answer questions drivers may have, including detection information and legal limits. There is also data on drugged drivers involved in fatal crashes. See:

<https://www.codot.gov/safety/alcohol-and-impaired-driving/druggeddriving>.

You are encouraged to monitor the State of Colorado websites highlighted above to track ongoing progress in monitoring and evaluating retail marijuana in Colorado.

## Marijuana / Cannabis: Overview of the Situation in Europe

Public debate over the legalization of recreational marijuana use in European countries has been influenced by policy change in the Americas. Five U.S. states have legalized the use, production and sale of marijuana for personal use, and the results of the U.S. November, 2016 election will undoubtedly increase this number. Uruguay has legalized marijuana and policy change is under consideration in Jamaica and Canada. The situation in the Americas continues to be monitored with interest by government and the popular media.

Across the 28 countries of the European Union (EU 28) there is diversity in the laws and regulations, drug use data, and public opinion about cannabis policies. As European publications tend to use the term cannabis, as it is mostly used as a resin, the term cannabis will be used in this section of the paper. Based on the presentation of Isabelle Michot, co-author of this paper, the following will be addressed: cannabis legislation in Europe; public use, opinions and perceptions; reactions to change through examples of key projects and debates worth tracking.

### Legislation Affecting Cannabis Use and Possession

Obradovic (2016) reports on the legal status of cannabis in Europe. Two international conventions place restrictions on European nations' legislation. These are: the 1961 *Single Convention on Narcotic Drugs* and the 1988 *Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances*. Under these conventions, the production, trafficking, sale and possession of narcotics is a criminal offense. However, 'use' is not included, leaving individual countries with autonomy in regulating use. Also, some countries, such as France, include cannabis as a 'narcotic' whereas others, such as Britain, differentiate between cannabis and other narcotics. Since the 2000's, more than half of the European Union (EU) countries have

modified penalties for possession and use. The result is a complex 'legal' map.

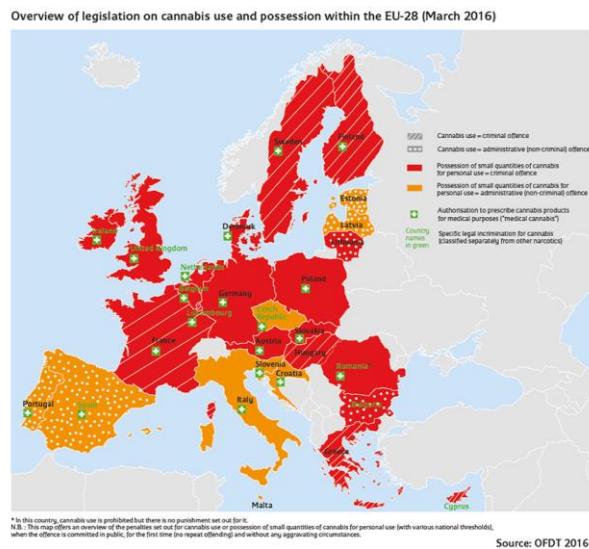


Figure 2. Overview of legislation on cannabis use and possession within the EU-28

Here are some breakdowns. Concerning use, within the EU28:

- Use is a criminal offense in 6 countries;
- Use is an administrative offense in 7 countries;
- Use is not prohibited by law, but, possession of small amounts for personal use is a criminal or administrative offense in 15 countries.

Concerning possession, it is a criminal offense in most countries, with some exceptions for "small amounts", which differ from country to country.

- Possession of "small amounts" is an administrative offense in 9 countries;
- Possession of "small amounts" is a criminal offense in 19 countries, but of these, 7 countries have legal mechanisms to decriminalize possession.

In summary, within the EU-28, it is not a criminal offense to use or possess "small amounts" of cannabis in 8 countries: Portugal, Spain, Slovenia, Estonia, Czech Republic, Italy, Latvia and Croatia. Luxembourg and Belgium can be added, as criminal penalties are not applied.

## Prevalence and Public Opinion

Data from the 2015 EMCDDA European Drug Report demonstrates the heterogeneity of both the use and trends in cannabis use among European countries. Among young adults, 15 - 34, prevalence is increasing in Finland, Denmark and France yet dropping in Spain and the UK. There is no simple relationship between legal sanctions and prevalence trends. Using France as an example, the policy is highly repressive but the use of cannabis among ages 18 - 64 is one of the highest in Europe and increasing. The 2011 EMCDDA Annual Report on the State of the Drugs Problem in Europe tracked legal changes, 2001 - 2006, and no simple association between legal changes and cannabis use prevalence was evident. These and other informative reports can be found at: <http://www.emcdda.europa.eu>.

Public opinion is also divided across Europe. The European Community (EC) Flash Eurobarometer 401 opinion survey found that just over half of the young people (15 - 24) surveyed supported continuing to ban cannabis with 45% supporting regulation. Overall, there was noticeable heterogeneity among EU countries. Looking at France, the OFDT EROPP Survey of adults (15 - 75) conducted regularly since 1999 to monitor opinions and perceptions about drugs, found the majority of respondents, 78% either did not agree or 'fairly disagreed' that cannabis should be freely sold like tobacco or alcohol, (Tovar, ML et. al, 2013).

## Reactions to Change

As part of her presentation, Isabelle Michot highlighted several examples from the media to illustrate the attitudes and positions within countries about this timely issue from media sources, such as *Le Figaro* (France), *The Guardian* (U.K.), *La Repubblica* (Italy), *El País* (Spain) and *24 heures* (Switzerland). Although individual articles are not cited in this paper, it is important to note the focus of the debate has shifted from depenalization, meaning the reduction of penal sanctions, to legalization oriented.

There are other examples of the public debate initiated by government, and well documented on the public web.

### **The UK Cannabis Debate**

In the United Kingdom, the Society for the Study of Addiction (SSA) posted on its website, <http://www.addiction-ssa.org>, *The UK Cannabis Debate: a Brief Look at Policy*. It captures the outcome of the 2015 debate in Parliament over cannabis legalization in response to a public petition to "make the production, sale and use of cannabis legal" which received over 200,000 signatures, well beyond the 100,000 signatures required for a parliamentary debate. The government responded negatively to legalizing marijuana, arguing that cannabis use is a significant public health issue, causing harm to individuals and communities. It would send a wrong message to the majority of people who do not use drugs, in particular the young and vulnerable. Legalization would not eliminate crime caused by the illicit drug trade. Current policy must be working given that use is declining. In summary, the government concluded that it has no plans to legalize marijuana.

### **France**

Debates have centered around economic and security issues. The French 'think tank' Terra Nova assessed the economic impact of the social costs of three scenarios for cannabis regulation and concluded: the legalization of the production, sale and use of cannabis in the context of a State Monopoly seems the best policy to control consumption and enable prevention efforts. The report of this study (Ben Lakhdar et al, 2014) is in French and available on the Terra Nova website. Another study now underway is the CANNALEX Project, launched in 2015. It is a joint project

of the French National Institute for Advanced Studies in Security and Justice (INHESJ) and OFDT designed to analyze three main policy models, by studying jurisdictions that have implemented change to determine the impacts of reform. The models are: prohibition of cannabis use and possession; the decriminalization of possession of small quantities of product; and the legalization of production, use and distribution. Included in the study are U.S. states Colorado and Washington State, Uruguay, Sweden, Spain and the Netherlands.

### **Europe Wide and Beyond**

For an international perspective, consult the April 2016 UNGASS (United Nations General Assembly Special Session) at which members debated international drug prohibition. Reading through the complex documents is challenging, but it is evident that many countries want more autonomy. TNI (2016) has prepared a policy briefing based on this debate.

### **Conclusion**

Together, the presentations at SALIS/AMHL 2016 offered a broad perspective on the changing landscape of marijuana policy as it relates to non-medical use, and indicated a shifting landscape where reform is being implemented or considered, and evaluated. Countries and jurisdictions are exerting a need for some autonomy in local policy. More liberalized less punitive alternatives are becoming the popular option.

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# Reading for Recovery: Bibliotherapy for Addictions

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## Abstract

*The Rutgers Center of Alcohol Studies received a Carnegie-Whitney grant from the American Library Association to build a tool with the purpose of facilitating library resources for creative and informal bibliotherapy. This paper complements the authors' presentation and workshop at the 2016 conference, where they experimented with a novel interactive format of sharing knowledge to inspire substance abuse librarians to promote bibliotherapy as a potential treatment modality. The two-year project has made a lot of progress to date, such as formulating selection criteria, determining target audiences and choosing the appropriate platforms, designing a vetting process, and compiling a preliminary bibliography. The paper also summarizes a mock bibliotherapy session drawing upon evidence-based practices as the second part of the presentation. Participants read a short text and were encouraged to analyze it based on prefabricated questions and talking points similar to a book club discussion. The authors have benefited tremendously from the conference by building on the collective expertise of the SALIS members.*

## Keywords

Bibliotherapy, Recovery, Treatment modalities, Guided reading, Public libraries

Millions of people around the world struggle with substance abuse and addiction every day. The concept of recovery may have different meanings for the medical community than for lay support groups like Alcoholics or Narcotics Anonymous, but recent empirical

findings support the longstanding adage that recovery is less a discrete event than a continuous process (Kaskutas et al., 2014). Turning inward and taking care of one's mental health needs are listed among key factors in recovery. A good book can guide,

inspire, and solace those recovering from addiction, and enlighten those who have not experienced its powerful grip firsthand. Mindful about sensitive information needs, librarians offer resources and services without passing judgment. Through this process, they often become “accidental bibliotherapists” (Brewster, 2009) to those affected by addiction. Useful bibliographies do exist in print (Norcross et al., 2000; Norcross et al., 2013; Pardeck, 1998; Berthoud & Elderkin, 2013; Rubin, 1978) and for commercial purposes on the Internet, but it is difficult to find current resources online that have been previously vetted by addiction experts.

## The R4R project: A Carnegie Whitney grant from ALA

In 2015, the Center of Alcohol Studies (CAS) Library at Rutgers University was awarded a two-year Carnegie Whitney grant by the American Library Association to create a comprehensive online collection of titles to complement the support system for people with substance use problems. The Carnegie-Whitney Grant provides grants for the preparation of popular or scholarly reading lists, webliographies, indexes and other guides to library resources that will be useful to users of all types of libraries in the United States. An easily discoverable and searchable open-access resource called Reading for Recovery, R4R, is in the works to bridge the gap between readers in need and appropriate books that can enhance active coping. The main goal is to empower librarians and addiction counselors with a tool vetted by experts to use resources already available to them.

With its R4R project, the CAS Library continues the CAS tradition of utilizing books and other information sources to better understand and address alcohol and drug use. In the late 1930s, the Carnegie Corporation funded a massive review of the existing literature on the use and abuse of alcohol, a project which set in motion what would ultimately become the Center of Alcohol Studies.

## Definitions

The project started by outlining and identifying its major components: the definition of bibliotherapy, its interpretation for R4R, key project personnel and their tasks, criteria to include titles, potential distribution platforms, and methods of dissemination. The timeline of the project, approved by ALA, provided benchmarks for our team and our funders.

### Phase 1 - PLANNING

- evaluate selection criteria
- expand the scope
- brainstorm for content

### Phase 2 - SEARCHING

- search comprehensively for titles
- reach out to the CAS faculty

### Phase 3 - SELECTING

- create collection development policies

### Phase 4 – PILOT

- create annotated bibliographies
- develop pilot website

### Phase 5 – TESTING

- test for accessibility and usability
- solicit information from librarians

### Phase 6 - DEVELOPMENT

- develop collection further
- write annotations where applicable
- continue to build website

### Phase 7 – FINALIZING

- present at local libraries and at CAS
- solicit feedback

### Phase 8 – GRAND OPENING

## What is bibliotherapy?

Reading can be especially powerful at moments of crisis or crossroads. Evidence shows that guided reading, often referred to as bibliotherapy, can be effective (Brewster, Sen, & Cox, 2012; Bergsma, 2008; Moldovan, Cobeanu, & David, 2013; McCann & Lubman, 2014; Walwyn & Rowley, 2011; MacDonald, Vallance, & McGrath, 2013). From the numerous definitions of *bibliotherapy* (Allen

et al., 2012; Brewster, 2008a; Jones, 2006), for our purposes, bibliotherapy is defined as using books from a list created under the guidance of a subject expert in order to address a therapeutic need. For this project, the varieties of bibliotherapy used for developmental and clinical purposes are combined, allowing for a diverse collection of texts beyond strictly either therapeutic or literary titles.

Traditionally, bibliotherapy in the United States has been of the clinical variety: the material would typically be a self-help publication, a brochure, or a workbook, which may or may not be accompanied by another "textbook"-type publication. Examples include therapy manuals and workbooks from reputable publishers, available in public libraries or for purchase. Addiction counselors would distribute these materials to patients to complement the in-person intervention and/or treatment.

In Europe, bibliotherapy also follows what we term the developmental model, usually limited to traditional literary works. Therapists in this group often accept only "high literature," i. e. the works of established writers and poets, as reading material. Conducted by bibliotherapists trained not only in psychotherapy, but also in literary theory and analysis, these sessions focus on a single text at a time (e.g. a poem or short story). The therapist reads the text aloud and guides the conversation as dictated by the needs of the individual or group.

Book clubs can be considered a special, less formally therapeutic version of this practice, whether organized by a public library or in private gatherings. Titles are selected by the librarian or group leader, and participants read the book before the meeting. A variety of support materials can make sessions more successful, such as discussion questions or talking points.

In summary, in addition to the clinical bibliotherapy prescribed by counselors, there is a clear opportunity to leverage library resources for creative and informal bibliotherapy, available and discoverable to those who might benefit. Self-help books, published and edited by professionals, can

help structure day-to-day living; however, a broader sense of bibliotherapy's potential dates back to at least 1939 (Bryan, 1939). In this more general view, goals of bibliotherapy could include providing information and insight, finding facts for solutions, contemplating and offering dialogue on problems, communicating new values and attitudes, and learning about how others have faced the same problems (Pardeck, 1998). In recent years especially there has also been emerging interest in pairing works of fiction to specific ailments and conditions for therapeutic purposes (Duffy, 2010; Berthoud & Elderkin, 2013; Detrixhe, 2010).

### ***Exploring bibliotherapy in addiction***

The CAS Library has identified a need to explore the benefits of bibliotherapy for substance abuse topics, a need that the advisory practice of libraries can help meet. Public libraries already have wonderful and relevant resources on their shelves, but librarians may not feel comfortable recommending titles concerning sensitive topics in a public library setting. This current gap between the appropriate books and their readers cannot be bridged by librarians without the requisite knowledge of the available resources.

Traditionally, librarians offer reading recommendations in both the physical and digital environments. The latter appears particularly well suited to the sensitive nature of addiction, as internet anonymity permits confidential information seeking. An easily discoverable, non-commercial, open-access website protects the users' identities and ensures ready availability to all target audiences of the project, including librarians and counselors.

As Myers (1998) asserts, "the use of selected books in counseling is applicable to persons in all stages of life, from a variety of cultural backgrounds, and with a wide variety of problems" (p. 76). Bibliotherapy has been found effective in a variety of demographics, such as African Americans (Johnson, 2012), children (Laninger et al., 2010; Morgan & Roberts, 2010; Thompson & Trice-Black,

2012), young adults (Regan & Page, 2008; Laninger et al., 2010; Morgan & Roberts, 2010), and prisoners (Billington, 2011; Sweeney, 2008), to mention only a few. Further, it has been recommended as complementary treatment for depression (Coote & MacLeod, 2012; Liu et al., 2009; Moldovan, Cobeanu, & David, 2013) and other mental health conditions (Turner, 2008; McCann & Lubman, 2014; Fanner & Urquhart, 2008; Fanner & Urquhart, 2009). It has also shown success with problem drinkers (Skuttle & Berg, 1978; Apodaca & Miller, 2003) and other substance abusers (Johnson, 2012). Finally, this project will target the mediators between books and readers to empower them in their key roles as counselors (Morgan & Roberts, 2010), mental health therapists (Adams & Pitre, 2000), caregivers (McCann & Lubman, 2014), educators (Prater et al., 2006), and librarians (Brewster, 2009; Brewster, Sen, & Cox, 2013; Janaviciene, 2010; Levin & Gildea, 2013).

With a goal to bridge the gap in access and discoverability between the readers in need and the appropriate books that can enhance active coping, R4R aims to empower librarians and addiction counselors with a tool that has been vetted by experts from the oldest and most prestigious research and educational program in the United States.

### **The R4R team**

A multifaceted and multidisciplinary project, R4R needs the well-coordinated endeavors of a diverse team to meet the needs of its diverse audiences and to perform the broad tasks that have evolved during the project.

The team originally consisted of the two CAS librarians, a public librarian with expertise in both substance-use libraries and adult programming, an addiction counselor / educator from CAS, and CAS graduate assistants from the Master's in Library and Information Science program at Rutgers. Through an unplanned and rather lucky series of events, a graduate assistant joined the team in the first few months from the English PhD Program at Rutgers, which opened up new

avenues for R4R. The team was later supplemented by CAS undergraduate assistants, who screened potential titles and piloted a metadata tagging system.

### **Selection criteria**

The three librarians' initial role was to design selection criteria for the project. Considering the main purposes and the funding source, the following types of books are included:

- readily found in public or academic libraries
- distributed by an established publisher
- professionally reviewed in a peer-reviewed subject-specialty journal or library journal (e.g., *Choice*, *Library Journal*, *Kirkus Reviews*, etc.)

These criteria weeded out self-published and self-promoted titles, among others, by default. However, suggestions from readers and librarians are always welcome. Additionally, the social media distribution platforms, by nature, have a great built-in potential to register significant and popular books, which can be added to the collection at any time.

### **Distribution and use**

The completed collection will be accessible on social networks LibraryThing and Goodreads, both already up and running with a few hundred titles.

We have also developed a [R4R LibGuide](#), with special instructions for librarians, counselors, and individual readers.

Included in the LibGuide are tips on active reading techniques, advice on forming book clubs, and more information tailored to specific audiences.

### **Fail and fail better**

The project has undergone major changes since its inception, caused by some unexpected events both advantageous and disadvantageous. The document management software we had originally selected for distribution failed to meet our needs, or more specifically our budget: it would have proved

significantly more expensive at the scale envisioned for this collection.

The proportion of part-time graduate and undergraduate assistants on staff required us to adapt to personnel turnover, but also connected us to unexpected partners and allies. Collaboration with partners overseas has also resulted in a more complex perspective on building a collection for bibliotherapy. Eventually, it helped us not only to interpret bibliotherapy in a much broader sense, but also widen the scope of the collection and experiment with our methods, such as the bibliotherapy workshop at the SALIS conference.

### ***Dissemination so far***

The project has been widely publicized via conference presentations, workshops, and posters, as well as in articles.

- Poster presented at the VALE Assessment Fair, Piscataway, NJ, July 14, 2016
- Poster at NJLA Conference, Atlantic City, NJ, May 17, 2016.
- Poster at Medical Library Association Conference, Toronto, Canada, May 16, 2016.
- Bibliotherapy Workshop, 38th Annual SALIS Conference, Denver, CO. May, 7, 2016.
- Poster Series, 38th Annual SALIS Conference, Denver, CO. May, 5, 2016.
- Three posters at CAS Poster Session, Piscataway, NJ, May 3, 2016.
- Presentation at Graduate Student Lightning Talk, Rutgers University, New Brunswick, NJ, April 28, 2016.
- Graduate Student Workshop, CAS Library, Piscataway, NJ, April 27, 2016.
- Undergraduate Student Workshop, CAS Library, Piscataway, NJ, April 26, 2016.
- Presentation and Workshop, University of Pécs, Department of Culture, Library and Information Science, Hungary. Budapest, Hungary, April 8, 2016.

- Panel presentation at the Medical Library Association of Hungary. Budapest, Hungary, April 7, 2016.
- Conference of the Hungarian Association on Addictions, Siófok, Hungary, November 26-28.
- NAADAC Annual Conference, Washington, D.C., October 10, 2015.
- VALE Assessment Fair, Piscataway, NJ, July 16, 2015.
- Summer Information Literacy Workshop, Branchburg, NJ, July 14, 2015.
- Summer School of Addiction Studies, New Brunswick, NJ, July 8, 2015.

### **Conclusion**

This paper followed a two-year project, which was greatly enhanced by the SALIS community during the numerous communications in person and via email. The conference provided a great opportunity not only to test our ideas, but also to get inspiration from librarians from all over the world.

The final project to be undertaken by the Center of Alcohol Studies Library was supported by the ALA Carnegie-Whitney Grant. It was a grant from the Carnegie Corporation in 1938 that funded the original project designed to index and organize the entirety of scientific alcohol literature, known as the Classified Abstract Archive of the Alcohol Literature (CAAAL). This project would serve as a foundation of the institution that would come to be known as the Center of Alcohol Studies. Taking inspiration from CAS founders E. M. Jellinek and Mark Keller, broad thinkers who were instrumental in the design and structure of both the CAAAL project and CAS in general, the Reading for Recovery (R4R) project serves to extend this spirit, spanning also the broader literary, cultural, and philosophical arenas in order to uniquely reach the populations most vulnerable to substance use.

## Appendix

The abbreviated version of the short story F. Scott Fitzgerald, "Sleeping and Waking" with questions, as used at the conference bibliotherapy workshop

### F. Scott Fitzgerald, "Sleeping and Waking"

When some years ago I read a piece by Ernest Hemingway called *Now I Lay Me*, I thought there was nothing further to be said about insomnia. I see now that that was because I had never had much; it appears that every man's insomnia is as different from his neighbor's as are their daytime hopes and aspirations. [...]

With a man I knew the trouble commenced with a mouse; in my case I like to trace it to a single mosquito. [...]

It is astonishing how much worse one mosquito can be than a swarm. A swarm can be prepared against, but one mosquito takes on a personality – a hatefulness, a sinister quality of the struggle to the death. This personality appeared all by himself in September on the twentieth floor of a New York hotel, as out of place as an armadillo. He was the result of New Jersey's decreased appropriation for swamp drainage, which had sent him and other younger sons into neighboring states for food.

The night was warm – but after the first encounter, the vague slappings of the air, the futile searches, the punishment of my own ears a split second too late, I followed the ancient formula and drew the sheet over my head.

And so there continued the old story, the bitings through the sheet, the sniping of exposed sections of hand holding the sheet in place, the pulling up of the blanket with ensuing suffocation – followed by the psychological change of attitude, increasing wakefulness, wild impotent anger – finally a second hunt.

This inaugurated the maniacal phase – the crawl under the bed with the standing lamp for torch, the tour of the room with final detection of the insect's retreat on the ceiling and attack with knotted towels, the wounding of oneself – my God!

– After that there was a short convalescence that my opponent seemed aware of, for he perched insolently beside my head – but I missed again.

At last, after another half hour that whipped the nerves into a frantic state of alertness came the Pyrrhic victory, and the small mangled spot of blood, *my* blood, on the headboard of the bed.

As I said, I think of that night, two years ago, as the beginning of my sleeplessness – because it gave me the sense of how sleep can be spoiled by one infinitesimal incalculable element. It made me, in the now archaic phraseology, "sleep-conscious." I worried whether or not it was going to be allowed me. I was drinking, intermittently but generously, and on the nights when I took no liquor the problem of whether or not sleep was specified began to haunt me long before bedtime.

A typical night (and I wish I could say such nights were all in the past) comes after a particularly sedentary work-and-cigarette day. It ends, say, without any relaxing interval, at the time for going to bed. All is prepared, the books, the glass of water, the extra pajamas lest I awake in rivulets of sweat, the luminol pills in the little round tube, the note book and pencil in case of a night thought worth recording. (Few have been – they generally seem thin in the morning, which does not diminish their force and urgency at night.)

I turn in, perhaps with a night-cap – I am doing some comparatively scholarly reading

for a coincident work so I choose a lighter volume on the subject and read till drowsy on a last cigarette. At the yawning point I snap the book on a marker, the cigarette at the hearth, the button on the lamp. I turn first on the left side, for that, so I've heard, slows the heart, and then – coma.

So far so good. From midnight until two-thirty peace in the room. Then suddenly I am awake, harassed by one of the ills or functions of the body, a too vivid dream, a change in the weather for warm or cold.

The adjustment is made quickly, with the vain hope that the continuity of sleep can be preserved, but no – so with a sigh I flip on the light, take a minute pill of luminol and reopen my book. The *real* night, the darkest hour, has begun. I am too tired to read unless I get myself a drink and hence feel bad next day – so I get up and walk. [...]

Back again now to the rear porch, and conditioned by intense fatigue of mind and perverse alertness of the nervous system – like a broken-stringed bow upon a throbbing fiddle – I see the real horror develop over the roof-tops, and in the strident horns of night-owl taxis and the shrill monody of revelers' arrival over the way. Horror and waste –

– Waste and horror – what I might have been and done that is lost, spent, gone, dissipated, unrecapturable. I could have acted thus, refrained from this, been bold where I was timid, cautious where I was rash.

I need not have hurt her like that.

Nor said this to him.

Nor broken myself trying to break what was unbreakable

The horror has come now like a storm – what if this night prefigured the night after death – what if all thereafter was an eternal quivering on the edge of an abyss, with everything base and vicious in oneself urging one forward and the baseness and viciousness of the world just

ahead. No choice, no road, no hope – only the endless repetition of the sordid and the semi-tragic. Or to stand forever, perhaps, on the threshold of life unable to pass it and return to it. I am a ghost now as the clock strikes four.

On the side of the bed I put my head in my hands. Then silence, silence – and suddenly – or so it seems in retrospect – suddenly I am asleep.

Sleep – real sleep, the dear, the cherished one, the lullaby. So deep and warm the bed and the pillow enfolding me, letting me sink into peace, nothingness – my dreams now, after the catharsis of the dark hours, are of young and lovely people doing young, lovely things, the girls I knew once, with big brown eyes, real yellow hair. [...]

Irresistible, iridescent – here is Aurora – here is another day.

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## DISCUSSION QUESTIONS

1. Reread the first paragraph. What might be different about each person's insomnia? What might be similar enough that the narrator can make generalizations, or hope that readers might recognize their own insomnia in his (as he seems to have with Hemingway's *Now I Lay Me*)?
2. Why does the mosquito disrupt the narrator's ability to sleep? Why has the effect of that night lasted?
3. What might it mean for the narrator to regret having "broken myself trying to break what was unbreakable"?
4. What kind of relationship does the narrator seem to have to sleep? What kind of promise does it have for him? What does he crave about it?
5. Drinking comes up here in an interesting context. Where is it? What does he use it for?
6. Why might this story be relevant to the process of addiction and recovery? Is insomnia similar to addiction, or potentially connected?

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# **Understanding the rainbow: Hispanic girls and their peers' relative risks for mental health and AOD problems**

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## **Abstract**

*This paper examines mental health and alcohol and other drug (AOD) use by US and Indiana Hispanic high school girls, comparing them to other non-White and White female peers. It also seeks to understand associated factors that contribute to or defend against the problem. This research takes a multidisciplinary approach drawing from statistical analysis, public health, cultural studies, psychology, child development, and family studies. Results for Indiana found that Hispanic high school females vastly surpass White non-Hispanic females for the selected mental health and AOD variables. Results also found that, overall, both Hispanic and Black high school females in Indiana have more elevated risk factors compared to Whites, and that Hispanic high school females showed more elevated risk factors than Blacks or Whites. Similar analyses were then performed for the nation as a whole. The second part of the presentation looks for commonalities and differences between these groups—using lenses like cultural beliefs and traditions, gender roles, real or perceived discrimination, social conditions, community and family dynamics, and child development—to help explain differences in their mental health and AOD use. Learning objectives: Users of data will see how statistics can mislead as well as inform and ways to test validity. Public servants will increase their cultural competency to inform their librarianship and service to clients. Substance abuse specialists will further their understanding of how determinants of health, particularly social determinants and adverse childhood experiences, impact substance abuse related conditions and behaviors.*

## Keywords

Substance abuse, Suicide, Latinos/Latinas, Adolescents, Mental health

## Introduction

The general context of this presentation is the ACRL frame Judit Ward and William Bejarano described here at the conference as the category of "Information Has Value," and specifically "Information has value to solve problems." Understanding the Rainbow builds on research I presented at last year's SALIS conference, comparing Indiana and the U.S. Hispanic high school girls to their White non-Hispanic female classmates. (Seitz de Martinez, 2016b) Today we will examine mental health and alcohol and other drug problems (AOD) among Hispanic girls, comparing them to their White Non-Hispanic peers and also to their Blacks and Multiracial female student peers. We know that substance abuse and mental health are highly linked. We will first examine the problem, and then we will look at factors that contribute to or are associated with it. Only having this knowledge can we hope to select an appropriate strategy to bring about positive change.

The goals of today's presentation are 1) to examine mental health barriers and facilitators in Latina adolescents and 2) to explore factors highly associated with mental health and substance abuse in this population. The method employed is 1) use of data from the 2011 and 2013 YRBS, and 2) a literature review regarding cultural features of risk and protective factors and behaviors, and the determinants of health.

The Learning objectives for this session include: learning how statistics can inform and also mislead; reviewing an available tool with which to test validity; increasing cultural competency ; understanding how determinants of health impact mental health and substance abuse-related conditions /behaviors (e.g., social determinants and adverse childhood experiences); and gaining a greater understanding of Hispanic culture.

Themes derived from a literature review conducted at the outset of this research and which will be addressed by this presentation include: perceived and real discrimination; socioeconomic status as a determinant of access to mental health services; *familismo*/family dynamics as predictor of mental health issues in Latina adolescents Gender expectancy/roles – parents and child; and intergenerational attitudes and beliefs -- parents and child.

Behavior	H>W	Black Female	Hispanic Females	White Females
At least 1 drink Alc Life	X	74.1	77.5	70.6
1st Dr Alc before age 13	X	23.2	25.1	12.5
Current dr Alc	X	33	NA	33.7
Binged	X	7.2	27.4	19.7
Ever use marijuana- Life	X	48.2	44.4	29.7
Used Marij before age 13	X	9	13.1	4.6
Current use Marij	X	26.9	22.9	14
Ever used cocaine	X	5.7	9.6	4.5
Ever used inhalants	X	11.3	16.6	9.7
Ever used ecstasy	X	4.1	11.9	4.9
Ever used heroin	X	1.2	2.3	1.6
Ever used meth	X	3.6	3.3	3.1
Ever used steroids	X	3.7	2.9	2.3
Ever used Rx - w/o Rx	X	12.4	23.9	23
Ever used IV	X	5.2	1.6	1.4
Offered, sold or given illegal drug on school property	X	32	37.5	22.1

Table 1: Indiana High School Females AOD Substance Use Behaviors (%)

Source: CDC, Indiana YRBS, 2011. (Indiana H.S. data for 2013 is not available.)

Table 1 – version 1 shows results from the Indiana YRBS for AOD behaviors for high school females by race/ethnicity. The X's in column 2 show that for every AOD behavior, a greater percentage of Hispanic girls than White girls reported the behavior. The yellow highlight indicates the group with the highest report. You see the Hispanic girls were the highest for all but five behaviors. For those five, the Black females were highest. The data for these variables for Indiana Multi-Racial youth were not available.

Behavior	H>W	Black Female	Hispanic Females	White Females
At least 1 drink <u>Alc</u> Life	x	74.1	77.5	70.6
1st Dr <u>Alc</u> before age 13	x	23.2	25.1	12.5
Current dr <u>Alc</u>	x	33	NA	33.7
Binged	x	7.2	27.4	19.7
Ever use marijuana-Life	x	48.2	44.4	29.7
Used <u>Marij</u> before age 13	x	9	13.1	4.6
Current use <u>Marij</u>	x	26.9	22.9	14
Ever used cocaine	x	5.7	9.6	4.5
Ever used inhalants	x	11.3	16.6	9.7
Ever used ecstasy	x	4.1	11.9	4.9
Ever used heroin	x	1.2	2.3	1.6
Ever used meth	x	3.6	3.3	3.1
Ever used steroids	x	3.7	2.9	2.3
Ever used Rx - w/o Rx	x	12.4	23.9	23
Ever used IV	x	5.2	1.6	1.4
Offered, sold or given illegal drug on school property	x	32	37.5	22.1

Table 1 – version 2: Indiana High School Females AOD Substance Use Behaviors (%)  
Source: CDC, Indiana YRBS, 2011. (Indiana H.S. data for 2013 is not available.)

Table 1 version 2 adds green highlights for the 2nd highest report of the behavior. For four behaviors the White females were second highest. For this study the primary point is that in every instance, for each behavior, a higher percent of Hispanic females reported these AOD behaviors than did Non-Hispanic

White females. The data for these variables for Indiana Multi-Racial youth were not available.

We often have a tendency to believe data reflect the truth. But how can we be sure? One way is to trust statistical analysis used to determine the probability of truth when comparing data across time, like this year to last year, or across groups as we are doing now. Statistical significance is a way to explain to your library patrons not trained in statistics how it can be that although the numbers show one instance or one group greater than the other, the reality may be the opposite, or there may be no difference whatsoever. This matters a lot when it comes time to make decisions about how to allocate resources to address problems.

Statistical significance refers to a difference of such magnitude as to provide confidence that 1) the result did not occur by chance, and 2) the change across time, or the difference between groups of students in this case, was caused by something other than chance.

Researchers use what is called a "p" or "p-value" to describe that the result is true or accurate. A p-value of .05 means that if this survey were conducted 100 times the likelihood of the same results occurring by chance would be equal to or less than 5 in 100. In other words, we have at least a 95% confidence that something other than chance is accounting for this difference – that there really is a difference.

This screen capture from the YRBS web compares Hispanics to Whites for 5 behaviors. There is SS only for one measurement, "Were in a physical fight" with p value of 0.00, which gives the highest assurance that H are more likely than W to have been in a physical fight. For the others you see there is "no SS difference" despite very marked differences in the percentages reported, where more than twice as many Hispanics reported the behavior than did Whites.

* Question	Race	Hispanic	White <sup>†</sup>	p-value	Hispanic More Likely Than White		White More Likely Than Hispanic		No Difference
					♦	♦	♦	♦	
Carried a weapon (Such as, a gun, knife, or club on at least 1 day during the 30 days before the survey)		16.4 (12.4-21.2) 219	16.9 (14.3-20.0) 2,136	0.81					●
Carried a gun (on at least 1 day during the 30 days before the survey)		8.2 (4.1-15.9) 221	8.9 (2.0-5.2) 2,147	0.11					●
Carried a weapon on school property (Such as, a gun, knife, or club on at least 1 day during the 30 days before the survey)		0.4 (0.0-14.0) 223	0.5 (2.0-4.7) 2,148	0.25					●
Were threatened or injured with a weapon on school property (such as, a gun, knife, or club one or more times during the 12 months before the survey)		7.4 (3.0-13.9) 226	6.2 (4.4-9.0) 2,150	0.50					●
Were in a physical fight (one or more times during the 12 months before the survey)		36.3 (20.1-49.0) 218	26.7 (23.9-29.7) 2,116	0.02	●				

Table 2: Indiana All High School Students (Hispanic vs. White) Risk Behaviors (%), 2011

Source: CDC: Youth Online (<https://nccd.cdc.gov/youthonline>)

Table 1 version 3 adds red highlighting for behaviors where the difference between percentages are statistically significant.

Behavior	H>W	Black Female	Hispanic Females	White Females
At least 1 drink Alc Life	x	74.1	77.5	70.6
1st Dr Alc before age 13	x	23.2	25.1	12.5
Current dr Alc	x	33	NA	33.7
Binged	x	7.2	27.4	19.7
Ever use marijuana-Life	x	48.2	44.4	29.7
Used Marij before age 13	x	9	13.1	4.6
Current use Marij	x	26.9	22.9	14
Ever used cocaine	x	5.7	9.6	4.5
Ever used inhalants	x	11.3	16.6	9.7
Ever used ecstasy	x	4.1	11.9	4.9
Ever used heroin	x	1.2	2.3	1.6
Ever used meth	x	3.6	3.3	3.1
Ever used steroids	x	3.7	2.9	2.3
Ever used Rx - w/o Rx	x	12.4	23.9	23
Ever used IV	x	5.2	1.6	1.4
Offered, sold or given illegal drug on school property	x	32	37.5	22.1

Table 1 – version 3: Indiana High School Females AOD Substance Use Behaviors (%)  
Source: CDC, Indiana YRBS, 2011. (Indiana H.S. data for 2013 is not available.)

While the x's in column 2 indicate that for every AOD behavior a higher percentage of IN Hispanic females than White Non-Hispanic females reported the behavior, the difference is statistically significant for only three behaviors (1st drank alcohol before age 13, ever used marijuana in lifetime, and used marijuana before age 13). The data for these

variables for Indiana Multi-Racial youth were not available.

Behavior	B>W	Black	Hispanic	White
		Female	Females	Females
At least 1 drink Alc Life	x	74.1	77.5	70.6
1st Dr Alc before age 13	x	23.2	25.1	12.5
Current dr Alc	NA	33	NA	33.7
Binged		7.2	27.4	19.7
Ever use marijuana-Life	x	48.2	44.4	29.7
Used Marij before age 13	x	9	13.1	4.6
Current use Marij	x	26.9	22.9	14
Ever used cocaine	x	5.7	9.6	4.5
Ever used inhalants	x	11.3	16.6	9.7
Ever used ecstasy		4.1	11.9	4.9
Ever used heroin		1.2	2.3	1.6
Ever used meth	x	3.6	3.3	3.1
Ever used steroids	x	3.7	2.9	2.3
Ever used Rx - w/o Rx		12.4	23.9	23
Ever used IV	x	5.2	1.6	1.4
Offered, sold or given illegal drug on school property	x	32	37.5	22.1

Table 1 – version 4: Indiana High School Females AOD Substance Use Behaviors (%)  
Source: CDC, Indiana YRBS, 2011. (Indiana H.S. data for 2013 is not available.)

In Table 1 version 4 the 2<sup>nd</sup> column shows Blacks compared to Whites, and here Blacks have reported higher percentages for most

behaviors but are only statistically significantly more likely than Whites for two behaviors (ever used marijuana during lifetime and currently use marijuana). The data for Indiana Multi-Racial youth were not available.

Table 1 version 5 is the same except column 2 puts an x where Indiana White Non-Hispanic females are more likely than Blacks to report an AOD behavior. There are only four such behaviors and of those only two are at a level that is statistically significant (binged and ever used Rx without a prescription).

So far we have been looking at IN statistics. Now we will look at the US as a whole. You see similarly to Indiana a higher percentage (highlighted in yellow) of US Hispanic females than White Non-Hispanic females report each and every AOD behavior in the survey, hence all the paper refers to non-Hispanic Whites.) It should be noted that Indiana's most recent data is from 2011, whereas national data is available for 2013.

Behavior	W>B	Black	Hispanic	White
		Female	Females	Females
At least 1 drink Alc Life		74.1	77.5	70.6
1st Dr Alc before age 13		23.2	25.1	12.5
Current dr Alc		33	NA	33.7
Binged	x	7.2	27.4	19.7
Ever use marijuana-Life		48.2	44.4	29.7
Used Marij before age 13		9	13.1	4.6
Current use Marij		26.9	22.9	14
Ever used cocaine		5.7	9.6	4.5
Ever used inhalants		11.3	16.6	9.7
Ever used ecstasy	x	4.1	11.9	4.9
Ever used heroin	x	1.2	2.3	1.6
Ever used meth		3.6	3.3	3.1
Ever used steroids		3.7	2.9	2.3
Ever used Rx - w/o Rx	x	12.4	23.9	23
Ever used IV		5.2	1.6	1.4
Offered, sold or given illegal drug on school property		32	37.5	22.1

Table 1 – version 5: Indiana High School Females AOD Substance Use Behaviors (%)  
Source: CDC, Indiana YRBS, 2011. (Indiana H.S. data for 2013 is not available.)

Behavior	H>W	Black	Hispanic	White
At least 1 drink Alc Life	x	66.8	75.6	66.6
1st Dr Alc before age 13	x	18.7	20.2	13.8
Current dr Alc	x	31.3	39.7	35.7
Binged	x	11.5	22.6	21.1
Ever use marijuana-Life	x	45.4	47.6	34.8
Used Marij before age 13	x	6.1	9.8	4.5
Current use Marij	x	27.1	27.4	18
Ever used cocaine	x	1.2	8.1	3.7
Ever used inhalants	x	7.9	14.3	9.1
Ever used ecstasy	x	2.1	10.1	4.6
Ever used heroin	x	0.8	3	1.1
Ever used meth	x	0.5	4.9	2.8
Ever used steroids	x	1.3	3.6	1.8
Ever used Rx - w/o Rx	x	11.1	19.9	18
Ever used IV	x	0.8	2	0.9
Offered, sold or given illegal drug on school property	x	15.6	26.7	17.5

Table 3 – version 1: U.S. High School Females AOD Substance Use Behaviors (%)

Source: CDC, US YRBS, Females, High School, 2013 (Indiana data is not available for 2013.)

Behavior	H>W	Black	Hispanic	White	Multi-R
At least 1 drink Alc Life	x	66.8	75.6	66.6	69.6
1st Dr Alc before age 13	x	18.7	20.2	13.8	25.1
Current dr Alc	x	31.3	39.7	35.7	38.1
Binged	x	11.5	22.6	21.1	21.4
Ever use marijuana-Life	x	45.4	47.6	34.8	49.5
Used Marij before age 13	x	6.1	9.8	4.5	9.9
Current use Marij	x	27.1	27.4	18	31.7
Ever used cocaine	x	1.2	8.1	3.7	6.9
Ever used inhalants	x	7.9	14.3	9.1	12.4
Ever used ecstasy	x	2.1	10.1	4.6	5.4
Ever used heroin	x	0.8	3	1.1	2.6
Ever used meth	x	0.5	4.9	2.8	3.9
Ever used steroids	x	1.3	3.6	1.8	2.5
Ever used Rx - w/o Rx	x	11.1	19.9	18	22.5
Ever used IV	x	0.8	2	0.9	2.7
Offered, sold or given illegal drug on school property	x	15.6	26.7	17.5	24.3

Table 3 – version 2: U.S. High School Females AOD Substance Use Behaviors (%)

Source: CDC, US YRBS, Females, High School, 2013 (Indiana data is not available for 2013.)

This version includes multi-racial females, creating a discovery of considerable interest, namely that when you include US students who report being of more than two races, they are found to be highest for many behaviors, even higher than the Hispanic girls.

Behavior	H>W	Black	Hispanic	White
At least 1 drink Alc Life	x	66.8	75.6	66.6
1st Dr Alc before age 13	x	18.7	20.2	13.8
Current dr Alc	x	31.3	39.7	35.7
Binged	x	11.5	22.6	21.1
Ever use marijuana-Life	x	45.4	47.6	34.8
Used Marij before age 13	x	6.1	9.8	4.5
Current use Marij	x	27.1	27.4	18
Ever used cocaine	x	1.2	8.1	3.7
Ever used inhalants	x	7.9	14.3	9.1
Ever used ecstasy	x	2.1	10.1	4.6
Ever used heroin	x	0.8	3	1.1
Ever used meth	x	0.5	4.9	2.8
Ever used steroids	x	1.3	3.6	1.8
Ever used Rx - w/o Rx	x	11.1	19.9	18
Ever used IV	x	0.8	2	0.9
Offered, sold or given illegal drug on school property	x	15.6	26.7	17.5

Table 3 – version 3: U.S. High School Females AOD Substance Use Behaviors (%)  
Source: CDC, US YRBS, Females, High School, 2013 (Indiana data is not available for 2013)

Returning to a consideration of only US Blacks, Whites and Hispanics, this slide adds green for the 2nd highest percentage reporting the behavior. It is interesting because it shows that nationally White Non-Hispanic students are 2nd for most behaviors after Hispanics.

Behavior	H>W	Black	Hispanic	White	Multi-R
At least 1 drink Alc Life	x	66.8	75.6	66.6	69.6
1st Dr Alc before age 13	x	18.7	20.2	13.8	25.1
Current dr Alc	x	31.3	39.7	35.7	38.1
Binged	x	11.5	22.6	21.1	21.4
Ever use marijuana-Life	x	45.4	47.6	34.8	49.5
Used Marij before age 13	x	6.1	9.8	4.5	9.9
Current use Marij	x	27.1	27.4	18	31.7
Ever used cocaine	x	1.2	8.1	3.7	6.9
Ever used inhalants	x	7.9	14.3	9.1	12.4
Ever used ecstasy	x	2.1	10.1	4.6	5.4
Ever used heroin	x	0.8	3	1.1	2.6
Ever used meth	x	0.5	4.9	2.8	3.9
Ever used steroids	x	1.3	3.6	1.8	2.5
Ever used Rx - w/o Rx	x	11.1	19.9	18	22.5
Ever used IV	x	0.8	2	0.9	2.7
Offered, sold or given illegal drug on school property	x	15.6	26.7	17.5	24.3

Table 3 – version 4: U.S. High School Females AOD Substance Use Behaviors (%) Source: CDC, U.S. YRBS, Females, High School, 2013 (Indiana data is not available for 2013)

Version 4 adds back the US Multi-racial youth and we find that for every behavior a greater percent of Hispanics and Multi-racial youth report than do Black or White students.

Version 5 adds the factor of statistical significance (SS). We see in the column of H>W that for nearly every behavior, US Hispanic female HS students are statistically significantly more likely than White non-Hispanic female students to engage in each behavior. In the far right column red indicates those behaviors where multi-racial females are found to be more likely than White non-H females to report the behavior. There are only four for which there is a statistically significant difference between the Multi-Racial and the White female students. It remains true that in every case, the Hispanic females and multi-racial females are more likely than the White non-Hispanic females to report AOD behaviors.

Behavior	H>W	Black	Hispanic	White	Multi-R
At least 1 drink Alc Life	x	66.8	75.6	66.6	69.6
1st Dr Alc before age 13	x	18.7	20.2	13.8	25.1
Current dr Alc	x	31.3	39.7	35.7	38.1
Binged	x	11.5	22.6	21.1	21.4
Ever use marijuana-Life	x	45.4	47.6	34.8	49.5
Used Marij before age 13	x	6.1	9.8	4.5	9.9
Current use Marij	x	27.1	27.4	18	31.7
Ever used cocaine	x	1.2	8.1	3.7	6.9
Ever used inhalants	x	7.9	14.3	9.1	12.4
Ever used ecstasy	x	2.1	10.1	4.6	5.4
Ever used heroin	x	0.8	3	1.1	2.6
Ever used meth	x	0.5	4.9	2.8	3.9
Ever used steroids	x	1.3	3.6	1.8	2.5
Ever used Rx - w/o Rx	x	11.1	19.9	18	22.5
Ever used IV	x	0.8	2	0.9	2.7
Offered, sold or given illegal drug on school property	x	15.6	26.7	17.5	24.3

Table 3 – version 5: U.S. High School Females AOD Substance Use Behaviors (%) Source: CDC, US YRBS, Females, High School, 2013 (Indiana data is not available for 2013)

We now turn our attention to mental health data, namely behaviors surveyed on the YRBS that are related to depression and suicide among these same students. Table 4 version 1 shows in yellow the Indiana group reporting the highest percentage for each of the five variables: felt sad or hopeless, seriously considered attempting suicide, made a plan about how they would attempt suicide, attempted suicide, and attempted suicide that resulted in an injury, poisoning or overdose that had to be treated by a doctor or nurse. You see Hispanics have higher percentages at a statistically significant level than the White students for all five, and Blacks exceed Hispanics for one variable (Felt sad or hopeless).

Behavior	H>W	Black	Hispanic	White	Multiple Race
Felt sad or hopeless	x	43.1	36.5	32.6	NA
Seriously considered S	x	29.2	30.2	19.5	NA
Made a plan	x	17.4	27.2	12.4	NA
Attempted	x	NA	15.6	9.2	NA

Table 4 version 1: Indiana High School Females Depression/Suicide-Related Behaviors (%)

Behavior	H>W	Black	Hispanic	White	Multiple Race
Felt sad or hopeless	x	43.1	36.5	32.6	NA
Seriously considered S	x	29.2	30.2	19.5	NA
Made a plan	x	17.4	27.2	12.4	NA
Attempted	x	NA	15.6	9.2	NA
Attempt w/ injury	x	NA	5.2	3.5	NA

Table 4 version 2: Indiana High School Females Depression/Suicide-Related Behaviors (%)  
Source: CDC, Indiana YRBS, 2011.

This version 2 indicates in green the group that is second highest.

Behavior	H>W	Black	Hispanic	White	Multiple Race
Felt sad or hopeless	x	43.1	36.5	32.6	NA
Seriously considered S	x	29.2	30.2	19.5	NA
Made a plan	x	17.4	27.2	12.4	NA
Attempted	x	NA	15.6	9.2	NA
Attempt w/ injury	x	NA	5.2	3.5	NA

Table 4 version 3: Indiana High School Females Depression/Suicide-Related Behaviors (%)  
Source: CDC, Indiana YRBS, 2011.

This is the same adding Multiracial females and also in green the second highest. Note that Blacks are neither highest or second highest for any of the five variables.

Behavior	H>W	Black	Hispanic	White	Multi-R
<b>Felt sad or hopeless</b>	x	35.8	47.8	35.7	52.6
<b>Seriously considered S</b>	x	18.6	26	21.1	33.1
<b>Made a plan</b>	x	13.1	20.1	15.6	27.5
<b>Attempted</b>	x	10.7	15.6	8.5	14.8
<b>Attempt w/ injury</b>	x	3.2	5.4	2.8	6.7

Table 4 version 4: Indiana High School Females Depression/Suicide-Related Behaviors (%)  
Source: CDC, Indiana YRBS, 2011.

This is the same adding Multiracial females and also in green the second highest. Note that Blacks are neither highest or second highest for any of the five variables.

Behavior	H>W	Black	Hispanic	White	M-R>W
<b>Felt sad or hopeless</b>	x	35.8	47.8	35.7	52.6
<b>Seriously considered S</b>	x	18.6	26	21.1	33.1
<b>Made a plan</b>	x	13.1	20.1	15.6	27.5
<b>Attempted</b>	x	10.7	15.6	8.5	14.8
<b>Attempt w/ injury</b>	x	3.2	5.4	2.8	6.7

Table 4 version 5: Indiana High School Females Depression/Suicide-Related Behaviors (%)  
Source: CDC, Indiana YRBS, 2011.

This version 5 of Table 4 offers an indication of those variables for which Multiracial females are also statistically significantly more likely than White females to report the behaviors.

This is a screen capture showing the actual page from YRBS web site that shows statistical significance of Hispanic females more likely than White females for specific variables. It is easy to use this web site. Just go to the web site, select the variables you wish to see, and you can compare two of them for statistically significant difference.

United States, High School Youth Risk Behavior Survey, 2013 Among Female Students							
Question	Race	Hispanic	White <sup>†</sup>	p-value	Hispanic More Likely Than White	White More Likely Than Hispanic	No Difference
<b>Felt sad or hopeless</b> (almost every day for 2 or more weeks in a row so that they stopped doing some usual activities during the 12 months before the survey)		47.8 (44.5-51.3) 1,657	35.7 (32.9-38.6) 2,595	0.00	●		
<b>Seriously considered attempting suicide</b> (during the 12 months before the survey)		26.0 (23.7-28.5) 1,657	21.1 (18.7-23.7) 2,591	0.01	●		
<b>Made a plan about how they would attempt suicide</b> (during the 12 months before the survey)		20.1 (17.2-23.5) 1,654	15.6 (13.4-18.2) 2,595	0.02	●		
<b>Attempted suicide</b> (one or more times during the 12 months before the survey)		15.6 (13.0-18.8) 1,450	8.5 (7.2-10.0) 2,473	0.00	●		
<b>Attempted suicide that resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse</b> (during the 12 months before the survey)		5.4 (4.1-7.2) 1,410	2.8 (2.3-3.6) 2,447	0.01	●		

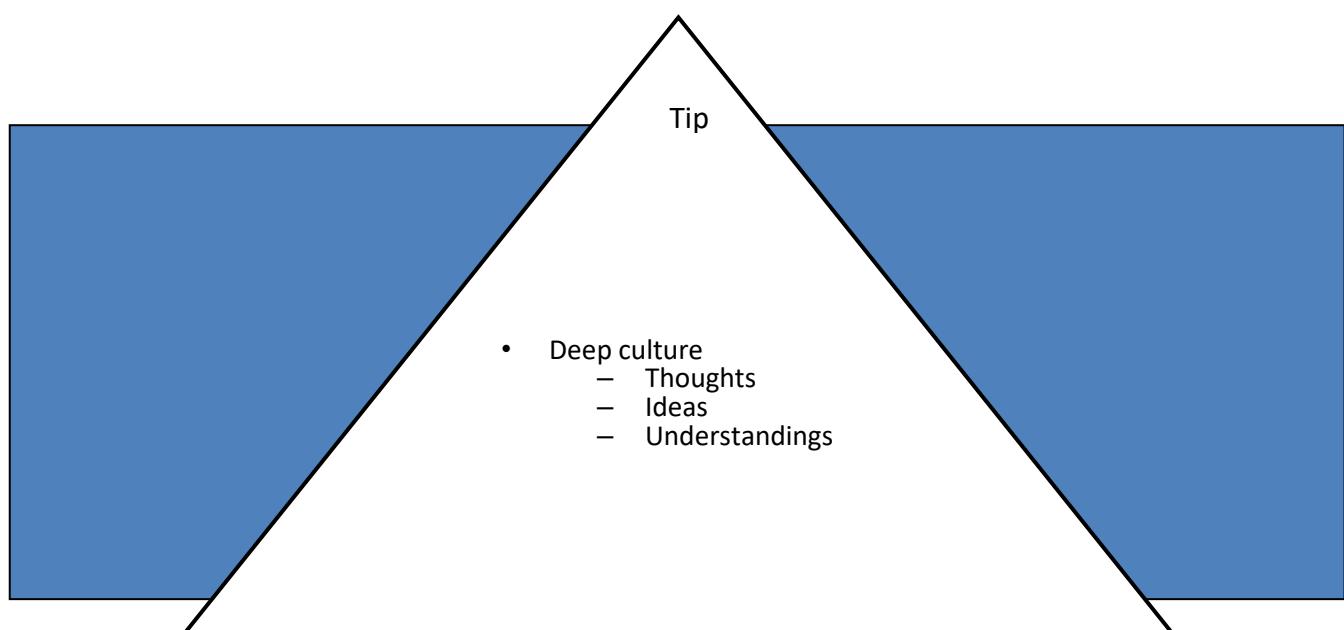
The next section of this paper looks at reasons why – that is, contributing factors that are associated with the statistics we have been viewing. Again we focus on Hispanic girls, who have been well documented in the research to

have greater mental health problems than White females. Why do Hispanic girls in Indiana and the U.S. have higher rates of substance abuse and depression than the non-Hispanic youth? Why do Hispanic girls have

higher rates than Hispanic boys of suicidal ideation and suicide attempts? This discussion is related to cultural competency and emphasizes the need for us to take cultural factors into consideration in working with this very diverse population.

## Culture

What is culture? "The shared values, norms, traditions, customs, arts, history, folklore, and institutions of a group of people." (Orlandi, 1992)



According to Fatiu and Rodgers (1984), whose work on the iceberg concept of culture is referenced by Sharroky (2015), nine-tenths of culture is below the surface. Examples of the tip or "in awareness" parts of culture are: "dress, skin color, gender, language, fine arts, literature, religion, food, geography and music." (Fatiu & Rodgers, 1984, p. 21) Below the surface are shallow culture, the unspoken rules that hold high emotional value, and further below lies deep culture, unconscious rules with intense emotional value. Examples of shallow culture include courtesy, eye contact, and facial expressions, and of deep culture, concept of "self," past and future, kinship, concepts about fairness, power distribution, the meaning of life, appropriate expressions of emotions, appropriate forms of communications, how to show respect, non-verbal communication.

Some important Latino cultural concepts include the following:

*Familismo* -- placing the family as priority

*Marianismo* -- women idealized, Related to domestic context.

*Machismo* -- Role of responsibility for welfare of family, especially money. Related to authority within the family

*Dignidad* – Importance of maintaining dignity

*Personalismo* -- Value of human warmth expressed through valuing the individual

*Respeto* – Importance of acknowledging hierarchy of gender roles within family and societal context

Cultural Identity includes all of the elements listed by Pederson et al in Inclusive Cultural Empathy: race, ethnicity, language, religion/spirituality, sex/gender, family migration history, sexual affectional orientation, age/cohort, physical/mental

capacity issues, socioeconomic situation and history, education and trauma history. (Pederson et al, 2008)

In terms of cultural values, mainstream U.S. culture can be generally contrasted with Eastern, Latino and other cultures as follows. In the area of family issues, mainstream U.S. emphasizes the nuclear, biological family, whereas Eastern and Latino cultures emphasize the extended family. With regard to social connectivity, U.S. mainstream culture emphasizes independence versus Eastern and Latino emphasis on interdependence. Contrasting U.S. mainstream to Eastern and Latino cultures, the emphases are for social obligation to self, versus to family and society; for social perspective, individualistic versus collectivistic; in relation to authority, to challenge it rather than to accept it; with relation to parents, independence at adulthood versus ongoing reverence; with relationship to perspectives on time, to be on time versus letting things happen in due time; and with relationship to negative motivators, to try to avoid guilt rather than trying to avoid shame. These are, of course, generalizations not universally applicable but based in traditions and long-time cultural practices. (Leake, D. & Black, R. 2005)

Whether working in mental health or prevention, working with members of a culture different from your own, you want to demonstrate Inclusive cultural empathy, which is: a lens through which helping professionals can view themselves, their clients, and the very construct of the helping relationship. (Pedersen, et al, 2008).

Next we turn to a discussion of additional contributing factors, identified through the literature review, that help explain the data we have been examining. The first contributing factor is discrimination -- perceived and real discrimination. Researchers find that post traumatic stress from the experience of discrimination leads to the use of gateway drugs and deviant behaviors and also how it has a negative impact on academic adjustment and achievement. (Cheng & Mallinckrodt, 2015; Flores, et al, 2010) Another research finding is that Internalizing emotions felt

when experiencing discrimination lead to depression and anxiety. (Ayón, C., et al, 2010)

A related factor is socioeconomic status. Poverty or low SES is found to significantly impact mental health and to be associated with lack of access to mental health services (Alegria, M., Canino, G., Ríos, R., Vera, M., Calderón, J., Rusch, D., & Ortega, A. N. (2002) Patel, et al found that socioeconomic status is associated with sleep disparity, which impacts mental health status. (Patel, et al, 2010)

Research by Alegrá, M, et al. reaffirmed previous findings that, generally speaking, "the combined effect of poverty and minority status places a person at a higher risk of reduced access to mental health services," For African Americans, however, poverty status does not make the access worse. Rather Blacks at any income level were less likely to use mental health services. The article suggests that lack of financial resources for even modest insurance co-pays, mistrust due to mistreatment and experiences of racism, and geographic differences in policies or systems, and lack of minority providers may contribute to this circumstance. (Alegria, et al, 2002)

In the case of Latinos, poverty was found to be associated with less use of mental health specialty care to a greater extent than is true for non-Latino Blacks or Whites. For reasons, the authors point to lack of English language fluency, cultural differences, less access to Medicaid services, less recognition of mental health problems, and inferior quality of mental health care for Latinos. The authors point out that "If a patient with limited English proficiency cannot gain access to a bilingual provider, he or she may not seek specialty care." (Alegria, et al, 2002) Even where there is a translator in the room or on the telephone, the quality and intimacy of the interaction suffer greatly. Latino cultural emphasis on being self-reliant as a coping mechanism tends to discourage seeking mental health treatment and also foster a lack of recognition of need or of perceived need for mental health care. Like Blacks, bad experiences or nonproductive experiences in the health care system may mean the people see little or no benefit in pursuing treatment. Latinos are also

underrepresented in the mental health profession. Environmental factors also include such things as the person's "subjective social class, perceived placement in the community, and relative deprivation." (Alegria, et al, 2002)

### **Depression and family dynamics, family function**

Latina adolescents have been found to be at especially high risk for depression. (Balis and Postolache, 2008; Céspedes and Huey, 2008; and Guiao and Adams Thompson, 2004)

Milburn, et al found that Family dynamics are a predictor of mental health for girls and that the balance of family support vs. family conflict are significant factors related to their mental health. (Milburn, et al, 2010) Sirin, et al found that 1st generation Latino youth experience a higher level of acculturation stress and that this stress contributes to disharmony at home and in school. (Sirin, et al, 2013).

### **Acculturation Stress**

First and second generations of Latino immigrants experience a period of acculturation, which refers to "the process of adaptation that occurs when distinct cultures come into sustained contact." (Organista, 2010) Stresses from acculturation take a variety of forms and may include learning a new language, social norms and family dynamics, creating increased risks for depression, anxiety and suicide. (Potocznick and Perreira, 2010; Forster, et al, 2013) A phenomenon known as "role reversal" can also occur during this transition period, where children, who learn a new language and new customs and systems quicker than their elders, take on parental roles, translating for parents and guiding them through the new culture's institutions, procedures and protocols, provoking intergenerational conflict and disrupting family functioning and the parent-child relationship. (Frabutt, 2006) Immigrants in this process of cultural adaptation are also at increased risk of experiencing perceived discrimination, a risk factor for mental health problems like depression and suicide. (Chou, 2012; Seaton,

et al, 2008; Tummala-Narra and Claudius, 2013) Smokowski, et al, report in their research that for Hispanic female adolescents the level of acculturation determined the extent to which Latinas felt stress regarding the expectations of their parents' culture of origin and the expectations of mainstream American culture. (Smokowski, 2009).

Gender roles are powerful cultural traditions. Traditional Hispanic roles for boys are more similar to U.S. masculine values. Referred to as machismo, Latino males are to cultivate and exhibit attributes of strength, dignity, respect and courage, and to financially sustain and protect their family. The cultural difference in gender roles is more extreme for females, whose traditional role model, referred to as marianismo, is the mother of Jesus, calling for a high moral code, prioritizing the needs of others over her own, being self-sacrificing, not asking for help, and refraining from discussing personal problems outside of the home or family. (Seitz de Martinez and Adams, 2016a) Given the importance of family (familismo) in Latino culture and that youth acculturate faster than adults, girls are particularly impacted by the discrepancy in gender role expectations between parents and children. When family dysfunction is added to the equation, the likelihood of parent-child conflict, adolescent depression and suicide-related behaviors increases. (Balis and Postolache, 2008; Céspedes and Huey, 2008). In fact, evidence suggests that for Latina adolescents "the perceived quality of mother-daughter relations may be more predictive of adolescent suicide attempts." (Cash and Bridges, 2009) In Indiana, adolescent Hispanic girls were found to be affected more than boys by certain risk factors, such as gender role discrepancy and acculturation stress, placing them at higher risk than boys for alcohol and other drug use, and binge drinking. (Vaughan, et al, 2015). These data reported here indicate Hispanic female high school students in Indiana report thinking about and planning to die by suicide at higher rates than White female students even though they are not reporting more sadness.

Acculturation stress may play a role in explaining the higher rate of substance abuse and mental health issues, including suicide ideation and attempted suicides among Hispanic adolescents compared to non-Hispanic youth. It can weaken the family cohesion and infrastructure increasing adolescents' risk for drug use, aggressive behaviors, and falling victim to discrimination via bullying, which exacerbates depression. Sirin, et al report that greater exposure to acculturative stress leads to depressive symptoms, including feelings of being withdrawn and being somatic and suffering from anxiety. (Sirin, et al, 2013)

Another stress provoker can be documentation status for immigrants and their families, concerned for self and/or undocumented family members. Goldston, et al, found that Hispanics/Latinos may hesitate to seek mental health services due to fear of deportation, lack of trust in service providers, or anxiety and fear of law enforcement. (Goldston, et al, 2008)

## Conclusions

Hispanic girls are at higher risk of mental health problems and exhibit related risk factors (AOD, depression and suicide-related). Hispanics and multi-racial youth are, in general, are at higher risk than non-Hispanic Whites.

Contributing (intervening/environmental) factors for Hispanics include the impacts of acculturation that disproportionately affect Hispanic girls (gender role discrepancy in context of family dysfunction).

Contributing (intervening/environmental) factors for Hispanics and multi-racial youth can include the social determinants of health (discrimination, poverty, family dysfunction). In order to understand and address these problems, cultural competency is required. We have examined aspects of Hispanic culture in general terms and in some specifics. We've looked at some ways cultural competency, in general, can be applied in the field of mental

health (e.g. cultural empathy, cultural identity, cultural learning) and then taken a closer look in terms of Hispanic culture. We have seen the value of statistics in sorting out risk levels and also that the significance of the numbers must be validated and can lead to false assumptions. We've looked at one way to test the validity of seeming differences, based on statistical differences, by checking the "statistical significance," which measures the degree of probability that the difference is real, is true, assigned a p-value. We use used the CDC, YRBS stats to demonstrate.

Limitations and challenges associated with this research include a lack of data (e.g., regarding immigrants' number of years in the US, preferred language and language spoken at home, and documentation status) and a need for more research on the interaction between the impacts of these thematic factors and substance use (ATOD) and mental health. Other limitations and challenges include the wide diversity within Latino cultural groups, e.g., immigrant versus non-immigrant, and the many nationalities, diversity of socioeconomic status and education, urban versus rural background, and the extent to which individuals benefit from a supportive community (their degree of isolation).

Further research is recommended into the discovery of considerable interest arising from this research, namely that when you include U.S. students who report being of more than two races, they are found to be highest reporters of many behaviors, even higher than the Hispanic girls. The findings reported here provoke research questions about what impact does discrimination and its impacts on SES, education and mental health bring to bear on AOD behaviors? And regarding the potential role of coping skills, traditionally passed on within the African American community, in reducing risk of AOD behaviors, and comparison with Hispanic, immigrant, and multi-racial families and youth who face real and perceived discrimination without the benefit of these skills.

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