

# Wyoming Community Members' Storage Habits and Safety Beliefs Regarding Prescription Pain Medications

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# Background

- Opioid
- 14.4 per 100,000 people died of a drug overdose in 2008 in the state of Wyoming.<sup>1</sup>
  - Nebraska had 5.5 people per 100,000.<sup>1</sup>
- How people store their medications influences diversion, an important issue that contributes to prescription drug abuse.<sup>2</sup>

# Few studies look at the storage of prescription pain medications

- Pre-post educational intervention with chronic pain patients.<sup>4</sup>
  - Revealed a gap in knowledge and behavior when it came to appropriate use and storage of prescription opioids.
  - Suggested that more education is needed in this area.
- A Prospective Cohort Pilot study of Emergency department patients' storage behaviors after being sent home with opioid pain medications.<sup>5</sup>
  - Found that no one stored their medications safely and 2/25 could not find their medication
  - More education is needed for patients to inform them of the problem of diversion, along with ways to avoid theft, loss, and sharing of opioid medications.

# Purpose of the Study

- Our study aim was to identify storage habits and safety beliefs amongst Wyoming community members regarding prescription pain medications, medication at risk for diversion due to addiction.

# Proposed a priori hypotheses

- Safe storage of prescription pain medications is related to:
  - H1 Gender
    - In most households, women are the managers of their families' health.<sup>6</sup> This may support a difference in storage habits when comparing gender.
  - H2 Age
    - Older people are often targets for robbery, purse snatching, pick-pocketing, car theft, or home repair scams.<sup>7</sup>
  - H3 Whether or not individuals believe they could have these medications stolen.
    - This is based on the Health Belief Model, applied to prescription pain medication storage it can be speculated that if a person perceives that they are at risk or that the risk exist they might weight the benefit of taking action to avoid said risk.<sup>9</sup>

# Methods

- **Study design:**
  - Cross-sectional survey
- **Study Sample:**
  - Adults in Sweetwater County
  - Convenience sample
    - Recruited on site at two local senior centers
- **Data Collection:**
  - Self administered 10 item questionnaire

# Methods

- **Study variables:**
  - Gender
  - Age
    - Divided into 10 year increments
  - Perceived susceptibility to having prescription pain medications stolen
    - Measured by asking the question “Do you think you could ever have your prescription pain medicine stolen?” (yes, no, maybe)
  - Storage behaviors for both prescription pain and non-pain medications
  - Completed Education level
  - Confidence in ability to store medications safely
  - Disposal behaviors for prescription pain medications

# Methods

- **Data Analysis:**
  - Descriptive statistics
  - Hypotheses were tested using cross tabulations and Fisher's Exact Test with significance set at ( $p < 0.05$ )



# Example Question

Which of these places do you typically store prescription PAIN medicines?  
Examples of these are: Fentanyl (Duragesic), Hydrocodone (Vicodin),  
Oxycodone (Oxycontin), Oxymorphone (Opana)? Check ALL that apply.

- Medicine cabinet in the bathroom.
- Kitchen counter top
- Kitchen cabinet
- Drawer in bathroom
- Locked up
- Drawer in bedroom
- Purse
- Car
- Desk
- "I never have any of these medicines to store."
- Other, please explain \_\_\_\_\_

# Respondent Characteristics N = 58

|                |   |        |
|----------------|---|--------|
| Age<br>(years) | < 50                                    | 0 %    |
|                | 50-59                                   | 3.5%   |
|                | 60-69                                   | 17.2 % |
|                | 70-79                                   | 39.7 % |
|                | >/= 80                                  | 41.4 % |
| % Female       |   | 65.5 % |
| Education      | Elementary school                       | 0 %    |
|                | Some high school                        | 5.2 %  |
|                | Graduated high school                   | 36.2 % |
|                | Some post high school                   | 36.2 % |
|                | Graduate 4 year college                 | 20.6 % |
|                | Masters, Ph. D., or professional degree | 1.7 %  |

# Results

| <b>Storage Location</b>          | <b>Other Prescription Medicine (%)</b> | <b>Prescription Pain Medicine (%)</b> |
|----------------------------------|--|---------------------------------------|
| Medicine cabinet in the bathroom | 19%                                    | 34%                                   |
| Kitchen counter top              | 10%                                    | 22%                                   |
| Kitchen cabinet                  | 17%                                    | 41%                                   |
| Locked up                        | 5%                                     | 3%                                    |
| Drawer in bedroom                | 12%                                    | 12%                                   |

# H1: Safe storage of prescription pain medications is related to gender

Table 1: Fisher's Exact Test Results

|    |                             |              |     |       |         | Significance of Fisher Exact Test |
|----|-----------------------------|--------------|-----|-------|---------|-----------------------------------|
|    |                             | Safe Storage |     |       |         |                                   |
| H1 | Gender                      | No           | Yes | Total | Percent |                                   |
|    | Men                         | 14           | 6   | 20    | 30%     |                                   |
|    | Women                       | 34           | 4   | 38    | 10.5%   |                                   |
|    | Total                       | 48           | 10  | 58    | 17%     | p<.001                            |
|    |                             | Safe Storage |     |       |         |                                   |
| H2 | Age                         | No           | Yes | Total | Percent |                                   |
|    | 50-79                       | 25           | 9   | 34    | 26.5%   |                                   |
|    | 80+                         | 23           | 1   | 24    | 41.6%   |                                   |
|    | Total                       | 48           | 10  | 58    | 17%     | p<.001                            |
|    |                             | Safe Storage |     |       |         |                                   |
| H3 | Susceptibility to diversion | No           | Yes | Total | Percent |                                   |
|    | No                          | 30           | 5   | 35    | 14%     |                                   |
|    | Yes/Maybe                   | 17           | 5   | 22    | 22.7%   |                                   |
|    | Total                       | 47           | 10  | 57    | 17.5%   | p<.001                            |

# H2: Safe storage of prescription pain medications is related to age

Table 1: Fisher's Exact Test Results

|    |                             |              |     |       |         | Significance of Fisher Exact Test |
|----|-----------------------------|--------------|-----|-------|---------|-----------------------------------|
|    |                             | Safe Storage |     |       |         |                                   |
| H1 | Gender                      | No           | Yes | Total | Percent |                                   |
|    | Men                         | 14           | 6   | 20    | 30%     |                                   |
|    | Women                       | 34           | 4   | 38    | 10.5%   |                                   |
|    | Total                       | 48           | 10  | 58    | 17%     | p<.001                            |
|    |                             | Safe Storage |     |       |         |                                   |
| H2 | Age                         | No           | Yes | Total | Percent |                                   |
|    | 50-79                       | 25           | 9   | 34    | 26.5%   |                                   |
|    | 80+                         | 23           | 1   | 24    | 41.6%   |                                   |
|    | Total                       | 48           | 10  | 58    | 17%     | p<.001                            |
|    |                             | Safe Storage |     |       |         |                                   |
| H3 | Susceptibility to diversion | No           | Yes | Total | Percent |                                   |
|    | No                          | 30           | 5   | 35    | 14%     |                                   |
|    | Yes/Maybe                   | 17           | 5   | 22    | 22.7%   |                                   |
|    | Total                       | 47           | 10  | 57    | 17.5%   | p<.001                            |

# H3: Whether or not individuals believe they could have these medications stolen

Table 1: Fisher's Exact Test Results

|    |                             |              |     |       |         | Significance of Fisher Exact Test |
|----|-----------------------------|--------------|-----|-------|---------|-----------------------------------|
|    |                             | Safe Storage |     |       |         |                                   |
| H1 | Gender                      | No           | Yes | Total | Percent |                                   |
|    | Men                         | 14           | 6   | 20    | 30%     |                                   |
|    | Women                       | 34           | 4   | 38    | 10.5%   |                                   |
|    | Total                       | 48           | 10  | 58    | 17%     | p<.001                            |
|    |                             | Safe Storage |     |       |         |                                   |
| H2 | Age                         | No           | Yes | Total | Percent |                                   |
|    | 50-79                       | 25           | 9   | 34    | 26.5%   |                                   |
|    | 80+                         | 23           | 1   | 24    | 41.6%   |                                   |
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|    |                             | Safe Storage |     |       |         |                                   |
| H3 | Susceptibility to diversion | No           | Yes | Total | Percent |                                   |
|    | No                          | 30           | 5   | 35    | 14%     |                                   |
|    | Yes/Maybe                   | 17           | 5   | 22    | 22.7%   |                                   |
|    | Total                       | 47           | 10  | 57    | 17.5%   | p<.001                            |

# Discussion/Implications

- The majority of individuals surveyed were not storing their prescription pain medicines safely
- Results show there are differences in storage habits across gender, age and perceived susceptibility as hypothesized
- Safe Storage of prescription pain medications can decrease diversion
- Due to death/overdose rates we need to make efforts to stop these medications from getting into the wrong hands
- If individuals feel they are susceptible to theft, they will be more likely to take action to protect themselves

# Discussion/Implications

- Study results show that the majority of people surveyed are not storing their medications in a safe location and that many individuals do not feel they are susceptible to theft
- Educational efforts should include informing patients of the risk of having their medications stolen to help change storage behavior
- Contracts with pain clinics could include a storage component if not already doing so



# Limitations

- Survey was conducted using a convenience sample
- Only one question was used to measure perceived susceptibility
- Audience was recently educated about the local prescription dropbox by the local police department
- Could not verify opioid storage

# Future Research

- Survey at a pharmacy to look behavioral intention when dispensing prescription pain medications

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# Referneces

- 1. Centers for Disease Control and Prevention. (2011). Injury Prevention & Control. Policy Impact: Prescription Drug Overdose State Rates. Retrieved from <http://www.cdc.gov/HomeandRecreationalSafety/rxbrief/states.html>. Accessed May 12, 2014.
- 2. DEA Public Affairs. (2014). DEA's National Prescription Drug Take-Back Days Meet a Growing Need for Americans. United States Drug Enforcement Administration. Received from <http://www.dea.gov/divisions/hq/2014/hq050814.shtml>. Accessed January 10, 2015.
- 4. McCauley, J. L. , Back, S.E, & Brady, K.T. (2013). Pilot of a brief, web-based educational intervention targeting safe storage and disposal of prescription opioids. *Addictive Behaviors*. 38, 2230-2235.
- 5. Lewis, E. T. Cucciare, M. A. & Trafton, J.A. (2013) What do patients do with unused opioid medications. *The Clinical journal of pain*.
- 6. Ranji, U. Salganicoff, A. (2014). *Balancing on Shaky Ground: Women, Work and Family Health*. Kaiser Family Foundation. Received from <http://kff.org/womens-health-policy/issue-brief/data-note-balancing-on-shaky-ground-women-work-and-family-health>. Accessed May 12, 2014.
- 7. National Institute on Aging. (2013). *Crime and Older People*. Received from: [www.nia.nih.gov/health/publications/crime-and-older-people#avoid](http://www.nia.nih.gov/health/publications/crime-and-older-people#avoid). Accessed on January 10, 2015.
- 8. Bachman, R. (1992). *Elderly Victims*. U.S. Department of Justice Special Report. Bureau of Justice Statistics; 1-12
- 9. Rosenstock IM, Strecher VJ, Becker MH. Social learning theory and the Health Belief Model. *Health Educ Q*. 1988;15:175–83.