How to Make a Poster

Rita Lee, MD
Associate Director, MSA
Anatomy of a Poster

General Guidelines
Title

Authors, Affiliations

Introduction:
Background

Aim/Hypothesis

Methods

Results

Conclusions

"The MSA is the best educational program ever."

Series

Series 1

Series 2

Series 3

References

Disclosures

Limitations

"The MSA is the best educational program ever."

Series 1

Series 2

Series 3

"The MSA is the best educational program ever."
Criterion for Judging

- Significance
  - Question asked
  - Background Literature review
- Methodology
- Results
- Conclusions/Limitations
- Clarity
- Disclosure
Significance

Why did you do the study?
What is the specific question you are asking?
What does it add to what we know?
The MSA is the best educational program ever.
Significance

- Background literature review is used to show:
  - The topic is important
  - This project is creative and new versus retread of something old

- Main question/hypothesis is clearly stated
Methodology

How did you go about answering your question?
Introduction:
Background
Aim/Hypothesis

Methods:

Results

Conclusions

Limitations

References

Disclosures

“"The MSA is the best educational program ever.""
Methodology

- Clearly state your methods
- Depending on methodology, may include:
  - Sample design
  - Literature search strategy
  - Statistical Analysis
  - Selection of design/composition
Results

What did you find out?
“The MSA is the best educational program ever.”
Results

- Present data highlights
  - Best to use charts/graphs/photos rather than a lot of text, if applicable
  - Text boxes for quotes, if applicable
- Do include summary information or key findings
- Do NOT include every little piece of data gathered
Conclusions
What do the results mean?
How do they compare to what we already know?
What are the implications?
Introduction:
Background
Aim/Hypothesis

Methods

Results

Conclusions

Limitations

References

Disclosures

“The MSA is the best educational program ever.”

Series 1
Series 2
Series 3
Conclusions

- Summary of main findings
- Conclusions
  - What do the results tell you?
- Implications
  - In the context of what we already know, what does this mean?
- Discuss limitations
- Future Directions
Clarity
Is the poster appealing? Quality visuals, consistent formatting, major concepts highlighted, reader-friendly fonts
Sex after 50?
Factors that Influence Sexual History-Taking Practices of Internal Medicine Residents

D.F. Smith; 1,2 R.S. Smith ; 1 S.R. Doe ; 1 I.A. Doe; 1 E.M. Smith-Doe 1
1Division of General Internal Medicine, Department of Medicine, University of Colorado Denver School of Medicine; 2University of Colorado HRSA Primary Care Research Fellowship

INTRODUCTION

BACKGROUND:
• Acute sexual history is a component of comprehensive patient care in internal medicine practice.
• Existing data regarding current practices are limited.
• Previous studies indicate that documentation of sexual history is incomplete.

- To assess the patient, resident and site factors that contribute to whether any component of a sexual history was documented at healthcare encounters within.

STUDY SETTING:
• Two outpatient continuity clinics at the University of Colorado over a 7 month period

CHART REVIEW:
• Healthcare maintenance visits with notes of PGY-2 and PGY-3 IM residents examined for any documentation of sexual history, patient demographic and health factors, and visit factors
• Resident factors obtained from residency program
• Statistical analysis

STUDY METHODS:
• Relationship between sexual history documentation and resident, patient and visit factors were assessed (Table 1)
• Independent sample t-test was used for analysis of categorical data
• Independent sample t-test was used for continuous variables
• Chi square analysis was used in separate multivariate analysis for patient and visit factors
• Generalized Estimating Equations (GEE) for repeated measures were used to account for the repeated measures among residents

RESULTS

Chart with Documented Sexual History by Patient Age

DISCUSSION

KEY FINDINGS:
• Younger patient age and symptoms were patient factors predictive of documentation of sexual history

LIMITATIONS:
• One Academic training site with 2 clinic sites
• Self-reported data underestimate actual sexual history-taking practices

CONCLUSIONS:
• Future educational intervention on sexual history-taking should focus on patients and visit types often neglected by residents, especially older, asymptomatic adults
• The necessity of a sexual history in symptomatic patients and any patient with a concern about a sexually transmitted infection needs to be emphasized

REFERENCE:
1. Of C, Di, T. Male, D. Jagenet, M. L. The Impact of a Brief Curriculum Intervention on Poor Documentation of Sexual History in University-Based Internal Medicine Clinics. J Gen Intern Med. Accepted for publication 03, 2020
Sample “Clean” Posters
Proposal to Study the Effects of Woody and Herbaceous Vegetation on Streambank Erosion
Tess Wynn, Virginia Tech

Justification for Study
Streambank erosion can be a large source of sediment, as much as 80% of the total watershed sediment yield [1, 2]. Sediment is the primary pollutant of rivers [3, 4]. Streambank erosion also causes
- Increased flooding
- Increased need for dredging
- Undermining of in-stream structures
- Degradation of reservoirs

Objectives of Proposed Research
Compare the effects of woody and herbaceous vegetation on
- Stream hydraulics at bankfull discharge
- Soil moisture and temperature regimes
- Soil strength

Methods
1) Perform monitoring at two field locations on a stream near Blacksburg, Virginia. Locations will have sections with herbaceous and wooded riparian buffers.
2) Continuously monitor the following:
   - Air temperature and precipitation
   - Stream stage
   - Soil moisture and temperature
3) Sample the following:
   - Suspended sediment (weekly)
   - Bank material (texture, friction angle, root area ratios)
4) During two storms with 1-2 year return periods, measure the following:
   - Stream velocity and discharge
   - Sediment concentration
   - Bedload

Background: Grass Versus Trees
Research has shown that streams are significantly narrower with grass buffers than with forested buffers [5, 6]. The photos below support this finding.

References

Acknowledgments:
U.S. Environmental Protection Agency
Office of Research and Development
Science to Achieve Results Program
Grant No. 91534101
THE DILEMMA OF DISCLOSURE: PATIENT PERSPECTIVES ON GAY/LESBIAN PROVIDERS

Rita S. Lee1, Trisha V. Methado, Karen M. Chacko1, Kelly J. White1, Amy G. Huebschmann1, Lon A. Crano2
1University of Colorado at Denver and Health Sciences Center, Department of Medicine, Division of General Internal Medicine
2University of Colorado at Denver and Health Sciences Center, Department of Preventive Medicine and Biometrics

Background
- Discrimination towards gay and lesbian (gay/lesbian) patients by healthcare providers has been well documented.
- No study yet has examined if patient behavior would change when seeing an "out" gay/lesbian provider or how patient characteristics affect these perspectives.

Methods
- Cross-sectional, mailed, anonymous, self-administered survey using a random national sample providing self report of preferences and changes in behavior based on provider gender and sexual orientation.

Statistical Analysis
- Dependent variables were dichotomized based on clinical relevance (strongly disagree, disagree, neutral, agree, strongly agree).
- Chi-square tests for preliminary analysis; Independent variables associated with dependent variables at a level of p < 0.25 were entered into a forward logistic regression.
- Repeated measures analysis was conducted using the generalized estimating equations method including a test for the provider gender by sexual orientation interaction in the stratified analysis.

Percent "somewhat/strongly agree" to following survey items

<table>
<thead>
<tr>
<th>Item</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important my healthcare provider is same gender as me.</td>
<td>111 (23.1)</td>
</tr>
<tr>
<td>Important my healthcare provider is same sexual orientation as me</td>
<td>172 (34.5)</td>
</tr>
<tr>
<td>My healthcare provider's gender is important to me.</td>
<td>125 (25.2)</td>
</tr>
<tr>
<td>My healthcare provider's sexual orientation is important to me</td>
<td>166 (34.1)</td>
</tr>
<tr>
<td>Providers should tell patients about their sexual orientation</td>
<td>73 (15.4)</td>
</tr>
<tr>
<td>Patients should be informed if their provider is gay/lesbian</td>
<td>124 (26.1)</td>
</tr>
<tr>
<td>The sexual orientation of my healthcare provider is private.</td>
<td>94 (19.2)</td>
</tr>
<tr>
<td>More comfortable discussing issues related to personal relationships with provider of same sexual orientation</td>
<td>214 (45.0)</td>
</tr>
<tr>
<td>More comfortable discussing issues related to sexual functioning with provider of same sexual orientation</td>
<td>251 (52.5)</td>
</tr>
<tr>
<td>If I found out my healthcare provider was gay/lesbian, I would change providers</td>
<td>149 (30.4)</td>
</tr>
<tr>
<td>If a clinic employed openly gay/lesbian healthcare providers, I would change to a different practice</td>
<td>176 (35.4)</td>
</tr>
<tr>
<td>Prefer chaperone for all genital exams</td>
<td>154 (37.3)</td>
</tr>
<tr>
<td>Prefer chaperone if provider heterosexual male.</td>
<td>101 (38.7)</td>
</tr>
<tr>
<td>Prefer chaperone if provider gay male</td>
<td>251 (61.2)</td>
</tr>
<tr>
<td>Prefer chaperone if provider heterosexual female</td>
<td>158 (32.2)</td>
</tr>
<tr>
<td>Prefer chaperone if provider lesbian</td>
<td>220 (45.0)</td>
</tr>
</tbody>
</table>

Demographics

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (SD) y</td>
<td>55.0 (15.4)</td>
</tr>
<tr>
<td>Male</td>
<td>363 (92.3)</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>473 (68.2)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>427 (67.7)</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>471 (68.0)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>111 (22.0)</td>
</tr>
<tr>
<td>Some college</td>
<td>166 (33.7)</td>
</tr>
<tr>
<td>College graduate</td>
<td>112 (22.8)</td>
</tr>
<tr>
<td>Post-graduate</td>
<td>103 (20.9)</td>
</tr>
<tr>
<td>Catholic/Christian religion</td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>111 (22.0)</td>
</tr>
<tr>
<td>College graduate</td>
<td>166 (33.7)</td>
</tr>
<tr>
<td>Post-graduate</td>
<td>112 (22.8)</td>
</tr>
</tbody>
</table>
| Affiliated with military (active, retired, reserve, spouse/partner) | 39 (11.7)

* N (%), unless otherwise specified. Not of demographic variables not shown

Results
- Response rate = 32% (502/1618)
- One-third of respondents would change providers if they found out their provider was gay/lesbian.
- One-third would change practices if they found out an openly gay/lesbian provider was employed by the practice.
- Predictors of changes in provider and practice:
  - Male gender
  - Less education
  - More attendance at religious services
- Predictors of chaperone preference:
  - Less likely to prefer chaperone
  - Heterosexual provider
  - Male respondent
  - More likely to prefer chaperone
  - 4+ education
  - Catholic/Christian religion
  - Region (Mid-Atlantic, South)
- No prior gay/lesbian provider
- Female respondents are more likely to prefer chaperones with male providers
- Male respondents are more likely to prefer chaperones with gay/lesbian providers

Limitations
- 33% response rate may reflect response bias
- Sample more male and educated than 2000 US Census data
- Responses to hypothetical situation may not reflect actual behavior

Implications
- Gay/lesbian providers and their practices may be adversely impacted if patients become aware of the provider's sexual orientation.
- Chaperone preferences may change based on provider gender and sexual orientation.
- Clinics may need to develop protocols to adjust to chaperone preference.

Figure 1a: Effect of hypothetical provider sexual orientation by gender on chaperone preference for female respondents

Figure 1b: Effect of hypothetical provider sexual orientation by gender on chaperone preference for male respondents
Sex after 50?
Factors that Influence Sexual History-Taking Practices of Internal Medicine Residents
D.F. Loeb ; 1,2 R.S. Lee ; 1 S.R. Cali ; 1 I.A. Binswanger ; 1 E.M. Aagaard ; 1
1Division of General Internal Medicine, Department of Medicine, University of Colorado Denver School of Medicine; 2University of Colorado HRSA Primary Care Research Fellowship

INTRODUCTION

BACKGROUND:
• Accurate sexual history is necessary for appropriate sexually transmitted infection (STI) screening and counseling on safer sex, family planning, and sexual dysfunction
• Previous studies indicate low rates of sexual history-documentation among Internal Medicine (IM) residents

AIM:
• To assess, patient, resident and visit factors that contributed to the extent of documentation of a sexual history in a health maintenance visit

STUDY SETTING:
• Two outpatient continuity clinics at the University of Colorado over a 7-month period

CHART REVIEW:
• Healthcare maintenance visit notes of PGY-2 and PGY-3 IM residents examined for documentation of sexual history, patient demographics and health factors, and visit factors
• Resident factors obtained from residency program

STATISTICAL ANALYSIS:
• Relationships between sexual history documentation and resident, patient and visit factors were assessed (Table 1)
• Either chi-square test of independence or Fischer's exact test was used for analysis of categorical data
• Independent-samples t-test was used for continuous variables
• Variables with p<0.15 on univariate analysis were included in separate multivariate analyses for patient and visit factors

STUDY CONCLUSION:
• Factors associated with documentation of sexual history were identified

METHODS

RESULTS

Table 1. Documentation of Sexual History in Patient, Visit and Resident Characteristics

Patient Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Documentation</th>
<th>No Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Drugs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Documentation of Sexual History associated with Patient Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Documentation</th>
<th>No Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Drugs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION

Table 3. Documentation of Sexual History associated with Resident Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Documentation</th>
<th>No Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Drugs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Documentation of Sexual History associated with Visit Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Documentation</th>
<th>No Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Drugs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Documentation of Sexual History associated with Sex History Documented

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Documentation</th>
<th>No Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Drugs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KEY FINDINGS:
• Younger patient age and symptoms were potential factors predictive of documentation of sexual history

LIMITATIONS:
• One Academic training site with 2 clinic sites
• Chart review may underestimate actual sexual history-taking practices

SMALL SAMPLE SIZE FOR SPECIFIC MEDICAL CONDITIONS

CONCLUSIONS:
• Future educational intervention on sexual history-taking should focus on patients and visit types often neglected by residents, specifically older, asymptomatic adults
• The necessity of a sexual history in symptomatic patients and any patient with a concern of a sexually transmitted infection needs to be emphasized

REFERENCE:
Disclosures

Does the presenter provide a disclosure statement for funding support and/or conflicts of interest?
Disclosures

- Dr. Y has research sponsored by Pfizer, Merck, GlaxoSmithKline and is on the speaker’s bureaus of Takeda, Abbott, AstraZeneca, and Genzyme.

- Dr. X has no conflicts of interest.

- This may be on a separate piece of paper attached to poster board
General Tips

- Use bullets instead of long sentences or paragraphs
- Keep it clean and simple
- Aim for 40 point font in final printout
  - Should be easily readable from 4 feet away
  - Acknowledgements, Disclosures, and References may be smaller font (or on a separate piece of paper)

**NOTE:** **IF** you elect to have your poster printed, make sure everything lines up

- Small errors are magnified when translated from PowerPoint slide into a 36 by 48 inch poster
Available on MSA Website:

- Poster Assessment Rubrics
- Capstone Poster Instructions
- Sample Posters
- PowerPoint poster templates
Access templates, tips, and more samples at “Poster Session Design”:

http://hslibraryguides.ucdenver.edu/content.php?pid=177988&sid=1497759
Questions? Need help?
Contact your MSA Associate Director