Be a Graphic Artist for a Day: How to Present Posters that Grab Your Attention

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Objectives

After attending this session, participants will be able to:

1. Apply the psychology of attention and interest in poster sessions to poster design
2. Incorporate graphical design principles to maximize the impact of a scientific poster
3. Give a successful poster session presentation


The Oscars of Posters

Hyperthermia, Not Hyperoxia, Exacerbates Hypoxic-Ischemic Brain Injury in the Term-Equivalent Neonatal Rat

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Introduction

- Hypoxic-ischemic encephalopathy (HIE) occurs in 1-2 per 1,000 live term births
- HIE is one of the most commonly recognized causes of severe, long-term neurologic deficits in children
  - Developmental delay
  - Mental retardation
  - Cerebral palsy
  - Seizures and epilepsy
- Damage occurs in two phases: during the acute insult and a recovery period
- Clinical and experimental data suggest that variations in both oxygen and temperature may modulate the extent of brain injury during recovery[1,2,3,5,7,8]

Objective

- To examine the effects of hyperoxia and hyperthermia on seizures and brain injury immediately following resuscitation of the asphyxiated newborn

Hypothesis

- Neonatal rats recovered in hyperoxia and/or hyperthermia after a hypoxic-ischemic insult will have
  - More seizures
  - Larger infarcts
- Than those recovered in a normoxic-normothermic environment

Methods: HI and Recovery

- Term equivalent (P10-P11) Wistar rat pups underwent permanent surgical ligation of the right common carotid artery
- Hypoxia (8% O_2-balance N_2) for 60 min
- Separated into two groups for 2 hour recovery period
  - Control (T 36.5°C; FiO_2 21%)
  - Treatment
    - Hyperoxia (T 36.5°C; FiO_2 95%)
    - Hyperthermia (T 38.5°C; FiO_2 21%)
    - Combined hyperoxia & hyperthermia (T 38.5°C; FiO_2 95%)

Methods: Injury Assessment

- Animals returned to dam and sacrificed at 72 hours
- Brains extracted and flash frozen (isopentane, T -30°C)
- Coronal cryosections (18μm) from bregma -3.80 to -4.30mm, H&E stained
- Percent infarct area of ipsilateral hemisphere calculated (ImageJ, NIH software)

$$\text{Infarct (\%)} = 100 \times (V_C - V_L)/V_C$$

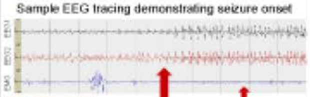
V_C – Volume of control hemisphere
V_L – Volume of living tissue in the injured hemisphere[6]

- Data was analyzed using ANOVA and Wilcoxon rank-sum tests

Methods: Seizure Detection

- EEG head mount application[4]
  - Surgically attached to skull
  - One day prior to HI insult
- Data acquisition
  - Pinnacle 8200, 3 channel video EEG/EMG system[4]
  - Sirenia software package
  - Seizure definition
    - Rhythmic or repetitive tracing with an amplitude that increased to more than 3 times the baseline level and lasted at least 10 seconds
    - Clinical - associated with repetitive movements
    - Subclinical - no association with movement

Sample EEG tracing demonstrating seizure onset



Evolution of tracing to rhythmic spiking

Flat EMG seen with subclinical seizure

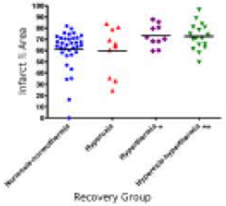
Results: Brain Injury

Recovery group	n	Average infarct area (%) ± SEM	Deaths during recovery
Normoxia-normothermia	35	61.0±2.9	0
Hyperoxia	10	59.4±6.7	0
Hyperthermia	10	73.2±3.1*	0
Hyperoxia-hyperthermia	17	72.7±2.8**	2

*P = 0.03; **P = 0.02 versus control group

- Rats recovered in a hyperthermic or combined hyperthermic-hyperoxic environment had similar mean infarcts that were larger than those recovered in normoxia-normothermia (P = 0.02)
- Rats recovered in a hyperoxic environment showed no difference in infarct versus the normothermic-normoxic recovered rats
- Two rats in the combined group died during the recovery period

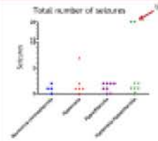
Brain Damage in Recovery Groups



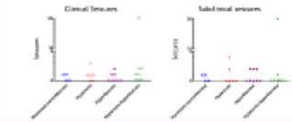
- There was no difference in infarct as a function of sex and there were equal numbers of males and females
- Mean rectal temperatures from sample litters shown below (n≥5 in each group)

	Baseline nesting	Ambient temp without HI		Ambient temp post-HI	
Chamber temp (°C)	-	36.5	38.5	36.5	38.5
Mean rectal temp (°C±SD)	35.4 ± 0.2	37.4 ± 0.4	38.4 ± 0.5	37.3 ± 0.3	40.3 ± 0.2

Results: Seizure Activity



- Seizures were present in all groups during recovery
- Two rats had status epilepticus in the combined group



Summary

- Elevated temperature following HI resulted in a significant increase in infarct
- Brain injury did not appear to be exacerbated by increased oxygen concentration
- Seizures were apparent within all recovery groups post-HI
- Death and status epilepticus were seen with recovery in combined hyperoxia-hyperthermia

Conclusions

- Following HI, both clinical and subclinical seizures are likely, and may be exacerbated by increased oxygen and temperature
- Hyperthermia should be avoided during the post-resuscitation care of asphyxiated newborns
- The use of oxygen during this period requires further study

References

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Increasing Influenza Vaccination Rates in Children attending an Urban Family Health Clinic: A Pilot Project.

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Abstract

Purpose
To examine the effect of an educational intervention on the knowledge, skills, beliefs, and attitudes of clinical staff at an urban family clinic toward offering the influenza vaccine to children.

Methodology
Educational sessions on the Epidemiology and Prevention of Vaccine-Preventable Diseases were conducted with doctors and medical assistants in a family clinic in Nashville, Tennessee. Knowledge of providers was assessed with case study responses. A skills checklist was utilized for the evaluation of the medical assistants' skills in vaccine administration. Beliefs and attitudes toward offering the influenza vaccine to patients were evaluated with use of a pre and posttest questionnaire. The Theory of Planned Behavior (fig. 1) provided the framework for the questionnaire.

Results
There was added knowledge on the prevention of influenza by vaccination and improved skills for vaccination post intervention. In addition, there was a positive change in the attitudes of the clinical staff toward offering the vaccine to patients from pre to post intervention activities. There was an increase in a measure of how others influenced their decision to offer the vaccine as well as an increase in their intentions to promote the vaccine to patients. The results also demonstrated a decrease in their perception of barriers to offering the influenza vaccination to patients.

Implications for practice
This project demonstrated that ongoing education of clinical staff is an important aspect in increasing the influenza vaccination recommendations to patients. The findings of this project could Inform development of educational interventions which target clinical staff involved in influenza administration to children.

Introduction

Purpose
To examine the effect of an educational intervention on the knowledge, skills, beliefs, and attitudes of clinical staff at an urban family clinic toward offering the influenza vaccine to children.

Background
There is a large global disease burden associated with influenza in children <5 years of age 4. Vaccination efforts should be focused on protection of persons at higher risk for influenza-related complications. Among these are children age 6 months through 59 months 2. Healthy People 2020 initiative seeks to increase the percentage of children ages 6 months to 4 years who are vaccinated annually against seasonal influenza to at least 80%.

Problem Statement
A study done to characterize the health care burden of Influenza from 2004 through 2009 found that < 45% of children were fully vaccinated despite expanded vaccination recommendations, with substantial persisting influenza burden 6. In addition, the national rates of Influenza vaccines reported among children aged 6 months to 17 years were 29.1% in the 2008-2009 flu season, 43.7% in the 2009-2010 flu season, and 51% in the 2011-2012 flu season 8. Tennessee Department of Health reports an Influenza vaccination rate of 44.2% in a 2012 survey of 24-month-old children.

Significance to Healthcare
The CDC reports that vaccination is the single most effective strategy for protection from the influenza virus. They recommend annual influenza vaccination of all persons aged ≥ 6 months. However, studies indicate that some providers have negative beliefs toward offering immunization to their patients while others are not well informed enough to provide parents with accurate immunization information. They suggest that low vaccination rates may be partially related to provider beliefs and attitudes toward offering the vaccine to their patients 5.

Population Impact
The CDC reports that children typically have the highest attack rates during community outbreaks of Influenza and serve as a major source of transmission within communities. Hence, sufficient vaccination coverage among children can provide benefits for the population involved. This includes the indirect effect of reducing Influenza among persons who have close contact with children and reducing overall transmission within communities. A randomized control study to assess herd immunity also concluded that a significant herd immunity effect can be achieved when 80% of children and adolescents aged 3 to 18 years are immunized in a community 3.

Methods

Identified Gaps
Some studies have demonstrated the importance of improving provider knowledge to affect beliefs and attitudes in administering Influenza vaccine 7,9. There is little data available on how knowledge, skills, beliefs, or the attitudes of providers and medical assistants affect offering Influenza vaccine to their patients.

Intervention
A pilot study was done at Medicos Nashville Family Clinic, a clinic providing primary and urgent care to the surrounding Davidson county community residents. This study used a convenience sample of clinical staff comprised of doctors and medical assistants to conduct an immunization educational intervention. Modules from the American CDC's 2012 "Epidemiology and Prevention of Vaccine Preventable Diseases' were used for educational presentations to the clinical staff with each presentation followed by a discussion among the participants. Post-educational session provider knowledge was assessed with case study questions accompanying each CDC module. Clinical skills for vaccination were validated with use of skills checklist from immunize.org.

A pre and post intervention questionnaire was used to assess beliefs and attitudes toward offering the Influenza vaccine to patients. The conceptual framework for this study was based on the Theory of Planned Behavior 1. This theory measures four constructs: attitude (toward offering the influenza vaccine to patients), subjective norm (a measure of others' influence on their decision to offer the Influenza vaccine), perceived behavioral control (a measure of how much control a provider feels that he has over offering the vaccine), and intention (a measure of the intent of the provider to actually offer the vaccine to their patients). The questions were labeled according to the construct in this theory that each measured; A = Attitude, S = Subjective Norm, P = Perceived Behavioral Control, and I = Intention. Responses were compiled and data analysis done with use of Microsoft Excel 2010.

Results

Case study responses from the Doctors were validated in group discussion at the end of each presentation with an overall mean knowledge pass rate of 92%. There was 100% skills checklist completion rate for all of the Medical Assistants. A one group pretest posttest design was used to assess effects of the educational intervention. The results of the responses to the questionnaires on beliefs and attitudes are displayed in graphical form for the doctors and medical assistants and for the clinical staff as a group.

The first component of the TPB which measured the attitudes of the clinical staff toward offering the vaccine to patients showed a 16.3% increase from pre to post intervention activities. The second component of the TPB, subjective norm, a measure of how others' influence their decision to offer the Influenza vaccine, showed an increase of 13.4%. There was a decrease of 8.8% in perceived behavioral control, the third component of the TPB. This measure demonstrates a decrease in their perception of barriers to offering the vaccination to patients. The fourth component addressed the clinical staff's intention to offer the Influenza vaccine to patients. This increased by 21.4% from pre to post intervention.

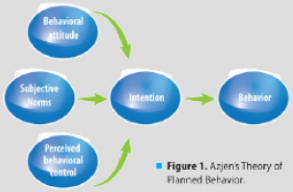


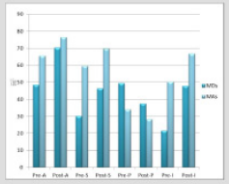
Figure 1. Azjen's Theory of Planned Behavior.

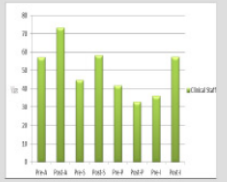
Participant Characteristics	Medical Doctors (MDs) N=4	Medical Assistants (MAs) N=4
Age (years)		
21-30	0	2
31-40	0	1
41-50	2	1
51-60	2	0
Mean age (years) +/- SD	52.0 +/- 4.1	31.5 +/- 8.9
Gender		
Female	2	3
Male	2	1
Ethnicity		
Hispanic	1	4
African-American	2	0
Asian	1	0
Years as Healthcare Provider		
Mean	17.5	5
Range	11-27	3-7

Conclusions

This project demonstrated that ongoing education of clinical staff is an important aspect in increasing the influenza vaccination recommendations to patients.

Future Implications
The findings of this project could Inform development of educational interventions which target clinical staff involved in influenza administration to children. In addition, nurses could utilize the process and outcome of this project to implement improvement projects in their clinical settings. Being at the forefront of patient care, nurses can recognize gaps in the patient care process and implement a stepwise approach to making changes for improvement, as was done in this project. In particular, nurses should recognize that education plays a large role in their practice and educational projects such as this once initiated, can lead to many other changes for improvement in clinical settings.





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CATCH 5 For a Healthy Weight

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Amalia Guardiola, MD. Community and General Pediatrics Division Department of Pediatrics University of Texas Health Science Center at Houston

Project Description

WIC and many local pediatric providers share clientele. A challenge for providers in both settings is to integrate obesity screening and client-centered counseling due to time constraint and need for user friendly office tools/system in place. "Catch 5 for a Healthy Weight" offers tools and guidance for brief client centered office-based consultation with parents of overweight or obese children.

Project Goal: Build partnership between WIC and local pediatric clinics to:

- Promote parental awareness about their children's BMI
- Provide consistent and unified obesity messages to parents
- Assist parents with goal to healthier eating habits and increased physical activity

Target population: Parents of children who are overweight or obese (BMI > 85th percentile)

Setting: WIC centers and pediatric clinics

Project Activities and Time Line

Sept. - Nov. 2008: Obtained support from the Texas Pediatric Society and HDHHS; **April 2009:** Harris County Hospital District Weight Management Clinic endorsed the project.

Nov. 2008: Surveyed pediatric providers in the Houston area to access current practices on obesity screening and counseling, determine interest in motivational interviewing training and "Catch 5" implementation

Oct 2008 - Jan. 2009: Developed first draft of Catch 5 for Healthy Weight client centered tools (posters, handouts and prescription pads) for office consultation.

Jan. 2009: Conducted **"Catch 5 Workshop/training"**. A review of 2007 expert guidelines for the care of overweight/obese children, introduction to "Catch 5" project concept and hands-on training on Motivational Interviewing. **Three hour continuing education were approved for physicians, nurses and dietitians**.

Jan. - May 2009: Catch 5 materials were reviewed by many professionals, including obesity experts such as Dr. Bonnie Spears RD, PhD and Sara Barlow MD and by the Harris County Hospital District Patient Education Committee.

April – Aug. 2009: Project implemented in 15 WIC sites and piloted in 7 pediatric clinics.

Suggested Office Consultation Procedure

Measure Weight and Height

Plot BMI

Ask parent /guardian to fill out survey in exam room or waiting area.

> 85th or > 95th %ile

or

Brief Client-Centered Counseling

Follow up in 1 – 3 months
Evaluation every 3 – 6 months
Referral to advanced care as needed

Target Risk Behaviors

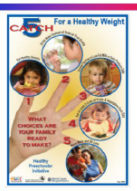
- ❑ High Fat and/or sugar snacks > 3 x week
- ❑ Sugary drinks: > 2x week
  100% fruit juice > 12 oz /day
- ❑ Fruit and vegetable intake < 2 cups/day
- ❑ Routine use of whole milk
- ❑ TV watching time >2 hours a day
- ❑ Active play < 60 minutes each day

Others beyond the 5 original messages

- ❑ Eating out (fast food) > 3 x week
- ❑ Family meals < 5-6 X week
- ❑ TV on routinely during meals or snacks

Pediatric provider to: share BMI/Weight status; assess risk behaviors; readiness and barriers to change; assist with goal setting (1 – 3 goals per visit) and summarize the session

"Catch 5" Office Screening and Consultation Tools

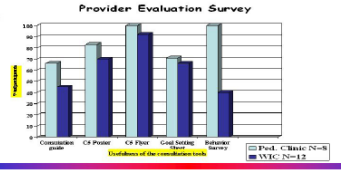


- Catch 5 Action Step 5+ Minute and 10+ Minute Office Consultation Protocols
- Office Consultation Flow Chart*
- Catch 5 For a Healthy Weight flyer*
- Catch 5 For a Healthy Weight Poster*
- Healthy Lifestyle Prescription Pad*
- Healthy Behavior Goal Setting Worksheet*
- Healthy Behavior Survey*

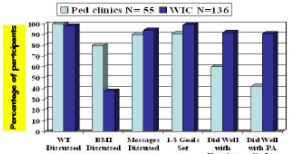
* Available in English and Spanish

Results

Provider Evaluation Survey



Client Phone Follow Up Survey



Questions asked

What Did We Learn?

- Project implementation facilitated discussion about children's weight/BMI between provider and parents.
- The simplicity of consultation tools and client-centered approach fostered client understanding, encouraged changes and reduced counseling time.
- Additional Motivational Interviewing training is needed to improve counseling/goal setting skills.
- To show benefit of focused and unified obesity prevention messages, more pediatric providers in the HDHHS-WIC should be recruited

Acknowledgements

Grant award form USDA, support from City of Houston and Texas State WIC administrations endorsement by Texas Pediatric Society, UT of Texas Health Science Center at Houston-Department of Pediatrics and Harris County Hospital District.

The State of Reflective Practice in Pediatric Medical Education: A National Survey of Educators

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BACKGROUND

- Reflective practice defined as a strategy of 'slowing down' and critically examining one's thoughts, actions and conceptual framework, to facilitate understanding of the 'why' of things and promote meaningful learning[1-3]
- Little data exists on whether educators understand and value the concept of reflective practice and the barriers they face in teaching it
- Limited data exists on how widespread reflective practice curricula are and the methods most frequently being used to teach it

OBJECTIVES

To assess:

1. Level of understanding of, and the value given to, reflective practice amongst pediatric medical educators
2. Perceived barriers to incorporating reflective practice into medical curricula from educator perspective, and
3. Extent and formats of reflective practice curricula in undergraduate medical education

METHODS

- Mixed-methods study using data from 2014 annual electronic survey of members of Council on Medical Student Education in Pediatrics (COMSEP), comprised of leaders in pediatric medical education in the U.S. and Canada, from 9/2014-12/2014

Survey Design:

- 9 questions related to reflective practice developed by investigators using comprehensive literature review
- Questions reviewed, pilot tested, revised and approved, by experts in pediatric medical education and COMSEP executive committee
- 5 point Likert-like scale used for closed ended questions assessing level of agreement/importance
- One open-ended question asking educators to convey their understanding of reflective practice in four phrases

Analysis:

- Quantitative data analyzed using descriptive statistics (IBM SPSS 22 software IBM, Inc., Armonk, NY)
- Open-ended responses coded by two independent researchers, consolidated into 6 thematic categories; frequencies analyzed using descriptive statistics
- Word-cloud used to generate visual depiction of free-text responses

RESULTS

- 147 respondents, representing 99 distinct medical schools answered at least one question related to reflective practice
- 75% of respondents: clerkship directors/assistant clerkship directors

Conceptual Understanding of Reflective Practice:

- 57% 'agree' or 'strongly agree' they have a good understanding of reflective practice
- 35% 'agree' or 'strongly agree' they feel confident teaching reflection

Respondents Value of Reflective Practice

- 92% feel it is 'somewhat important' to 'essential' that medical students are taught reflective practice skills
- 88% state that it is 'somewhat important' to 'essential' for practicing physicians to gain skills in reflective practice
- 94% feel that it is 'somewhat important' to 'essential' for physician educators to role-model reflective practice

Qualitative Analysis of Conceptual Understanding:

- 254 codes consolidated into 39 categories, and then into 6 themes.
- 5 themes created based on recent systematic review that identified essential components of reflective practice: '*Reflective content*,' '*Reflective process*,' and overlapping content-process category including '*Conceptual framework*,' '*View on change*,' and '*Self*'[3]
- Additional sixth theme created by investigators for data related to '*Strategies, Logistics, and Learning Environment*.'

Themes	%	Most Common Sub-categories	SC %
Reflective Content	8.27	*Emotions* *Experiential Learning*	95.24
Process	33.46	*Analyze* *Revisit* *Define* *Heightened Awareness*	75.29
Conceptual Framework	7.48	*Perspective Taking* *Explore biases*	89.47
View on Change	12.99	*Transformational Learning* *Life-long learning* *Deliberate practice*	87.88
Self	27.56	*Focus on Self* *Improving Self* *Introspection* *Humanism* *Wisdom/Insight*	78.57
Strategies, Logistics, Environment	10.24	*Share* *Methods*	73.08

Table 1: 6 themes of reflective practice and the most common sub-categories that comprise each theme.

RESULTS

Qualitative Analysis, Continued:

- A word cloud tool (Wordle.net) used to compare abstracted themes to verbatim open ended responses

Figure 1: A visual depiction of free-text responses, with more frequently used words appearing larger.

Barriers to teaching reflective practice:

- 45% of respondents do not feel confident in their schools capability to teach reflective practice effectively.

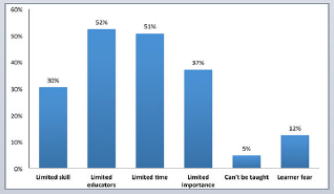

Figure 2: Perceived barriers to teaching reflective practice.

Instructional Strategies:

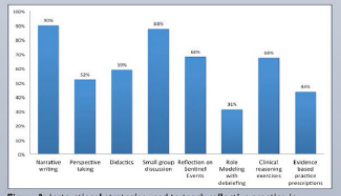

Figure 3: Instructional strategies used to teach reflective practice in undergraduate pre-clerkship and clerkship.

DISCUSSION

- An overwhelming majority of leaders in pediatric medical education value reflective practice as an essential component of undergraduate medical education
- Educators report relatively low self-confidence in ability to teach reflection, and nearly half report lack of skilled educators to teach reflective practice at their institutions (Figure 2).
- Narrative writing is the most common method to teach reflective practice. Literature also describes narrative writing as an effective tool to promote critical thinking and professional development in learners[4,5].
- Faculty development is necessary to increase role modeling of reflective practice by educators. While the importance of faculty guidance and role modeling have been described in the literature[2,6], the actual use of this instructional strategy is relatively limited (Figure 3).
- Majority of educators describe reflective practice as related to the *process* of reflection and the *self*. Faculty development on the meaning and use of reflective practice is necessary to help educators understand the nuances of reflective practice and support learners in the development of this skill.

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Decreasing Time to Antibiotic Delivery for Febrile Immunocompromised Patients in a Pediatric Emergency Department

Allison Ast, M.D., Jennifer Light, M.D., William Slayton, M.D., Erik Black, Ph.D., Carolyn Holland, M.D.

UF Health University of Florida Health

REDUCE HARM | REDUCE VARIATION | ENHANCE THE PATIENT EXPERIENCE | TRANSFORM OUR CULTURE

BACKGROUND

Infections are common complications in immunocompromised patients (ICPs). Morbidity and mortality are increased in ICPs with fever if antibiotics are not received in a timely manner. Although the causes of fever in ICP's can be many, the risk of severe bacterial infection makes rapid detection and urgent intervention essential. It is recommended that patients have prompt evaluation for source of infection and rapid initiation of empirical broad spectrum intravenous antibiotics. The Infectious Diseases Society of America has recommended that antibiotic therapy be administered promptly to those patients but no specific time window has been recommended. The nationwide consensus amongst institutions is delivery of antibiotics in 60 minutes or less.

PURPOSE

We designed a quality improvement project to reduce antibiotic delivery time to less than 60 minutes for all febrile immunocompromised patients presenting to the pediatric emergency department (ED).

METHODS

ICP QUALIFYING CONDITIONS

Cancer	Sickle Cell
Bone Marrow Transplant-within last year or taking immunosuppressive therapy within last 6 months	Solid Organ Transplant-within last 6 months or taking immunosuppressive therapy within last 3 months
Anyone on immunosuppressive therapy	Immune Deficiency-congenital or acquired
Asplenic	

Figure 1: Key drivers to decrease time to antibiotic delivery

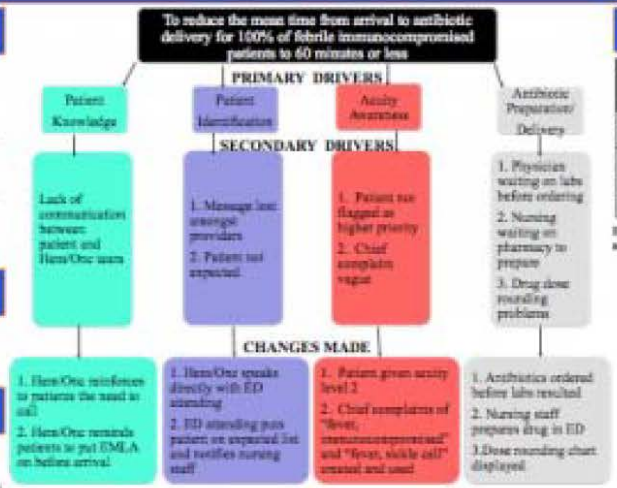


Figure 2: Primary and secondary drivers and changes implemented to decrease time to antibiotic delivery

MEASURES

Two key measures used to evaluate the effectiveness of interventions included mean time to antibiotic delivery in febrile ICPs and the percentage of febrile ICPs meeting the target for time to antibiotic administration. Data was collected and abstracted from the hospital electronic medical record for the twelve months prior to the intervention and four months following the intervention. During the pre- intervention period the ED saw, on average, 14 febrile ICPs (range: 10-19 monthly. During the post-intervention period, the ED saw, on average, 15 febrile ICPs (range: 8-19) monthly

BENCHMARKS

Category	Pre-Implementation (September 2012-September 2013)	Post-Implementation (September 1, 2013-February 24, 2013)	Percentage Change
Average time to antibiotics (min)	93.32	35.83	↓ 61.6
# ICP's receiving antibiotics in 60 minutes or less	56/138 (33.3%)	87/90 (96.6%)	↑ 63.3

Figure 3: Pre and Post-implementation results for average time to antibiotics and number of patients meeting benchmark

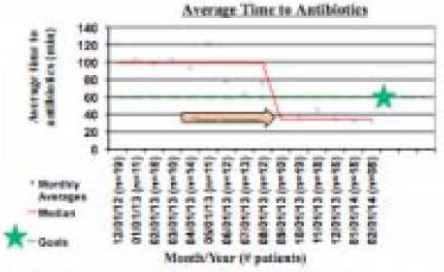


Figure 4: Run Chart of average time to antibiotics in the pre and post-implementation phases

CONCLUSIONS

Our study demonstrates that education of healthcare providers and standardization of a process of care reduced antibiotic delivery time for febrile ICPs. Timely delivery of antibiotics can be achieved through implementation of patient education, a treatment algorithm and staff buy in. Administering antibiotics in less than one hour is feasible and should become the standard of care for all febrile ICPs.

Purpose of Poster Sessions

- Visually communicate research finding while interacting with individual viewers
- Viewers quickly grasp essential information
- Networking and collaboration
- Get feedback from the scientific community
- Develop your national reputation
- Helps with manuscript preparation

Posters Compared to Oral Platform Presentations

- Visual representation of your study
- More personal interaction
- Content and Display are important

Activity: Table Discussion

1. How do you decide which posters to view beforehand?
2. What makes you stop and view a poster?
3. What makes you walk right on by a poster?

Psychology of Poster Sessions

- Overall visual appeal is important: layout, colors, figures, clutter, white space
- Most people will read the Title first
- If interested, they will read the Conclusions
- Then the rest of the poster if interested

Rule of 10s

- The average person scans your poster for **10 seconds** from **10 feet away**.
- Introduce your poster in **10 seconds**.
- The content of the poster should be easily assimilated within **10 minutes**.

Boullata 2007 Nutrition in Clinical Practice, Dec;22(6):641-6

Poster Basics

- Tell a simple, clear story
- Have 2-3 key take-home messages
- Poster content supports take-home messages
- Use bulleted text
- Avoid long stretches of prose
- Use charts and figures
- Avoid clutter
- Make use of empty space to highlight content

Title

- Very important! – often the 1st and only thing viewed
- Accurate promise of the poster's contents
- Description of what was investigated and how
- NOT summary of results: many stretch data implications (debatable)
- Case study: clearly describe the issue the case raises
- Length: no more than 10-12 words
- Easy to understand
- Like a headline: short, sharp, compelling

Activity: Title Critique

1. For each title, identify strengths & weaknesses.

2. What would you change?

3. Which would you choose to view if they were lined up side-by-side?

Activity: Title Critique

1. Do we adequately prepare our pediatric residents to manage type 1 diabetes?
2. A child with severe metabolic bone disease and hypophosphatemia associated with elemental formula
3. Insulin pump back-up plans for pediatric patients with type 1 diabetes are associated with decreased admissions for diabetic ketoacidosis

Activity: Title Critique

1. Lights, Camera, Action: Increasing the use and documentation of asthma action plans in a pediatric outpatient setting
2. Ah-Choo, Ah-flu: Factors associated with acceptance of the flu vaccine in pediatrics
3. Integration of asthma action plans into the electronic medical record in a primary care setting

Poster Content

WHY did you start?	⇨	Background & Objectives
HOW: What did you do?	⇨	Methods
What did you find?	⇨	Results
TAKEAWAY: What does it mean?	⇨	Conclusions

Background/Objectives

- WHY did you start?
- Information relevant to why you did the study
- Focus on the gap that the study fills
- Specific study aims
- Include a hypothesis

Methods

- The HOW: What did you do?
- Study type
- Provide context
- Measurements (outcomes)
- Concise but detailed enough to evaluate your approach

Results

- Describe as extensions of your objectives
- Present only relevant data
- Include data used to draw conclusions
- Use Tables & Figures – keep simple, include descriptions
- Limit use of lines
- DON’T repeat in the text what is in Tables/Figures

Conclusions

- TAKEAWAYS: What does it mean?
- Emphasize the significance of the results
- Tie conclusions to the background/objectives
- Include how the findings impact clinical practice or future research
- DON’T overstate the finding and claim more than the work justifies

How is the poster best visually designed?

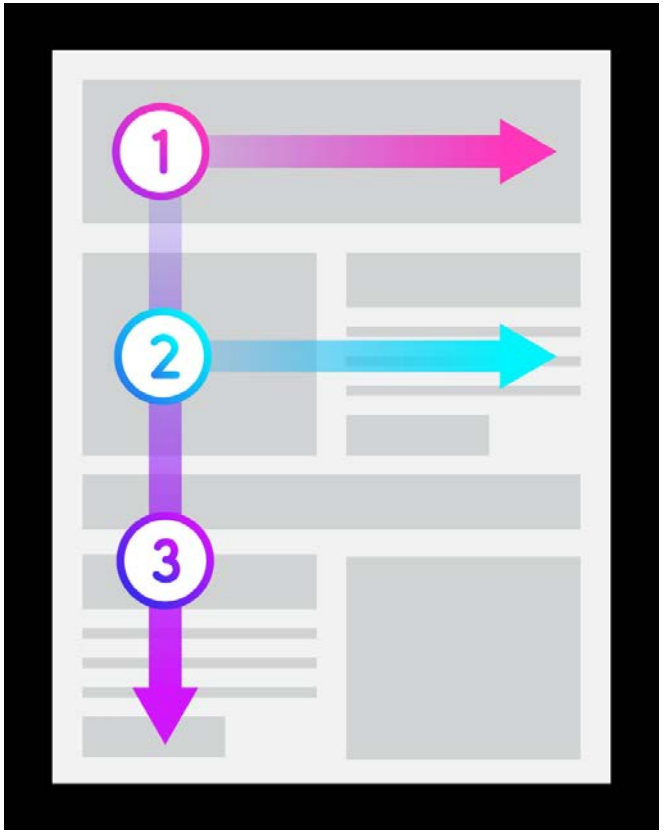
GOAL OF GOOD DESIGN

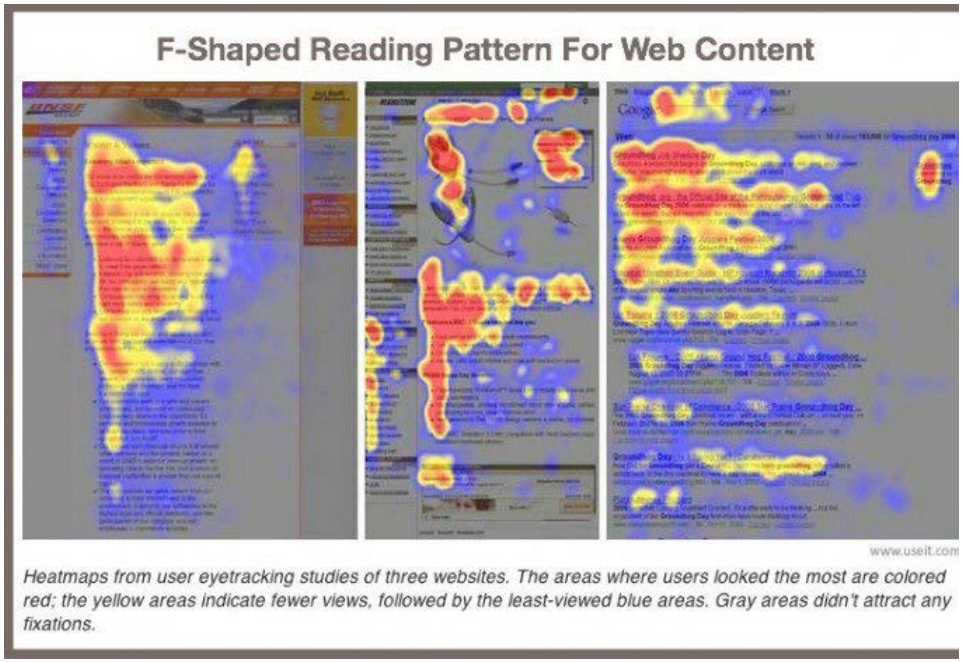
Create a **visual hierarchy** that moves the viewers attention through your poster with ease, so they **quickly understand** the information.

UNDERSTANDING THE VIEWER

F-Shape Reading Pattern:

- Western cultures read from left to right and top to bottom, creating an F-Shaped pattern across the page.

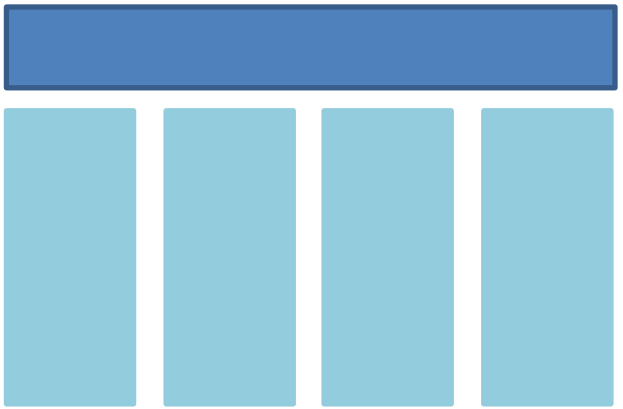


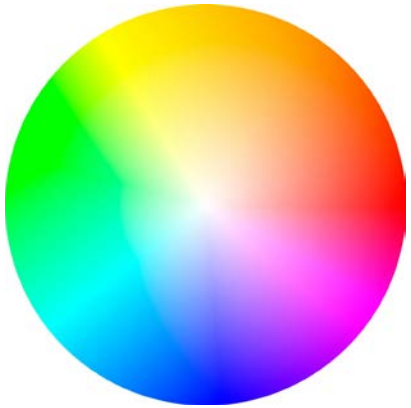


Heatmaps from user eyetracking studies of three websites. The areas where users looked the most are colored red; the yellow areas indicate fewer views, followed by the least-viewed blue areas. Gray areas didn't attract any fixations.

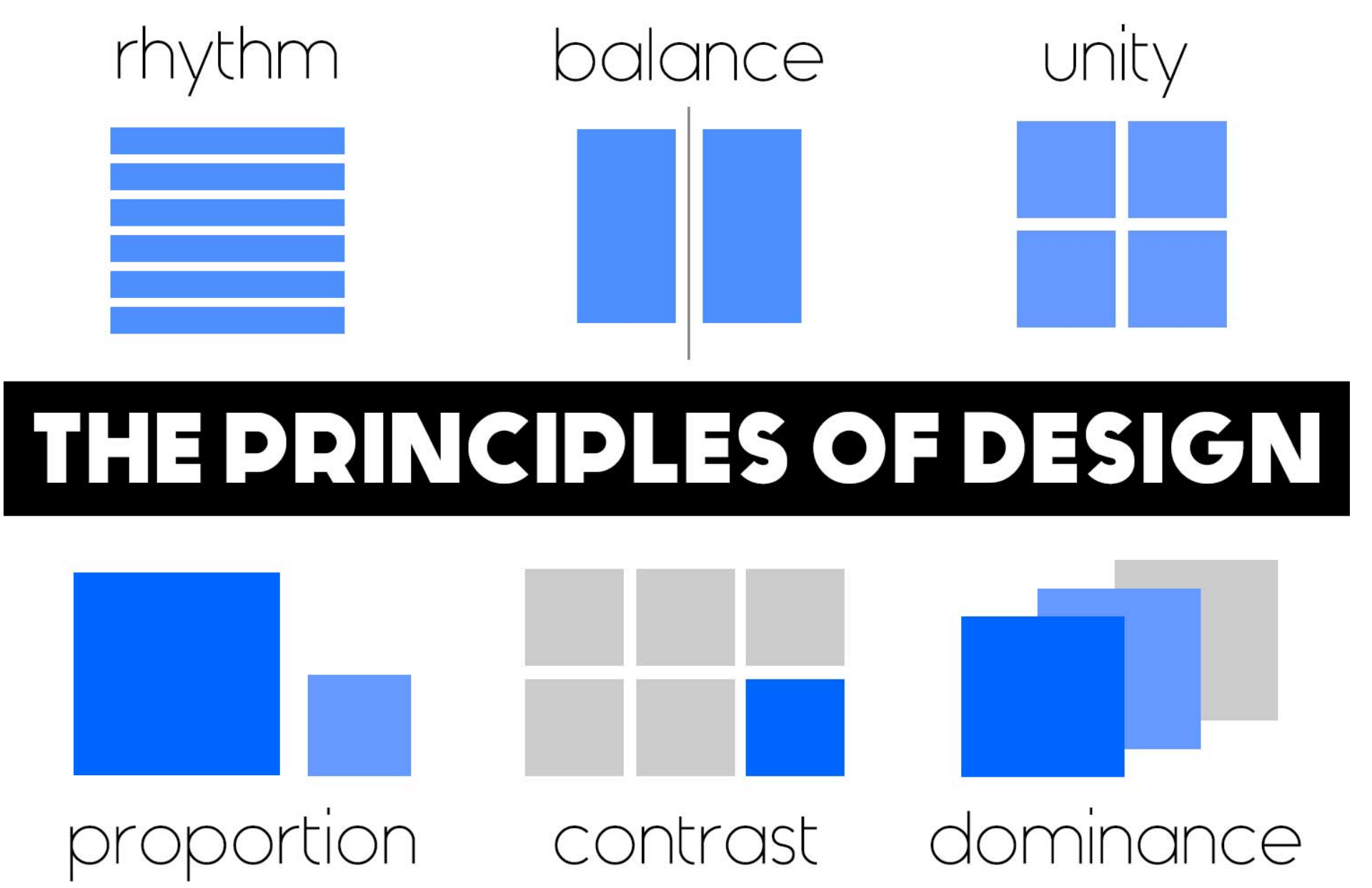
UNDERSTANDING THE VIEWER

- Shape, Color, Content:
  - The brain understands in the following order:
    - 1 - Basic shapes
    - 2 - Color
    - 3 - Content/ wording





- Clear
- Bulleted points
- Not too much text
- Figures > Tables > Text



Cahill, P. Principles of Design. May 25, 2016.
https://www.onlinedesignteacher.com/2015/11/design-principles_69.html

BALANCE & ALIGNMENT

- Distribute the visual to create an equilibrium (for the poster)

Balance

- Equal column widths
- Equally spaced columns
- Equally spaced sections
- ~30% white space

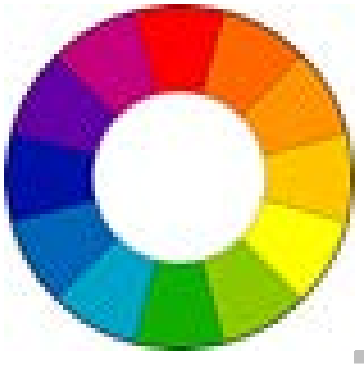
Alignment

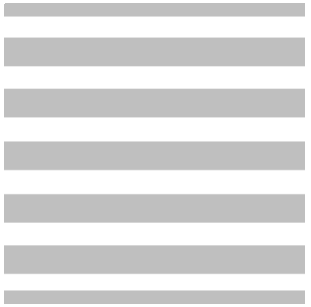
- Align headings
- Align columns
- Align graphics (vertically and/or horizontally)

RHYTHM & UNITY

Repeat elements to create unity

- Use similar shapes
- Use analogous colors (next to each other on color wheel)
- Limit color palette (Max 3 primary colors)
- Use same font throughout
  - Sans serif Headings (Arial, Helvetica)
  - Serif text (Times New Roman)
- Use similar dimensions for figures and photos





EMPHASIS (Dominance, Proportion & Contrast)

- Create emphasis by creating visual focal points with contrast
  - Use contrasting sizes of shapes
  - Use contrasting colors (background/text)
  - Use contrasting fonts (Font size, type)
    - Sans serif Title / Headings (Arial, Helvetica)
    - Serif text (Times New Roman)
  - Light vs Dark (highlight key sections)
  - **BOLD ALL CAP or Sentence Case for Titles / Headings** vs Regular Font text

- Work in small groups at your table
- Use poster design checklist to evaluate example posters
  - What do you like? Why?
  - How you could improve the poster design?

Editing Wikipedia for Medical School Credit

Amin Azzam, MD, MA[1]; Lauren Maggio, MS (LIS)[2], MA; Evans Whitaker, MD, MLIS[3]; Mihir Joshi[4]; James Heilman, MD[5]; Val Swisher[6]; Fred Trotter[7]; Jake Orlowitz[8]; Will Ross[7]; Jack McCue, MD[9]

institutional & department affiliations listed below

Purpose

What is the impact of our elective for UCSF MS-4's to be editing Wikipedia for academic credit?

Background

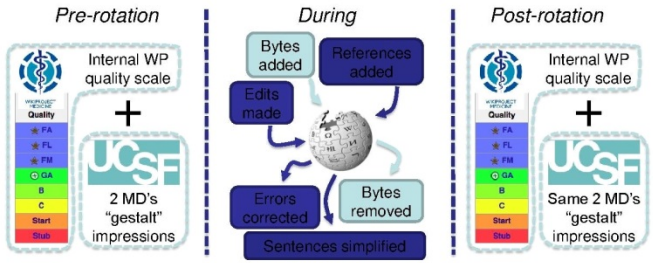
- In the fall of 2013, we began offering an MS-4 elective to edit Wikipedia's health-related content.
- UCSF faculty & librarians partnered with WikiProject Medicine, Wikipedia Education Program, and experienced Wikipedians to design, deliver and evaluate the elective.
- Between 2013 – 2015, across 3 cycles of the month-long immersion rotation 28 students enrolled.

Methods

Impact on the students

mid-rotation 1:1 interviews + end-rotation focus groups → Transcribed and coded for themes

Impact on WP article quality



Impact on WP readers

→ Article traffic statistics during ***only*** the months students were actively editing

Results

Impact on WP readers

Student	Article	Views	Wiki quality PRE	Wiki quality END
Eaamed	Cirrhosis	151,621	C	C
LaurenSMS4	White blood cell	138,597	C	C
Acallen88	Stroke	119,117	C	C
emhawkins	Hepatitis	112,459	C	B
Lmciszak	Dementia	85,048	C	C
UCSF2014	Alcohol withdrawal syndrome	52,514	C	C
Dr. MRM 23	Endometriosis	51,283	B	B
Plm234	Appendicitis	39,857	C	C
UCSFrb1983	Diabetes	36,943	C	B
Dswatcha	Headache	32,186	B	B
Asaadi1	Amyloidosis	25,369	Start	C
Wwtele	Cholecystitis	24,492	C	B
Rkronen	Post-partum depression	19,087	B	B
Snwatson14	Dyspareunia	12,373	C	C
Future FamDoc	Actinic keratosis	12,300	C	C
Jmtseng	Toxic epidermal necrolysis	10,221	Start	B
Veronicagon4	Placental abruption	8,957	Start	C
Jorgeo005	Therapeutic hypothermia	7,009	C	B
Dorafriedman	Premature rupture of membranes	6,608	Start	B
DrPFiii	Prostatectomy	5,265	Start	Start
CmcUCSF2014	Preeclampsia	4,607	B	B
lieeeric	Race and health	3,880	B	B
EricaNM	Vulvar cancer	3,662	C	C
Sho2014	Umbilical cord prolapse	3,308	Start	B
Ktteli	Ventilator-associated pneumonia	2,876	C	C
Jksingh2014	Nicotine replacement therapy	2,657	C	C
Yst22	Omphalitis of newborn	1,446	Start	C
TWil2014	In silico medicine	323	Stub	Start

Impact on WP article quality

Bytes added → + 369,994

Bytes removed → - 82,559

net +287,385 bytes (average 10,264/student)

Edits made → 1,084 edits (average 39/student)

References added	Pre	Post
Average number of references / article	29.4	37.6

UCSF 2 MD's "gestalt" impressions	"Very improved"	"improved"	"unimproved"
	14	13	1

Impact on the students

Discussion/Dissemination

These 28 Wikipedia articles were collectively viewed **974,065** times during ***only*** the months students were actively editing

Working in over **100 languages** have translated over 600 articles to other language Wikipedias

Provides Wikipedia access to **400 million** people **for free** in 46 developing countries through 54 mobile phone operators

Reflective Critique

- Wide variability in baseline student aptitude and effort.
- UCSF MD quality "scale" is entirely subjective and not validated.
- Students have not continued editing Wikipedia after the rotation ended.

Institutional Affiliations

1. UCSF Department of Psychiatry
2. Stanford University Library
3. UCSF Library
4. University of California, Berkeley College of Arts and Sciences
5. University of British Columbia Department of Emergency Medicine
6. Content Rules, Inc.
7. The DocGraph Journal
8. Wikimedia Foundation
9. UCSF Department of Internal Medicine

Keeping PACE with Healthcare Reforms & COPD Standards of Care

Vi Bui, Thien Hoang, Loc Le, Nicholas Thrash

TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER®
Quality Enhancement Plan

Introduction

The Ondenia Community Hospital Quality Improvement committee was called upon by the CEO to address the higher than average COPD readmission rate in light of the upcoming Medicare penalties. The events surrounding the admission, discharge, and readmission of four COPD patients were mapped and analyzed to determine the root causes. The committee then proposes the PACE Initiative to tackle the problems of high readmission rate and low patient satisfaction. The Initiative aims to not only resolve the apparent and ongoing problems but also establish a quality improvement process in order to adapt to future challenges.

Background

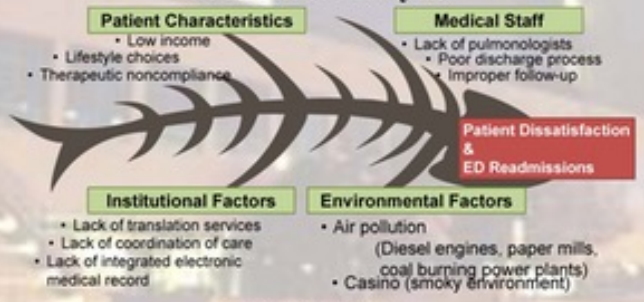
- Ondenia (Pop. 45,000) is the largest city in Gandon county, Ohio.
- Major industries: agriculture, diesel engine manufacturing plant, paper mill, coal power plant.
- Air Quality Index (AQI) > 151 for 30 days/ year, reaching upwards > 200 at times.
- Health problems: 15% hospital admissions are for pulmonary diagnoses, 10% of ED visits are for COPD/COPD-related comorbidities.

Methodology

- Summary of events.
- Root cause analysis and identification of red flags using the Lean/Six Sigma approach.
- Application of the DMAIC Cycle (Define, Measure, Analyze, Improve, and Control) to resolve the problems.
- Patient Adherence through Collaborative Exchange (PACE) Initiative, with a 2-pronged approach: patients and practitioners (P), and based on 3 keys: advocacy, communication, education (ACE).
- Timeline.
- Cost-benefit analysis.

Results

Root Cause Analysis



DMAIC Cycle

Quality Improvement:
Reassess budgets & benchmarks every quarter

Goal:
15% reduction in 30 days COPD readmissions

Recommendations:
Develop processes & tools for improvement

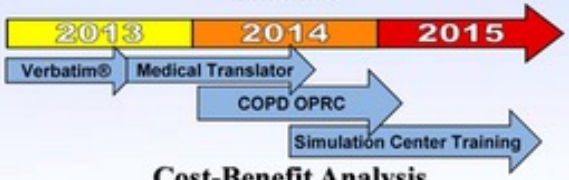
Metrics:
Quarterly readmission rates for COPD patients

Root Cause Analysis:
Identify areas for improvement

PACE

Patient Adherence through Collaborative Exchange

Timeline



Cost-Benefit Analysis

Monetized benefits:

- $6.6 million – 1st year (Net benefit)
- $2.3 million – 2nd year
- $3.2 million – 3rd year

Non-monetized benefits:

- Increased patient satisfaction
- Increased public trust
- Cleaner air for the greater Ondenia community

Triple Aims

Acknowledgement

- Dr. Cindy Acton (SON), Dr. Charles Seifert (SOP), Dr. Sharon Decker (SON), and the TTUHSC CLARION 2013 course team.
- TTUHSC Quality Enhancement Plan for poster funding.

Contact information

- Vi Bui, Thien Hoang – School of Pharmacy (Amarillo)
- Nicholas Thrash – School of Nursing (Lubbock)
- Loc Le – Graduate School of Medical Sciences (Lubbock)

Provider Education Program, www.olapep.ca

Moosa D., BSc, RRT, CRE, MASc(c)[1], Licskai C., BSc, MD, FRCPC[2], Dell S., BEng, MD, FRCPC[3]

[1]Ontario Lung Association, [2]University of Western Ontario, [3]University of Toronto

ASTHMA PLAN OF ACTION

Abstract

Background: Ontario's Asthma Plan of Action (APA) is an evidence-based program that supports best practices for addressing asthma educational needs across a variety of healthcare settings and community environments. The goal of the APA is to reduce mortality, morbidity and healthcare costs for children and adults with asthma through integrated initiatives focused on health promotion and prevention, management, treatment, and, research and surveillance.

Our directive: The Lung Association's Provider Education Program (PEP) has a mandate to develop, implement and evaluate accredited continuing medical education (CME) programs and materials that promote the Canadian Thoracic Society (CTS) respiratory guidelines. The program is intended for primary healthcare professionals as a key initiative of the Ontario APA program. The program builds on the success of The Provider Education in Asthma Care Project. Participants reported improvements in asthma care, including prescribing practices, use of spirometry and written action plans. The PEP is led by a multi-disciplinary steering committee and chaired by Ontario Thoracic Society (OTS) representatives.

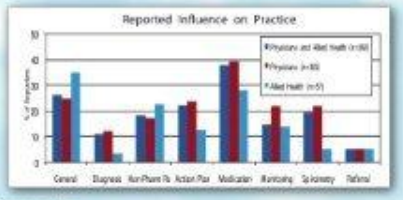
Our success: Since PEP's inception in 2002, there has been an exceptional response and attendance at our Asthma, Spirometry Interpretation and COPD vs. Asthma Workshops across Ontario. 5600 health care professionals have attended 250 of our workshops.

Discussion: A unique feature of the APA is the partnerships that have been formed to develop, implement and evaluate programs. PEP in partnership with the APA Work-Related Asthma (WRA) Program, offers a coordinated approach for work-related asthma prevention education for workers and for healthcare providers. Through collaboration with the Primary Care Asthma Program (PCAP) and the Ontario College of Family Physicians, we are developing a collaborative care mentorship model for PCAP primary care providers on spirometry interpretation and technique. Evaluation of our programs indicates a continuing need for respiratory education. We aim to address the respiratory educational needs of providers through all models of care throughout Ontario.

THE LUNG ASSOCIATION

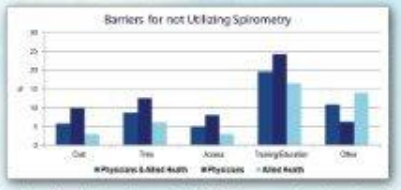
Background

The program builds on the success of The Provider Education in Asthma Care Project. Primary care providers attending the pilot workshops demonstrated needs for improved asthma knowledge and skills, particularly medication plans for chronic management and creation of written action plans. Participants rated this provincial asthma CME program highly, would recommend it to a colleague, and remained satisfied with the workshop 3 months later. Participants reported improvements in asthma care, including prescribing practices, use of spirometry and written action plans.[1]



Spirometry

The need for spirometry education as it relates to technique, interpretation and implementation continues to exist among primary care providers across Ontario. Barriers to utilization of spirometry in primary care have included challenges related to interpretation of spirometric data. 77(28.0%) attendees (35 physicians and 42 allied health providers) listed the barriers for not utilizing spirometry.[2]



In addressing spirometry education needs, the following programs have been developed or are underway:

- Spirometry Interpretation Workshops
- Spirometry Machealth e-module (underway)
- Spirometry in Primary Care CD-Rom
- PCAP Collaborative Care Pilot Project (Stakeholders: OCFP and PCAP)

Our Programs

Through multiple methods to effectively transfer asthma knowledge and skills into practice, the following methods for knowledge translation are included: Workshops that include didactic presentations by opinion leaders, peer facilitators, case-based learning. CME through the Ontario Telemedicine Network, interactive touch pad technology and web-based learning.

Workshops

MainPro-C accredited workshops

- Asthma (Adult, Pediatric, Preschool)
- Spirometry Interpretation (Eng. & Fre.)
- COPD vs. Asthma (Eng. & Fre.)
- Work-Related Asthma
- Asthma Action Plans

Web-based Learning

On-line interactive continued medical education (CME) allows participants to access and complete the courses at their own pace and time.

E-modules www.olapep.ca/cme

- **Evidence-based clinical review asthma cases on adult and pediatric asthma**
- **Work-Related Asthma** - Framework for the diagnosis and management of work-related asthma

Video Presentations www.olapep.ca

- **Adult Asthma** - Dr. Diane Lougheed, MD, MSc, FRCPC
- **Achieving Control of Pediatric Asthma** - Dr. Sharon Dell, BEng, MD, FRCPC
- **COPD** - Dr. Anna Day, MD, FRCPC, FCCP

CDs

- **Inhalation Devices Techniques and Procedures**
- **Spirometry in Primary Care**

Work-Related Asthma

In Canada, work-related asthma (WRA) is the most common chronic occupational respiratory disease. To help reduce the high financial and human health costs of WRA, the Ontario Lung Association in collaboration with Workplace Safety and Prevention Services (WSPS) and the Occupational Health Clinics for Ontario Workers (OHCOW), create awareness of WRA among employers and workers in high-risk industries, with a focus on early recognition and prevention. The Work-Related Asthma program offers a coordinated approach for work-related asthma prevention education for workers and for healthcare providers.

www.olapep.ca/wra

Conclusion

The Provider Education Program supports best practices that continue to address the respiratory educational needs of providers across all spectrums of the healthcare setting including Family Health Teams and Community Health Centers. Through various partnerships, we offer a coordinated approach to respiratory education throughout Ontario.

Acknowledgement

We acknowledge the continued support of our PEP committee.

Members:

Dr. Sharon Dell (co-chair)
Dr. Diane Lougheed
Dr. Tony D'Urzo
Jennifer Olajos-Clow
Dr. Harold Kim
Kathie Dickie
Andrea Stevens-Lavigne
Dr. Chris Licskai (co-chair)
Lawrence Jackson
Dr. Itamar Tamari
Dr. Samir Gupta
Dilshad Moosa (Program Manager)
Gloria Alfred
Carole Madeley

We wish to thank Gloria Alfred for her administrative support.

Funding provided by the Ministry of Health and Long Term Care, Government of Ontario.

References

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2. Moosa D, D'Urzo, A.D., Tamari I., Licskai C., Coates AL., Impact of Spirometry Workshops in Primary Care, IPCRG Conference, 2010.

Contact

For more information about the Provider Education Program please contact:
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www.olapep.ca

Ontario

Flipping the Classroom: A Data-Driven Model for Nursing Education

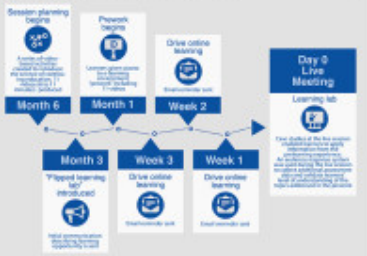
Brian S. McGowan, PhD[1]; Jann T. Balmer, PhD[2], RN; and Kathy Chappell, PhD, RN[3]
[1]ArcheMedX, Charlottesville, VA; [2]University of Virginia School of Medicine, Charlottesville, VA; [3]American Nurses Credentialing Center, Silver Spring, MD

Introduction

To better understand the applicability of the flipped classroom and the Learning Actions Model to support nursing education, a specially designed, data-driven, flipped classroom model was developed for the 2014 American Nurses Credentialing Center (ANCC) Annual Symposium on Continuing Nursing Education. The goals of the project were to :

1. Maximize learning opportunities associated with a one-day conference
2. Expose nurse educators to the data-driven, flipped classroom model as a potential tool for their own use
3. Validate the effect of the Learning Actions Model in support of a blended and agile educational design
4. Expand the number of contact hours by combining self-paced prework with in person learning lab experience

Planning and Implementation



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ArcheMedX

Author contact information: Brian@archemedx.com

The Learning Actions Model Supports Educator Planning and Agile Design

ArcheMedX Learning Actions Model

To enable planners and facilitators to capture data about learning and engagement in the prework, an innovative e-learning technology, the ArcheViewer (McGowan, 2014) was used.

Analysis of the use of these learning actions helped facilitators prepare the live classroom experience to complement the prework. Anticipated questions and areas of concern were identified, and facilitators were able to focus on critical learning opportunities for attendees.

ArcheViewer Creates a Novel Learning Environment

ArcheViewer technology creates an immersive and engaging online learning environment by allowing educators to define distinct learning moments, build a searchable library of related resources, and highlight these resources and engage learners at predefined moments.

In addition, within the learning environment, learners have the ability to:

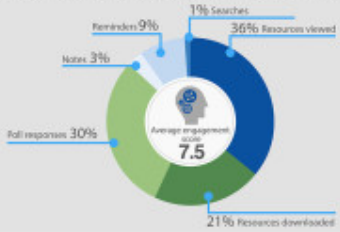
Online Prework Engaged Learners

In more than 100 learners who participated in the online learning experience:

- **876** views
- **19.8** Mins average completion time
- **815** completions
- **96%** average completion rate

Engagement in Online Learning was High

These learners took nearly 5,800 core Learning Actions which were divided as follows:



Resources Were Utilized By Learners

A breakdown of the 66 resources used by learners revealed:

- **1570+** views
- **150+** added to notes
- **900+** downloads

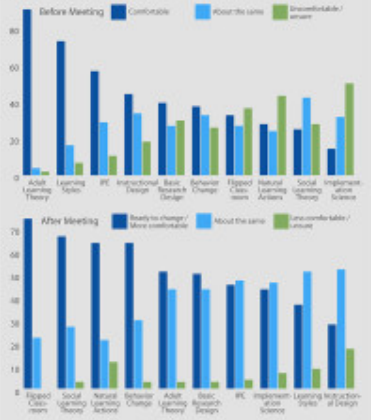
Flipped Classroom was a new Experience for Majority

When asked "Is this your first time participating in a flipped classroom learning experience?" learners responded:

73% Yes **No 27%**

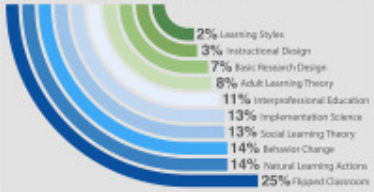
Learner Comfort With the Science of CE Was Improved

Learners were asked how comfortable they were in applying what they learnt into their educational activity. Variation in comfort levels before and after the activity pointed out topics that could be seen as strengths and weaknesses of the population. Notably, variation in comfort across the topics was reduced following participation in the online series.



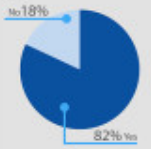
Learners Committed to Change in Practice Across Range of Topics

Percent of learners who responded as "Ready to change" when asked "Having completed the lesson how comfortable are you applying this information into your educational planning, delivery, and assessment":

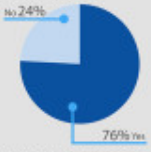


Prework Engaged and Prepared Live Learners

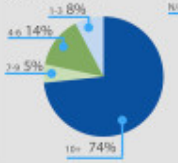
Did you view the flipped classroom videos prior to arriving today?



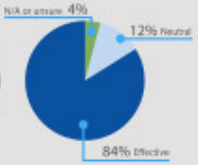
If you viewed the videos, do you feel more prepared today to engage with faculty and be a more active learner?



If you viewed the videos, how many videos did you watch?



Do you believe that providing learners with an opportunity to engage with learning materials (content) before a live, problem-based workshop is an effective educational strategy?



Conclusions

- Flipped learning experience prepares learners to participate and engage in live or classroom-style learning
- Frequent notifications and clear communications drive participation
- Online prework must be designed to gather data about learners and learning such that the live intervention may be optimized
- The ArcheViewer e-learning technology permits planners and faculty to create a data-driven and therefore more rewarding overall learning experience

An Interdisciplinary Model of Collaboration Between Medical Staff, Hospital Quality Improvement, and Continuing Medical Education Departments to Promote Education and Practice Changes in the Prevention of Venous Thromboembolism in Cancer Patients

Lucille Leong, M.D., Mary Mendelsohn, R.N., B.S.N., Crystal J. Saavedra, B.A., and Robert Morgan, M.D.
City of Hope Comprehensive Cancer Center, Duarte, CA
Supported by a Unihealth Educational Grant

BACKGROUND

WHY?

- VTE is a leading cause of morbidity/mortality in cancer patients.
- VTE is the second cause of death in cancer patients behind cancer itself.
- Despite established national guidelines for Pharmacologic prophylaxis for hospitalized cancer patients, there is a knowledge and practice gap of cancer physicians.
- Hospital VTE rates are nationally reported metrics.

Definition of PI-CME

- "A CME activity in which a provider has established a process by which a physician identifies an educational need through a Measure of his/her performance in practice, engages in educational experiences to meet the need, integrates learning into patient care and then re-evaluates his/her performance."
- Result should be better patient care outcomes

The Quality, CME, Medical Staff Link at City of Hope

METHODS

- VTE Task Force established in 2010
  - Department of Quality Improvement
    - (Quality Risk and Resource Management)
  - Medical Staff
  - Department of Continuing Medical Education
  - Pharmacy
  - Nursing
- Feb. 2013 - Feb. 2014
  - Unihealth grant support
  - Multiplatform educational interventions through CME

Schematic of the Project

Menu of Educational interventions

- Lectures by Key Opinion Leaders in field of VTE
  - & "meet the expert" sessions
- Grand Rounds Lectures
- Dinner Seminars
- Interactive small group discussions
- Monthly VTE FAQ emails from MS leadership
- Online educational vignettes
- E-learning modules

RESULTS

Educational Participation

- 326 unique COH MS members participated
  - 140 faculty physicians
  - Physicians trainees
- 31 pharmacists
- 57 RN/PA's
- 24 ancillary health staff
- Over 27,000 VTE emails were sent by CME
- during the grant period

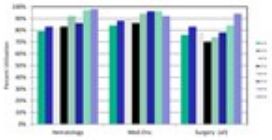
Total VTE Rate per Discharges by Month

Total VTE Rate per Discharges by Month (Not Present on Admission)

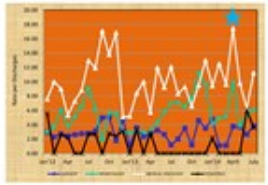
System Changes

- Visual cues re VTE prophylaxis above workstations where admission orders are written
- Use of standardized admission order sets tailored for each service. New Computerized Order Entry will enhance this.
- Compliance with inclusion of VTE order sets was used as a departmental quality indicator.

VTE Order Set Usage by Department



VTE Rates by Patient Service

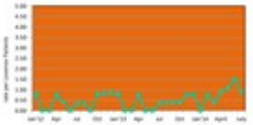


Enoxaparin Usage Data

Enoxaparin Administration By Service

Enoxaparin Administration Doses per Patient Days

Bleeding Complications in Enoxaparin Patients



CONCLUSIONS

- Appropriate use of VTE prophylaxis is a clinical gap generating a CME learning need.
- Collaboration between MS and hospital QI and CME can create multiplatform educational interventions.
- Systematic institutional changes are necessary for practice changes (order sets, CPOE hard stops and risk assessment tools)
- Despite effective education, there is national trend of rising VTE rates. Reassessment of risks and interventions is necessary.

Why have we not seen decline in VTE?

1. Stringent standards for admissions have led to sicker inpatients - increased risk for VTE
2. Increased use of PICC lines in Hematology patients
3. Earlier discharge of post-operative patients:
   - who remain on bed rest at home
   - do not continue enoxaparin
4. Despite changes in physician attitudes, some physicians continue to view anti-coagulation therapy for VTE as burdensome, affecting their compliance with the VTE guidelines.
5. Increased use of TKIs and Anti-angiogenics which increase risk for VTEs.

COMPARING PERCIEVED KNOWLEDGE OF CHRONIC DISEASE MANAGEMENT TO QUANTITATIVE KNOWLEDGE MEASUREMENT IN A SAMPLE BACCALAUREATE NURSING STUDENTS: IMPLICATIONS FOR PALLIATIVE CARE NURSING EDUCATION

SCHOOL OF NURSING
VANDERBILT UNIVERSITY

Kim K. Kuebler DNP, RN, ANP-BC
Vanderbilt School of Nursing

Abstract

Purpose: To compare baccalaureate nursing students' self-perceived knowledge with objective test knowledge in the management of chronic diseases and their associated symptoms.

Methodology: Two regionally distinct nursing programs have participated in this project and represent the Southeastern and the Northeastern US. Senior baccalaureate nursing students in their last semester have been targeted and represent the entry level of the professional nurse. Participants completed a self-rated knowledge survey and then completed a 45 item multiple choice objective knowledge examination on disease pathophysiology and symptom management.

Results: A weak correlation was found in the southeast cohort r= +0.244 (p=0.08) between self perceived knowledge and objective tested knowledge. The northeast cohort had a negative correlation r= -0.183 (p=0.29) between self perceived knowledge and the objective test measurement. There was no statistically significant difference in the objective testing between cohorts. In comparing the two overall objective examination scores the mean score for the southeast was 21.17 and the mean score for the northeast was 21.48. The differences between these two scores is statistically non significant (p >.05). Both cohorts scored a mean of less than 50% on the objective examination.

Background

Americans are living with one or more chronic debilitating diseases, and seven out of ten can expect to live with their diseases several years before dying. When coupled with the advancing age of the 8 million baby boomers that are now qualifying for Medicare.[1] This will soon create a huge demand on healthcare resources. These demands will force changes in patterns of care for patients living for several years before dying with a chronic disease.[2] Healthcare reform will demand changes in nursing education requiring new innovations, skills, and knowledge to address the demands of this burgeoning population.

PROBLEM: The demands of an increasing population of Americans suffering from symptomatic chronic diseases and its impact on the healthcare system requires further investigation as it relates to baccalaureate nursing education.

Methods

- Two regionally distinct nursing programs have participated in this project and represent institutions in the Southeastern and the Northeastern US.
- Senior baccalaureate nursing students in their last semester were targeted and represent entry level into the professional role of nursing.

DATA COLLECTION TOOLS

Proctor Instructions

Self Rated Knowledge Survey

Chronic Disease Objective Knowledge Examination

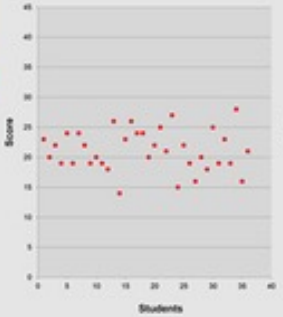
A Pearson's correlation coefficient was used to determine if there were correlations between self perceived knowledge and objective knowledge. In addition, a paired t-test was used to compare the two nursing cohorts.

Self Perception	CV	Cancer	Stroke	COPD	DM	Obesity	End Stage Renal	HIV/AIDS
AASU	2.56	2.56	2.56	2.86	3.06	3.06	2.42	2.64
SHU	2.72	2.49	2.63	2.59	3.33	2.91	2.52	2.37

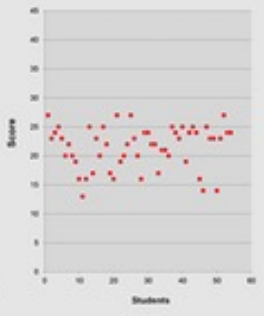
Individual Scores for Self Perceived Knowledge/Disease

Self Perception	Non Malig Pain	Malig Pain	Dyspnea	Dysphagia	Depression	Insomnia	Fatigue	Cachexia
AASU	2.53	2.64	2.69	2.81	2.94	2.72	2.97	2.14
SHU	2.63	2.44	2.93	2.67	2.76	2.48	2.72	1.67

Individual Scores for Self Perceived Knowledge/Symptoms



Scatter Plot for Objective Knowledge Scores Southeast Cohort



Scatter Plot for Objective Knowledge Scores Northeast Cohort

Results

- A weak correlation was found in the Southeast cohort r=+0.244 (p=0.29) between self perceived knowledge and objective knowledge. The Northeast cohort had a negative correlation of r= -0.183 (p=0.08) between self perceived knowledge and the objective test measurement.
- There was no statistically significant difference in the objective testing between the cohorts (p >.05).
- Both cohorts scored less than 50% on the objective examination.

Conclusions

- This project has identified gaps in nursing knowledge as it relates to use of palliative care in the management of chronic disease and its associated symptoms based upon examination scores.
- The findings from this project can be used address the lack of existing information on the inclusion of palliative care within baccalaureate nursing education.
- This pilot project has provided the author with baseline data that will be used to generate additional studies to further evaluate the need to integrate palliative education in the form of symptom management for patients living for several years with chronic disease.

References

1.Centers for Disease Control (CDC). (2009). Healthy aging improving and extending quality of life among older Americans. *Chronic Disease Prevention and Health Promotion*. Retrieved March 2, 2011, from: http://www.cdc.gov/NCCdphp/publications/aag/aging.htm

2. Wennberg, J., Fisher, E., Goodman, D., & Skinner, J. (2008). Tracking the care of patients with severe chronic illness. *Executive Summary: The Dartmouth Atlas of Health Care*,1-9.

Lessons Learned: Implementation, Curriculum Development and the Evaluation of ECHO Ontario Mental Health at CAMH and the University of Toronto

Allison Crawford, MD, MA, FRCPC, Co-Chair; Sanjeev Sockalingam, MD, FRCPC, MHPE, Co-Chair; Linda Mohri, MSW, Co-Chair; Greg Lodenquai, MD, FRCP(C); Lisa Lefebvre, MDCM, MPH, CCFP, DABAM, FASAM; Javed Alloo, MD, CCFP, MPLc; Eva Serhal, MBA, Manager; Amanda Arena, PhD, Research Coordinator; Brittany Watson, MPH, PMP, Project Coordinator; Maurey Nadarajah, BSc, Administrative Supervisor

Program Summary

ECHO Ontario Mental Health is the first mental health and addictions ECHO in Canada and is the second ECHO in Ontario. We use Zoom to connect primary care providers in Ontario with an interdisciplinary Hub with expertise in mental health and addictions. 24 spoke sites with 170 registered primary care providers take part in weekly ECHO sessions.

Innovations: We've rooted our evaluation framework and program planning in Moore's 7 Levels of CME Outcomes Measurements; utilized a triangulated needs assessment to build our curriculum; and integrated in-session polling software to measure real-time knowledge change during each weekly ECHO session.

Introduction

ECHO Ontario Mental Health is the second ECHO in Ontario, and the first ECHO in Canada in the area of mental health and addictions.

ECHO Ontario Mental Health community of practice members meet weekly in 2 hour clinics, that consist of:

- A 15-20 minute didactic lecture on a specific clinical topic
- Case presentations and discussions, followed by recommendations from spokes and hub

Scope

To create a community of practice and workforce multiplication, with the ECHO Ontario Mental Health community learning from each other and achieving the highest level within their scope of practice.

Vision

ECHO Ontario Mental Health will equip primary care providers in Ontario with applicable knowledge and collegial support to effectively manage complex mental illness and addiction needs within their own practices.

Program Description

ECHO Model and Telemedicine Networks

The ECHO Ontario Mental Health **hub** consists of **specialized mental health care providers**, including: physicians with expertise in child and youth, trauma and medical psychiatry, family medicine and addictions; as well as a social worker and other health care providers.

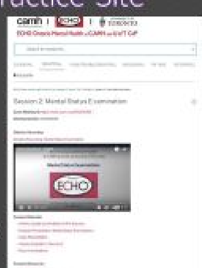
Spokes are primary care provider sites across the province of Ontario that include: physicians, nurse practitioners, nurses, social workers, counsellors and other health care providers.

Sessions are carried out via **Zoom software**

Participants can sign on via Zoom video or teleconferencing

All didactics are recorded for future viewing

Sessions, Resources and Community of Practice Site

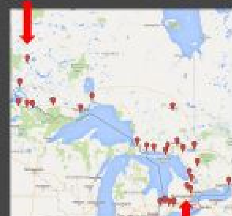


ECHO Ontario Mental Health Community of Practice webpage

ECHO Ontario Mental Health's community of practice learns from **weekly ECHO clinics** as well as resources provided on our **Community of Practice webpage**. All didactics, case presentations and recommendations, session resources and didactic recordings are posted weekly on the community of practice site.

Spoke Map

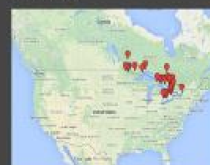
The **spoke farthest from the hub** is located in **Red Lake, ON at 1199Mi.** (1,929km).



The **closest spoke to the hub** is located in **Brampton, ON 29Mi.** (47km).

ECHO Ontario Mental Health is hosted at the Centre for Addiction and Mental Health (CAMH) in Toronto, ON, Canada.

The **mean distance** of spoke sites from the hub is 413.4Mi. (665.3 km) ± 587.6 SD.

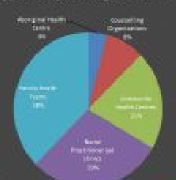


Spoke Participants

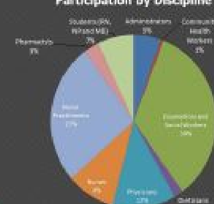
24 Participating Spoke Organizations

There are currently **170 registered multi-disciplinary spoke participants** eligible for participation in weekly ECHO Ontario Mental Health clinics.

Types of Spoke Organizations



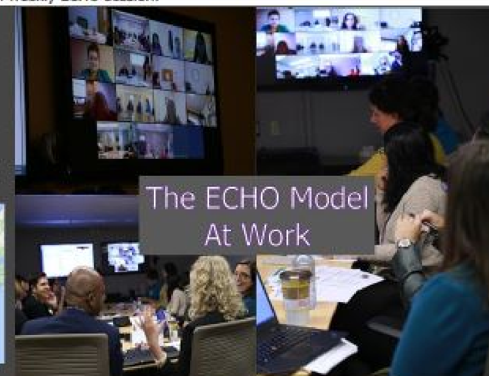
Participation by Discipline



ECHO Ontario Mental Health utilized an **innovative approach** to curriculum development which included a **triangulated needs assessment** based on **population health, learning needs** identified by primary care providers and **expert consensus**.

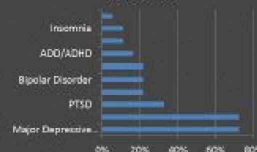
Based on the findings a curriculum was developed, which includes a weekly brief didactic session on the following topics:

- *Addictions*
- *Anxiety Disorders*
- *Trauma and PTSD*
- *Major Depressive Disorder*
- *Personality Disorders*
- *Clinical care pathways and guidelines*
- *Motivational Interviewing*
- *Safety Assessments*
- *Psychopharmacology*



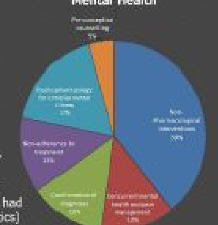
Discussion
Preliminary Findings

Diagnoses Appearing in Cases Presented



Mental health diagnoses in case presentations received to date (NB: most case presentations had concurrent diagnoses as reflected in the statistics)

Reason for Referral to ECHO Ontario Mental Health

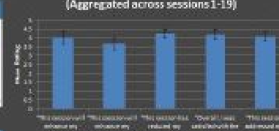


Discussion
Spoke Knowledge Change and Self-Rated Satisfaction

Sample In-Session Pre-Test Results

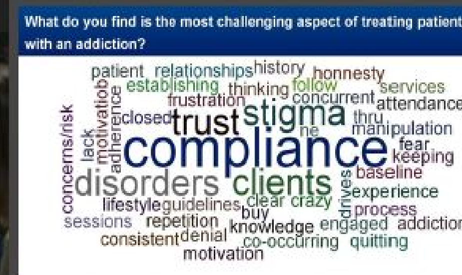
Sample In-Session Post-Test Results

Spoke Rated Statements
(Aggregated across sessions 1-19)



Interactive polling software embedded in each didactic session is an **innovative** approach to measure **real-time** in-session knowledge change. The average knowledge change per question in the 17 recorded sessions was 31.7% between the pre- and post-session polling questions ±20.1 SD.

Use of In-Session Polling



Use of a Multi-Level Evaluation Framework

ECHO Ontario Mental Health has used **Moore's 7-Level Framework for the Measurement of CME Outcomes** since its inception (April 2015) to **guide** the development of our **evaluation framework and strategic plan.** This model addresses multiple tiers of continuing medical education.

This model was used in a systematic review **recently accepted by Academic Medicine**.

Moore's CME Evaluation Framework	Example
Level 1 PARTICIPATION	Number of disciplines who participated in ECHO Number sessions attended
Level 2 SATISFACTION	Evaluation sheets on each ECHO session focused on IT, format, facilitators, learning environment
Level 3 LEARNING (KNOWLEDGE)	Improved knowledge in mental health and addictions (MHA) Pre/Post MCQ's and self-efficacy (perceived)
Level 4 COMPETENCE	Degree to which attendees demonstrate skills in managing MHA
Level 5 PERFORMANCE	Degree to which attendees perform what ECHO intended them to do (e.g. follow algorithm for depression care, alcohol screening, etc)
Level 6 PATIENT HEALTH	How much do MH of patients change as a result of ECHO
Level 7 COMMUNITY HEALTH	Degree to which MH in the community of patients changes due to ECHO related changes in practice

ECHO Ontario Mental Health has recently submitted a grant application to conduct further research examining the project's impacts on provider, population and community levels, as well as on patient health outcomes.

Spoke Testimonials

"Mental health is one of the most prominent issues that I see in my day to day practice.[...] Little did I know that ECHO would allow me to see that I am not alone in primary care, and that others are struggling as well. [...] I feel that the face to face time between the psychiatric specialists at the HUB and the primary care providers through the spoke sites, has been vital in starting to bridge the gap between the two aspects of the healthcare community. Being able to get the opinion of your colleagues, as well as specialists in the field is so helpful when dealing with difficult, and even day to day cases that involve mental health. Thank you ECHO!"
- *Espanola Family Health Team*

"[ECHO Ontario Mental Health] will definitely will help me with the clients I see."
- *Atikokan Family Health Team*

"I know that I glean great insight and learning from participating in ECHO, as does our team. We are very appreciative of the opportunity!"
- *Noojmowin-Teg Health Centre*

"I was so glad to have the help of the collaborative. I saw the client in follow up today so we are starting some of the recommendations; she was engaged in starting to make some changes...Great tips out of the conference"
- *North Muskoka Nurse Practitioner-Led Clinic*

"Staff who have had the opportunity to participate all have very positive feedback. The staff member who shared a case presentation was extremely happy with the feedback and support."
- *North of Superior Counselling Programs*

Teaching Shock with High-fidelity Simulation versus Case-based Discussion

Keith Littlewood, MD[1,2,4], Ashley Shilling, MD[2,4], Christopher Sternland, MD[2,4], Elisabeth Wright, MSE[1,2] and Mark Kirk MD[1,2,3]
[1]Medical Simulation Center, [2]School of Medicine, [3]Department of Emergency Medicine, [4]Department of Anesthesiology
University of Virginia Health System, Charlottesville, Virginia

Introduction

High-fidelity simulation is being widely adopted in healthcare education. There is limited data regarding its efficacy compared to other educational methods. The resource cost of simulation education is high and includes faculty and learner time, simulation center infrastructure, simulation specialist time, and the devices themselves. Responsible use of this expensive educational modality requires critical analysis of its relative effectiveness.

During a required anesthesiology clerkship, third year medical students had structured experiences dealing with cardiogenic and septic shock over a half day. Scheduling circumstances created two groups of approximately equal sizes: one group managed a patient with cardiogenic shock in the Simulation Center and had a case-based discussion (CBD) centered on sepsis (SIMcrd), the second group had the contraposed schedule with a simulation scenario of sepsis and CBD of cardiogenic shock (SIMsps).

All students also attended an introductory discussion of shock and an airway workshop. Upon completion of these activities, all students underwent a structured oral examination (SOE). Results of the SOE were divided into patient evaluation (EVAL), invasive monitoring (MON), diagnosis and management of septic (SEP) and cardiogenic (CRD) shock. Following IRB approval, de-identified data were analyzed using SPSS (IBM, ver 17)

Data Analysis

Each student's total and module scores were divided by the corresponding averaged scores of all students to create indexed scores. Analysis of raw and indexed scores was performed. Some of the pertinent results from the paired t-test of indices are shown in the adjacent table.

There are several issues that require justification or clarification. The study was retrospective and without randomization. Not all examiners were blinded (i.e., some examiners had participated in the CBD or SIM sessions.) Three-fourths of the students were scheduled for CBD before SIM. Finally, the SOE had not been previously validated.

For these reasons, the indexed score for the SIM and CBD were compared for students who had CBD first and those who had SIM first. The same approach was used to compare the results from blinded and non-blinded examiners. Some of the key results can be found in the table below. Additionally, the performance of the SOE was considered. The SOE was used by authors KL and CS with more senior students and house officers. Raw total and module scores showed strong correlation with learner level ($p<.001$), supporting construct validity. This relationship is presented graphically. It should be emphasized that the purpose of the SOE was to introduce students to this type of examination and to evaluate curricular performance, not to assess individual student's comparative individual performance.

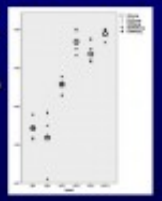
Paired Samples		Indices	Mean Difference	Sig (2-tailed)
SIM First	(21)	EVALi - MONi	-0.0114	0.667
		SIMi - CBDi	0.1252	<0.001
CBD First	(64)	EVALi - MONi	0.0037	0.882
		SIMi - CBDi	0.1531	<.0001
Non-Blinded	(74)	EVALi - MONi	-0.0038	0.837
		SIMi - CBDi	0.1261	<.0001
Blinded	(11)	EVALi - MONi	0.0258	0.362
		SIMi - CBDi	0.3309	<.0001

Parameter & Group		n	Mean	Std Dev	p value for difference (95% CI)
INDEXED SCORES					
EVALi	ALL	85	1.00	0.19	
	SIMcrd	42	0.99	0.08	0.414 (-0.05, .02)
	SIMsps	43	1.01	0.07	
MONi	ALL	85	1.00	0.17	
	SIMcrd	42	0.99	0.20	0.801 (-0.08, 0.07)
	SIMsps	43	1.00	0.19	
SEPi	ALL	85	1.00	0.19	
	SIMcrd	42	0.93	0.15	<0.001 (-0.20, -0.06)
	SIMsps	43	1.06	0.17	
CRDi	ALL	85	1.00	0.19	
	SIMcrd	42	1.09	0.16	<0.001 (0.10, 0.24)
	SIMsps	43	0.92	0.17	

Conclusions

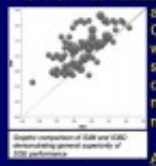
Students demonstrated superior performance on the SOE for the type of shock experienced through SIM vs CBD, but showed no difference between EVAL or MON modules. The differences that were seen persisted statistically regardless of type of shock, order of experiences, level of MS3 experience (i.e., time of academic year), or examiner blinding. The effect size of SIM vs CBD was larger than that usually reported in comparing PBLD to traditional lectures. Even if this CBD is conservatively considered a lecture, SIM compared favorably to PBLD efficacy.

Additionally, a SOE proved useful in curricular evaluation, despite minimal faculty training.



Discussion

Prior work has indicated that SIM experiences may produce a better understanding of shock than CBD. This study adds to that pilot with a greater number of subjects, statistical power of crossover comparisons, and evaluation by a method other than one of the studied modalities.



Acknowledgements

This project evolved from author KL's Harvard-Macy Medical Educator's project with the generous contributions of Harvard-Macy faculty and scholars. Patty Jenkins provided invaluable assistance.

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Publication

Littlewood KE, Shilling AM, Stenland CJ, Wright EB, Kirk MA. High-fidelity simulation is superior to case-based discussion in teaching the management of shock. Med Teach. 2013;35(3):e1003-10.

Medical Teacher citation

This poster online

Discovery Within

CLIENT & FAMILY EDUCATION: An Emerging Research Stream

David Wiljer[1,2] • Andrew Johnson[1] • Sandra Cunning[1,2] • Michael-Jane Levitan[1] • Karen MacCon[1] • Ivan Silver[1,2]

(1) Centre for Addiction and Mental Health, Toronto; (2) University of Toronto, Department of Psychiatry

Rationale

The development of an effective research stream focused on client and family education is critically important to supporting the CAMH Education strategic goal of transforming the client and family experience within CAMH and beyond through partnership, engagement and education.

Background

Incorporating the voices of clients and family members in health-related education activities is gaining momentum.[1]

A growing body of research suggests that the meaningful incorporation of the lived experience in mental health education is well received, with positive experiences reported from both client and student perspectives.[2,3]

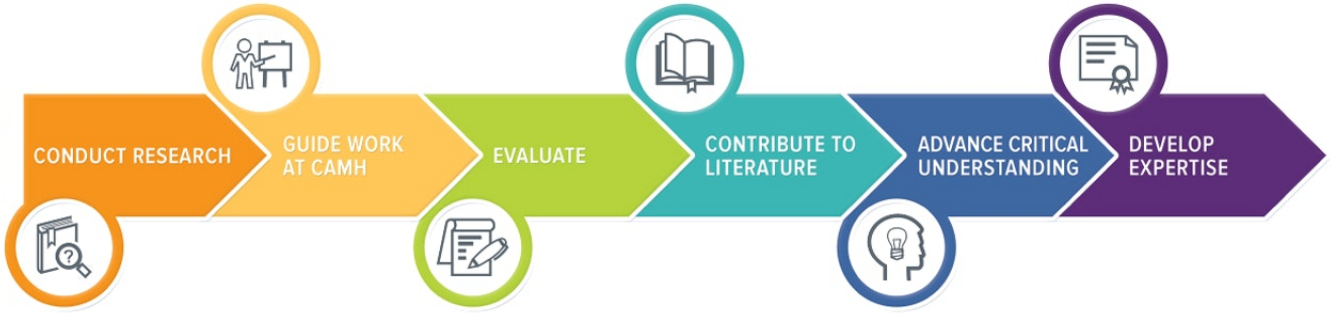
However, there is a paucity of research and evaluations on the impact of this teaching method on attitude, behaviour and practice of learners.[1]

Objectives

Develop expertise in client and family education through a critical understanding of how to:

- respectfully operationalize client and family roles in mental health (MH) education
- deliver meaningful MH education that promotes learning and decreases stigma
- evaluate effectiveness of programs and advance knowledge of best practice for MH education.

Research Stream



A Snapshot of CAMH Education Research

SYSTEMATIC REVIEW

Research Question
What evidence-based educational programs exist for those in recovery from, or affected by, mental illness and/or addiction?

Status
273 of 4,639 records published in English in PsycINFO, Medline and CINAHL between 2002 and 2013 were thematically analyzed.

Next Steps
Create an outcome evaluation framework for recovery-oriented MH patient education, indicating a priority area for further exploration.

APP REVIEW

Research Question
What educational mobile applications are available to clients and families to assist in recovery?

Status
Completed a systematic review of 243 apps from 1,054 hits related to depression across five major platforms.

Next Steps
Develop a conceptual framework for using apps in education and clinical practice, and for setting standards for marketing apps to consumers.

COURSE EVALUATION

Research Question
How can we most effectively and meaningfully embed the family voice and engage family members as teachers in an online education course for MH professionals?

Status
Analysis of family voice course material is near completion and interviews of past course participants and family members will soon be conducted to assess the incorporation of the family perspective.

Next Steps
Identify areas within the course to strengthen that will help to guide meaningful, collaborative approaches to teaching.

CLIENT AS TEACHER

Research Question
What is the current practice and attitude surrounding client involvement in teaching among medical professionals in mental health and addictions?

Status
Electronic self-report survey has been deployed to 123 CAMH staff from 5 clinics. Results from 37 eligible respondents have been analyzed.

Next Steps
Survey will be administered to a broader audience and results will inform the programmatic approach to involving clients as teachers.

OUTCOME EVALUATION

Research Question
What outcomes and measurement tools are used to evaluate MH education programs involving clients and families?

Status
Over 1,000 outcome domains, variables and measurement tools have been extracted from the same systematic review sample (n = 273) to be analyzed.

Next Steps
Operationalizing MH outcome domains and tools will indicate trends in quantifying recovery-oriented concepts and will inform future evaluations.

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Goals of Care and Code Status Discussions Among General Medical Inpatients

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[1]University of Iowa Carver College of Medicine, Iowa City, IA; [2]Center for Research in the Implementation of Innovative Strategies in Practice (CRIISP), Iowa City VA Medical Center, Iowa City, IA; [3]Program in Biomedical Ethics and Medical Humanities, University of Iowa Carver College of Medicine, Iowa City, IA

Background

- Code status (resuscitation) orders are a routine part of clinical care in hospitalized patients.
- Possible types of code status orders include:
  - Full code
  - DNR: Do Not Resuscitate
    - Withhold chest compressions, defibrillation, intubation
  - Other: e.g., DNI (Do Not Intubate)
- Studies suggest that physicians often misunderstand or are unaware of patients' actual preferences regarding code status.
- Communication between patients and physicians regarding code status orders needs to improve to respect patients' preferences.
- Establishing patients' goals of care may improve communication between patients and physicians and provide a meaningful context for discussing resuscitation preferences (and other treatments).

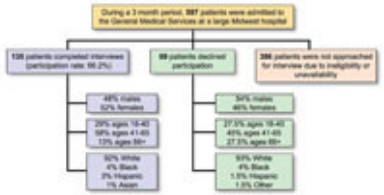
Objectives

- To assess patients' understanding of what resuscitation entails.
- To describe patients' code status preferences.
- To describe patients' goals of care.
- To assess how frequently patients discuss their goals with their physicians
- To determine whether discussing goals of care influences patients' resuscitation preferences.

Methods

- Structured interviews (carefully scripted) of 135 inpatients on the general medicine services at a large academic medical center within 48 hours of admission.
- Interviews conducted by 2 medical students.
- Charts reviewed for demographic information.
- Treating physicians were contacted to estimate patients' survival prognoses.

Flowchart of Patients Included



Interview Guide (domains queried):

- ✓Resuscitation preferences
- ✓Communication with physicians about goals of care
- ✓Demographic variables
- ✓Goals of care:
  1. Cure
  2. Live Longer
  3. Improve Health
  4. Maintain Health
  5. Accomplish Something Particular in Life
  6. Comfort
  7. Other

Results

Baseline Characteristics

Mean Age (Years)	48 (Range 18-86)
Male	48 %
Race/ethnicity	
White	92 %
Black	4 %
Hispanic	3 %
Asian	1 %
Estimated Survival Prognosis	
> 24 Months	82%
< 24 Months	8%
Not yet clear	10%

Self-rated health status	n (%)
Excellent	8 (6)
Very good	25 (19)
Good	45 (33)
Fair	30 (22)
Poor	26 (19)
Katz index of activities of daily living (0-12 points)	
10-12 points	125 (93)
<10 points	10 (7)

Admitting Diagnoses

Diagnosis	Disease category (%)	n
Gastroenterology	52 (39)	
Infectious diseases	29 (22)	
Pulmonary	16 (12)	
Nephrology	10 (7)	
Neurology	7 (5)	
Substance abuse	7 (5)	
Endocrinology	6 (4)	
Hematology-Oncology	4 (3)	
Connective tissue diseases	3 (2)	
Cardiology	1 (1)	

Advance Directives

	n (%)
Report having a living will	33 (24)
Report appointing a power of attorney for healthcare	34 (25)
Report having a living will and appointing a power of attorney for healthcare	27 (20)
Copy of living will in the medical record	6 (4)
Copy of power of attorney for healthcare document in the medical record	7 (5)

Knowledge of CPR

	n (%)
Report knowing what 'CPR' stands for	98 (73)
Report knowing the components of cardiopulmonary resuscitation	101 (75)
Actual knowledge of the components of cardiopulmonary resuscitation:	
Cardiac defibrillation	37 (27)
Chest compressions	79 (59)
Intubation (endotracheal)	10 (7)

Code Status Discussions

	n
During this hospitalization, my doctor discussed with me whether I would want CPR in case my heart stopped beating or my lungs stopped breathing, which would mean that I was dying	41
Decision after discussion	
CPR to be provided	33
CPR not to be provided	5
Undecided, not answered, or partial CPR	3
I had enough time to discuss this decision with my doctor	33
I think my doctor understood my preferences	38

Code Status Preferences

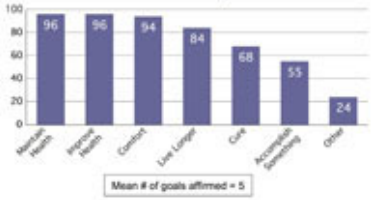
In case my heart stopped beating or my lungs stopped breathing, which would mean that I was dying, I would want …	n (%)
… to receive defibrillation (electricity) on my chest to shock my heart to make it start beating again	125 (93)
… to receive chest compressions (pushing up and down on my chest) to try to keep the blood moving through my body	124 (92)
… to be intubated (have a tube placed through my mouth and into my windpipe) so that a breathing machine can then move air in and out of my lungs	117 (87)

Asking about Goals of Care

"Please tell me your goals of care for this hospitalization":

- 116 (86%) of patients were able to answer this question as posed without further prompting
- An additional 18 (13%) were able to answer the follow-up question: "What are you expecting will be accomplished during this hospitalization?"

% of Patients Who Affirmed Specific Goals of Care



Mean # of goals affirmed = 5

Patients' Most Important Goals

Discussing Goals

- 53 patients (39%) had spoken with their doctors about their goals of care prior to the study interview.
- At the conclusion of the interview, 70% of patients stated that discussing goals of care during the study was helpful.
- 2 patients changed their resuscitation preferences after discussing goals of care (they were more interested in receiving CPR).
- Patients who had discussed goals of care with their physicians were more likely to have full code status ($p=0.02$).
- Individual goals of care did not correlate with code status preferences.

Case Example: What Numbers May Not Show

A man with pneumonia and HIV

- Patient had had multiple emotional discussions with his physicians
- During the study interview he paused after discussing his goals of care and said, "Thank you. That helped. I've been fighting [against having] a test, but this reminded me that it's important, and I can do this."

Limitations

- Modest sample size.
- Results may not be representative of other patient populations.
- Potential influence of interviewer.
- No follow-up on long-term influence of the discussion.

Conclusions

- **Many patients do not understand what resuscitation entails.**
- **Asking patients about their goals of care is feasible.**
- **Discussing goals of care was perceived as helpful by a majority of patients.**
- **Goals of care differ widely among patients on a general medical service and warrant explicit discussion to avoid misunderstanding.**
- **Discussing goals of care may lead to changes in code status preference in some patients.**

Acknowledgments

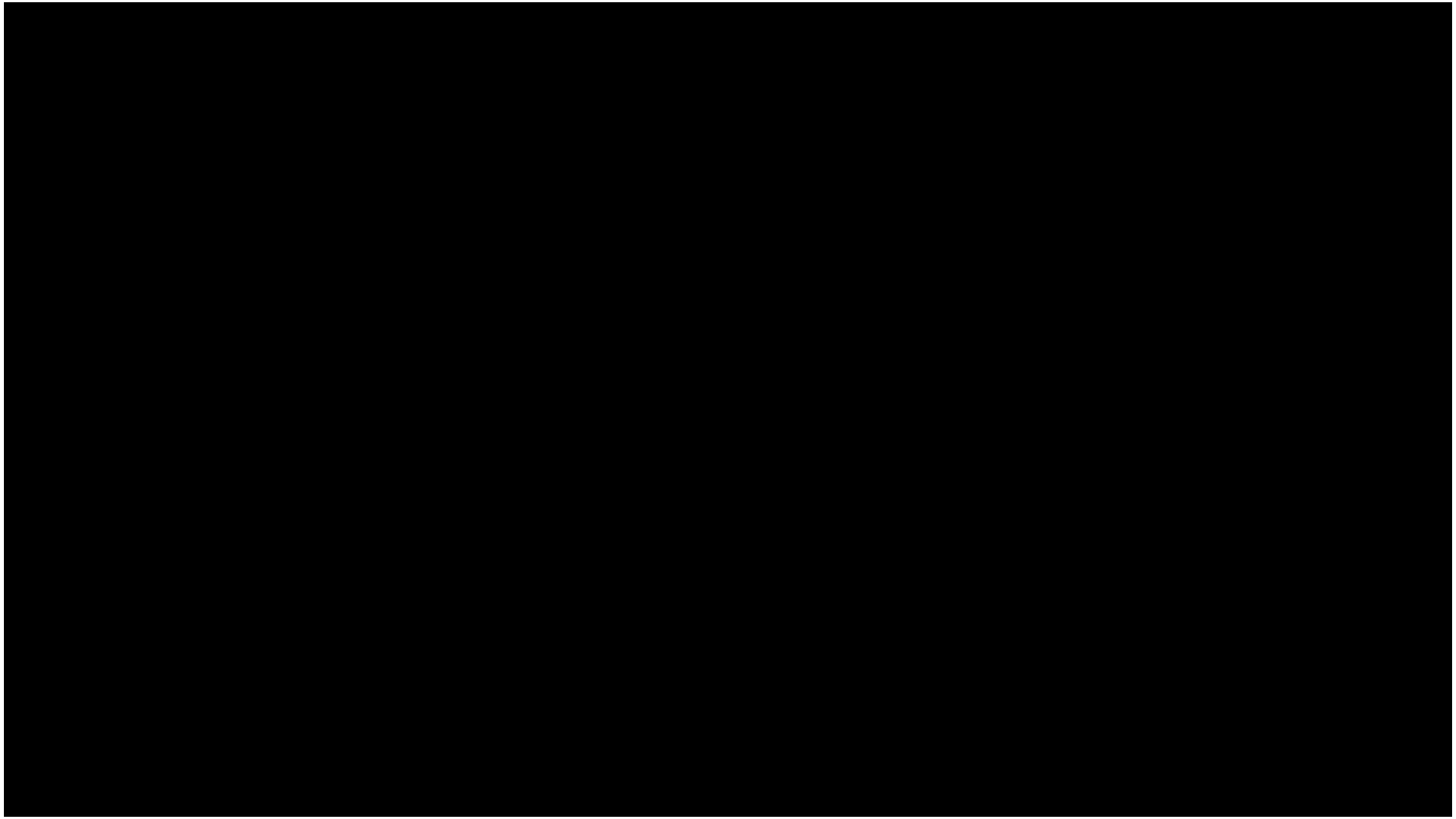
- **This study was funded in part by the Medical Student Research Fellowship Program, The University of Iowa Carver College of Medicine.**

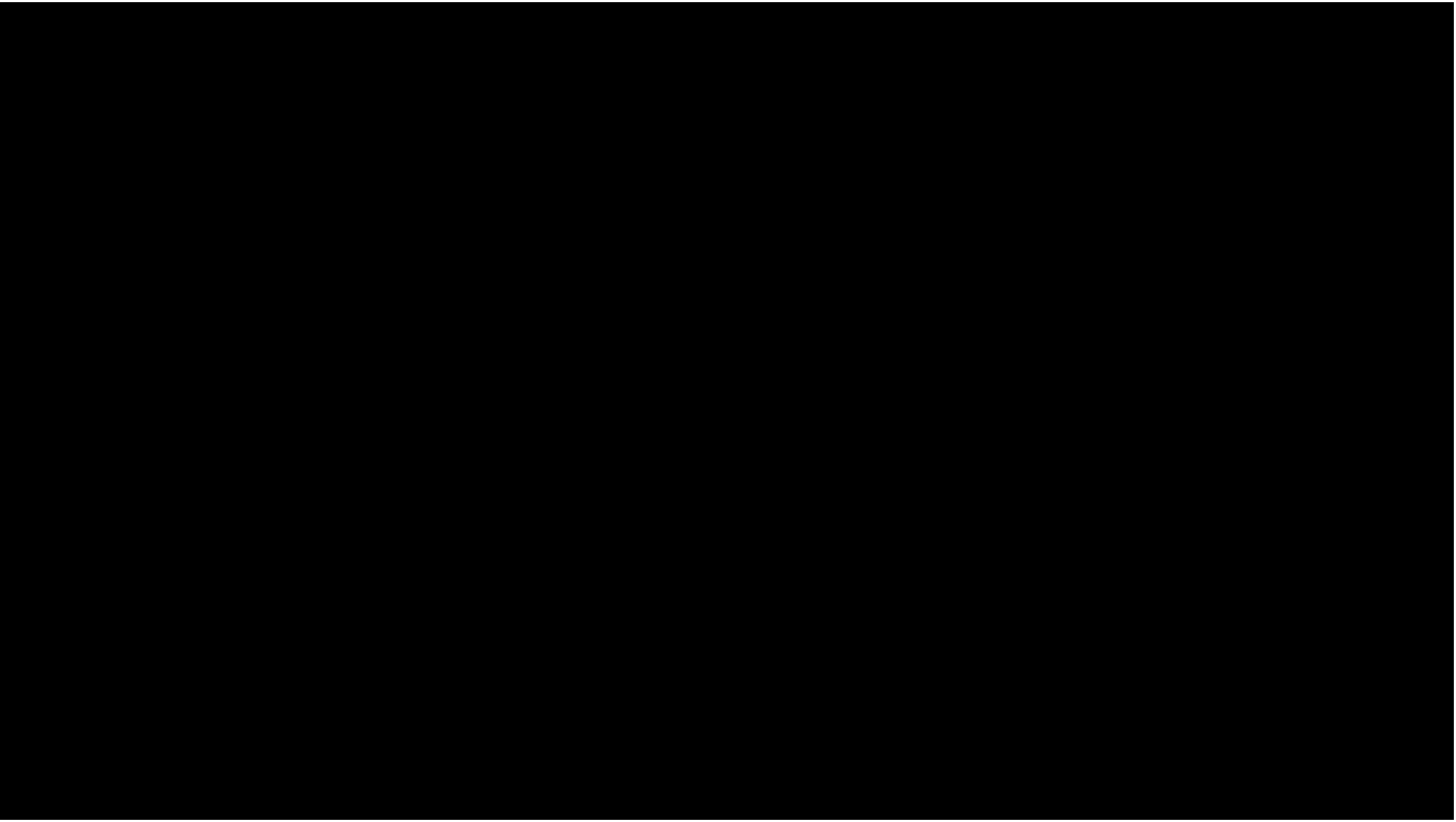
How to Command Attention with Your Presentation

The Oral Presentation

The Good and The Bad

- Watch the following videos.
  - What was most successful about the poster presentation?
  - What was least successful?





Step-by-Step Guide to Effective Presentations

- Start with a “hook” tailored to your viewer
- Pitch the argument for your scholarly work
  - What is the **problem** you were trying to address?
  - How did your work fill gaps in the literature?
- Your objective and methods (less emphasis for casual viewer, in depth for expert viewer)
- Highlights of what you found
- Implications of your work

The 4 Types of Poster Viewers

The General-Knowledge Viewer

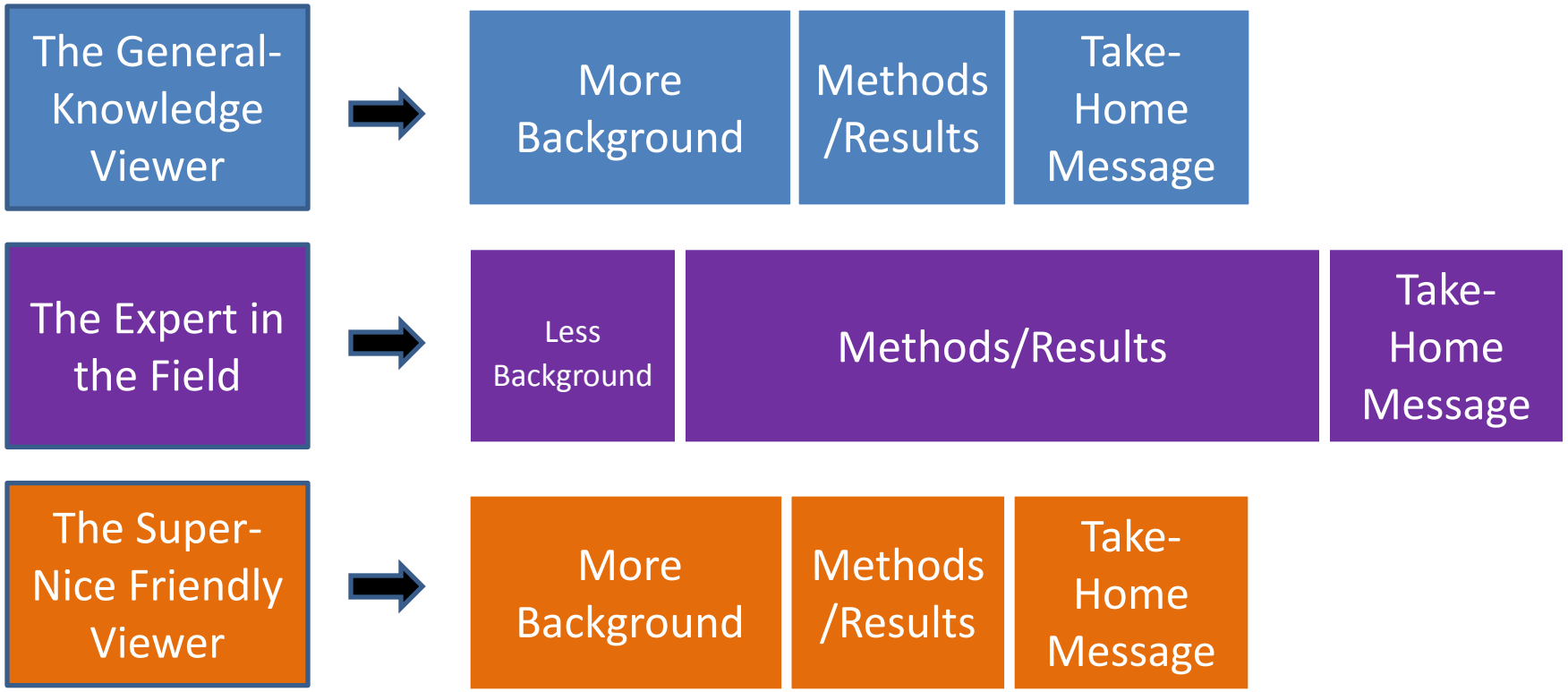
The Expert in the Field

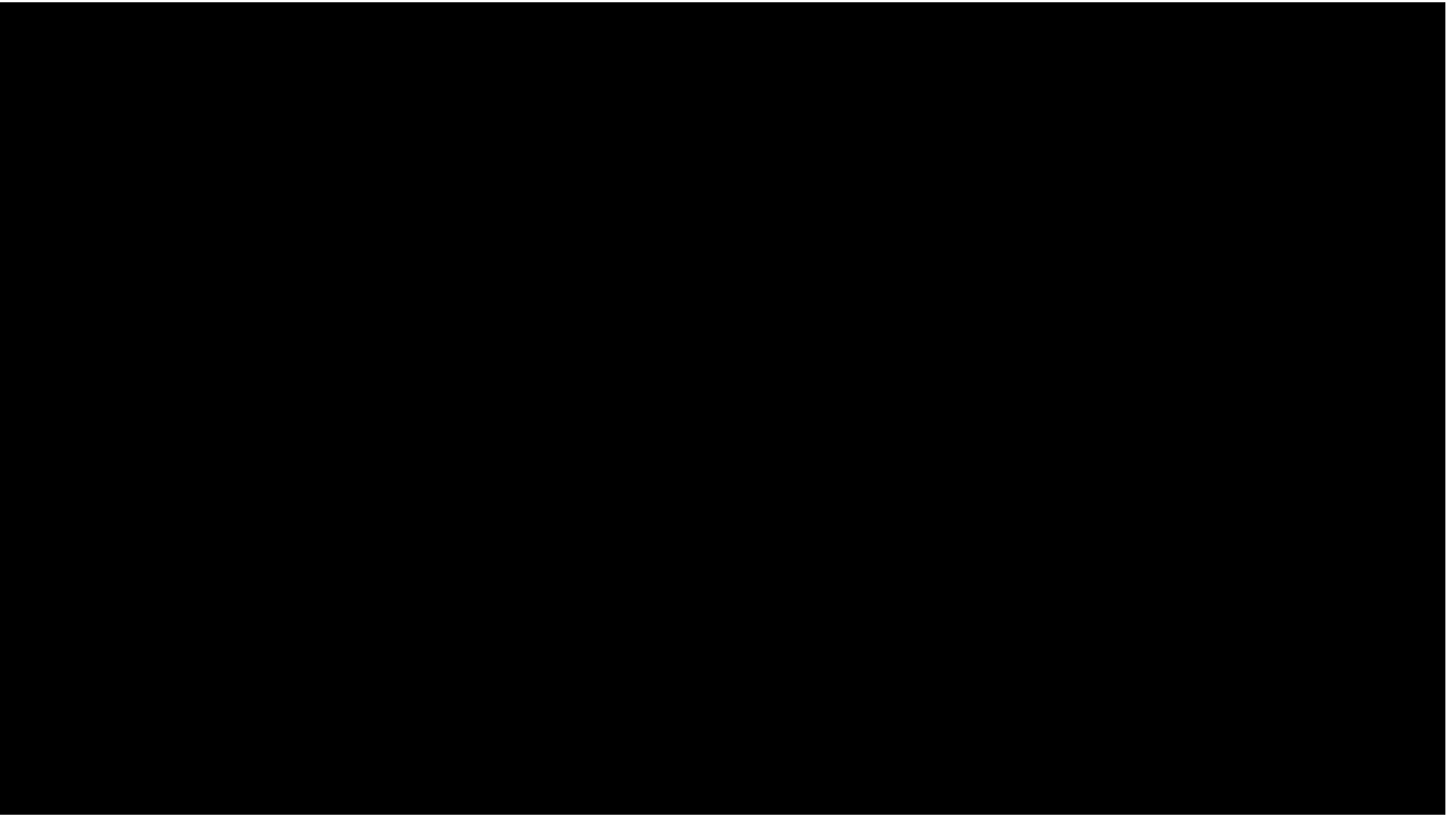
The Super-Nice Friendly Viewer

The Aloof Visitor

Pro Tip: Customizing Poster Presentations

- Tailor the presentation to your viewer
  - Have 1, 2 and 5 minute versions





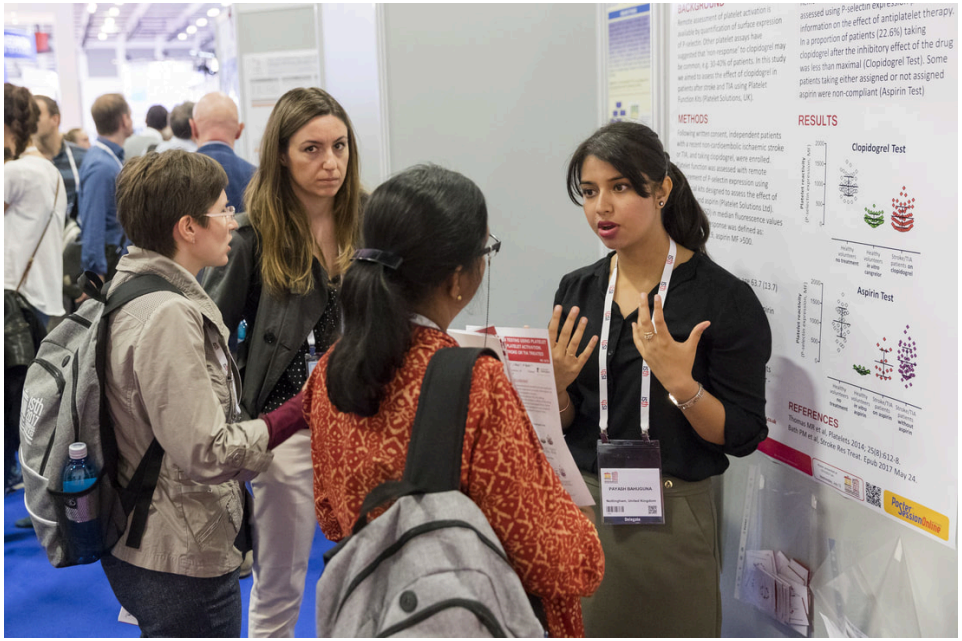
Presenting Tips

- Be on time for the poster session
- Don’t read your poster word-for-word
  - Use the graphics as an anchor
- Stand to side of poster
- Wear your name tag
- Bring business cards
- Bring a notepad to record questions asked by viewers

Poster Pros and Cons

- At your table, identify “pro position” takers and “con position” takers. Debate the following:
  - Should you allow viewers to take pictures?
  - Do you restart your presentation for “late arrivals”?

Wrap-Up


METHODS
RESULTS
Clopidogrel Test
Aspirin Test
REFERENCES

Poster Design Checklist

Use the **"Rule of 10s"**: The average person scans your poster for 10 seconds from 10 ft away. Introduce your poster in 10 seconds. Poster content should be easily assimilated within 10 minutes. (Boullata 2007 Nutrition in Clinical Practice, Dec;22(6):641-6)

Balance

- ☐ Use structured layout with F-shaped reading pattern
- ☐ Poster columns are equal width
- ☐ Include sufficient "white-space" between columns and between sections
- ☐ Aim for about 30-40% "white-space", 30-40% figures, 20% text

Alignment

- ☐ Headings are aligned with each other (left justified; avoid full-justified)
- ☐ Columns and graphics aligned with each other (vertical & horizontal)

Consistency

- ☐ Use the same font throughout (sans serif: e.g., Arial, Helvetica)
- ☐ Use similar dimensions for figures and photos
- ☐ Use limited color palette throughout (Max 3 colors)

Font Size & Selection

- ☐ Use appropriately sized font
  - Title: 80-120 pt
  - Names: 70-90 pt
  - Affiliations: 60-70 pt
  - Major headings: 54-80 pt
  - Subheadings: 48-72 pt
  - Text 36-52 pt
- ☐ Font size (test print poster on 8.5 x 11 sheet of paper – should be able to read everything)
- ☐ Use sans-serif fonts for titles, headings, & labels; use serif fonts for text (no drop shadows!)
- ☐ Use Sentence Case for Titles and Headings (easier to read) – don't use all caps
- ☐ Use a visually pleasing font (Arial & Verdana) and no more than 2 different fonts

10 Pleasing Serif & Sans-Serif Font Combinations	**Rules of Thumb on Font Size Legibility**
Helvetica / Garamond Caslon / Univers Futura / Bodoni Garamond / Futura Gills Sans / Caslon Minion / Gill Sans Myriad / Minion Caslon / Franklin Gothic Trade Gothic / Clarendon Franklin Gothic / Baskerville	To be **legible 6 feet** use **30 pt** To be **legible 10 feet** use **48 pt** To be **legible 12 feet** use **60 pt** To be **legible 14 feet** use **72 pt**

Poster Design Checklist

Colors

- ☐ Use analogous colors for the entire poster scheme [colors next to each other on wheel]
- ☐ Avoid red & green, individually (for color-blind people) or together (evokes holidays)
- ☐ Use no more than 3 colors (may use variations of a color for contrast)
- ☐ Use light natural tones and avoid very bright colors or color schemes of sports teams
- ☐ Use black color for text

Contrast

- ☐ Use a slightly different color background for key sections
- ☐ Avoid complementary colors for text/background [opposite on color wheel]
- ☐ Avoid textured or picture backgrounds

Images, Figures, and Tables

- ☐ Maximize use of Figures and Tables. Figures > Tables > Text
- ☐ Use high-quality graphics so they scale to poster size in decent resolution
- ☐ Simplify charts/graphs - minimize "ink" while still conveying message (e.g. don't use 3-D graphs)
- ☐ Use the same color scheme as the overall poster
- ☐ Use clear titles for your figures / tables that describe your data
- ☐ Create a focal point in your graph with color or symbols to highlights your results.

Text

- ☐ Ensure poster tells a clear, simple story
- ☐ Title is accurate promise of content, is clear, concise, and easy to understand (aim for < 10-12 words)
- ☐ Use concise, bulleted text
- ☐ Background – focus on why you did the study and what gap the study fills
- ☐ Objectives – Be direct/clear and include hypothesis
- ☐ Methods – aim to be concise, but with enough detail to evaluate your approach
- ☐ Results – Present relevant data that address your objectives
- ☐ Conclusion – Limit your poster to 2-3 take-home messages. Emphasize the significance. Ensure that your conclusions are supported by the results. Do not overstate the implications of your results.

4 Types of Poster Viewers

The Viewer with General Knowledge

These are the most common type.

- *Use 1 minute pitch: 45 seconds of background, 15 seconds for take-home message)*
- *Focus on main graphic or table*

The Expert in the Field

This type of viewer knows as much or more about your poster subject than you do. They will ask pointed questions, may be curt and not tolerate longer pitches.

- *Use your 2 minute pitch (go skimpy on the background, focus on Methods/Results; use 15 seconds for take-home message*
- *Expect questions & don't be afraid to say you don't know something.*
- *Do not allow interruptions or start over if someone approaches; let them eavesdrop*

The Super-Nice Friendly Person

This type of viewer provides a non-threatening opportunity to give your pitch in a low-stress environment. The group includes your friends, co-authors, mentors, the presenters at the posters next to and across from yours, and the benevolent program director.

- *These are opportunities to practice; treat them like the real thing.*
- *Use your 2 minute pitch.*

The Aloof Visitor

This viewer lingers in the space in front of the poster, moving very slowly looking at the poster but not making direct eye contact with you. There will be an awkward silence.

- *Say hello, introduce yourself, and offer to discuss the poster.*
- *Even better: look at their badge, and offer them an easy entry into the encounter: "I see you are from Nationwide Children's Hospital. What do you do there?"*
- *If they don't want to engage, don't push.*

Gorman, Asnes, Li, Abramson, Adams, Vogt, APPD 2018, adapted from Plunkett, Respiratory Care 2004

Poster Design & Presentation Resources

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Designing Communications for a Poster Fair: Tips for Success.
URL = http://www.personal.psu.edu/drs18/postershow/postershow.pdf