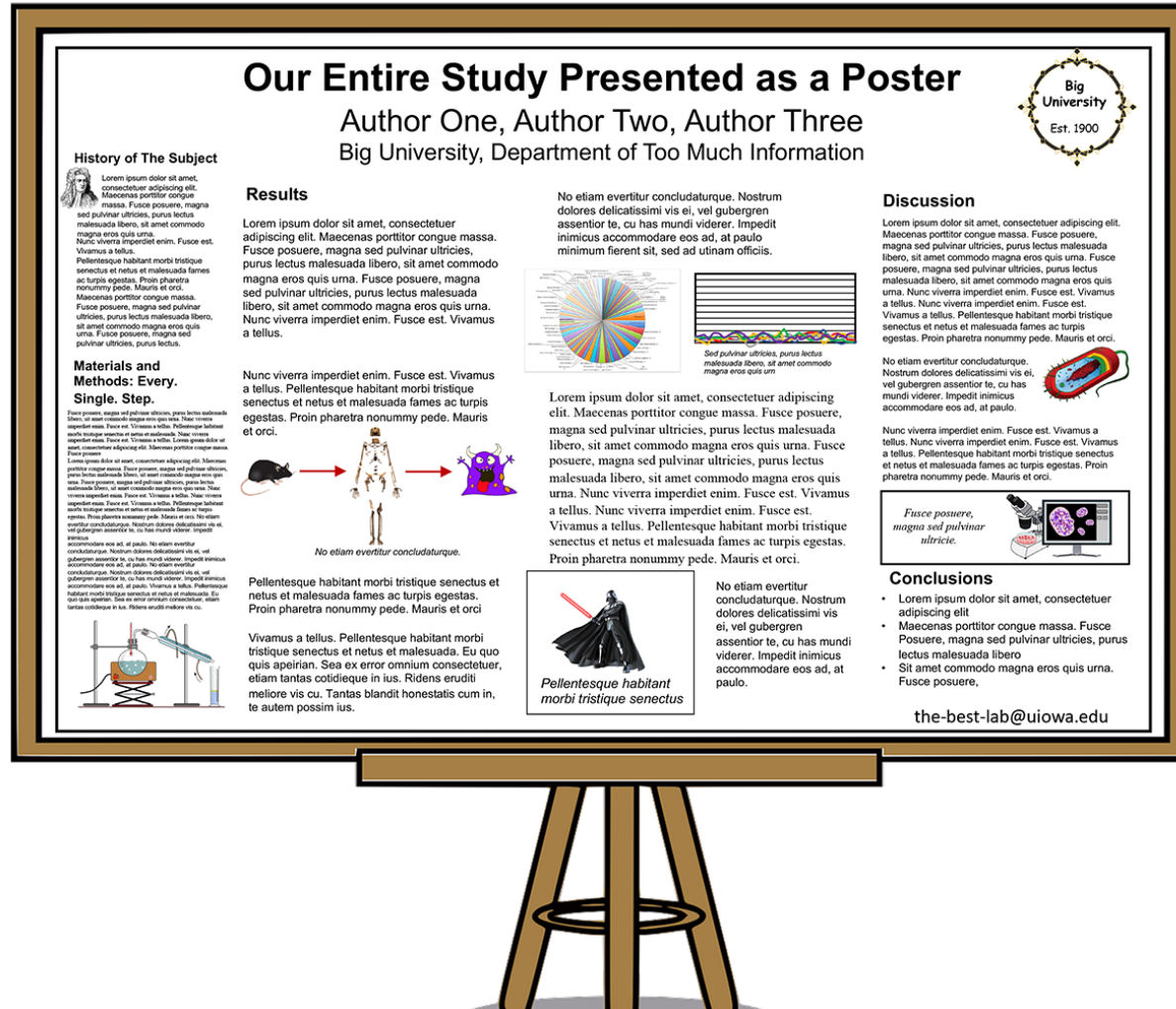


Effective Posters

Kris Greiner, Editor
Design Center



What not to do (TL;DR)

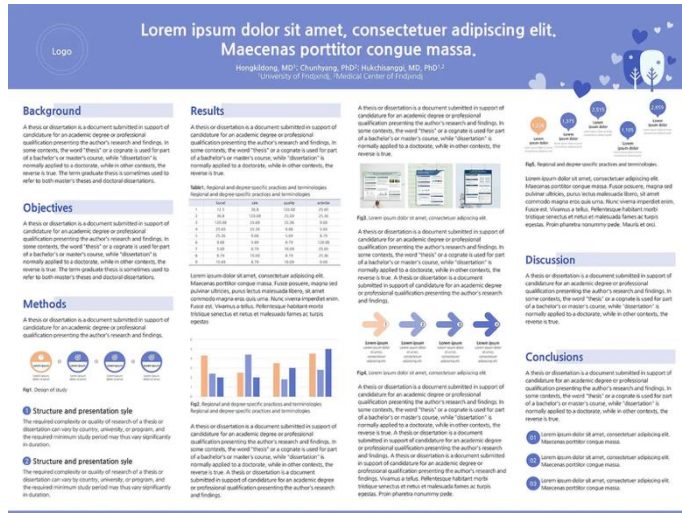


Effective posters

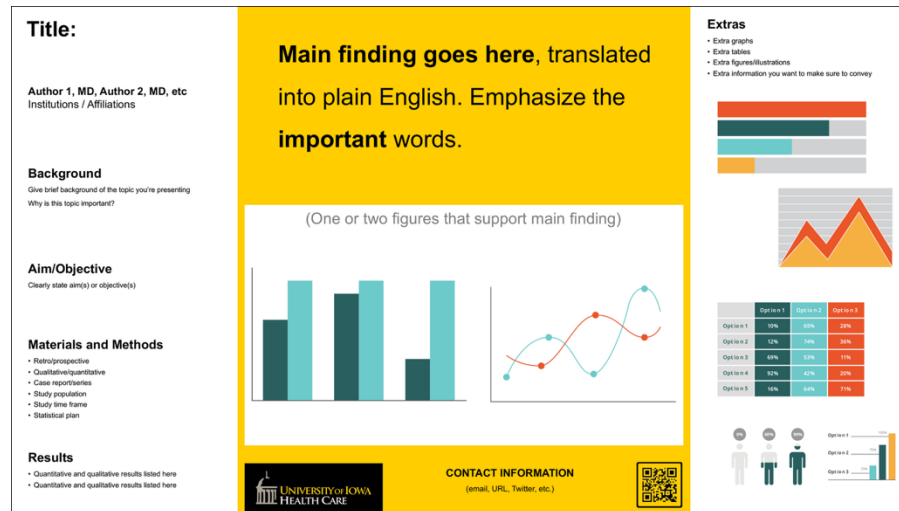
- Posters should be a visual version of your abstract, not your entire study or manuscript
- Use plain language as much as possible
- Emphasize take-home message(s)
- Viewers have limited time to review posters—you want to catch their attention with your main finding(s) to invite them to read further

Traditional, #betterposters, #evenbetterposters

Traditional



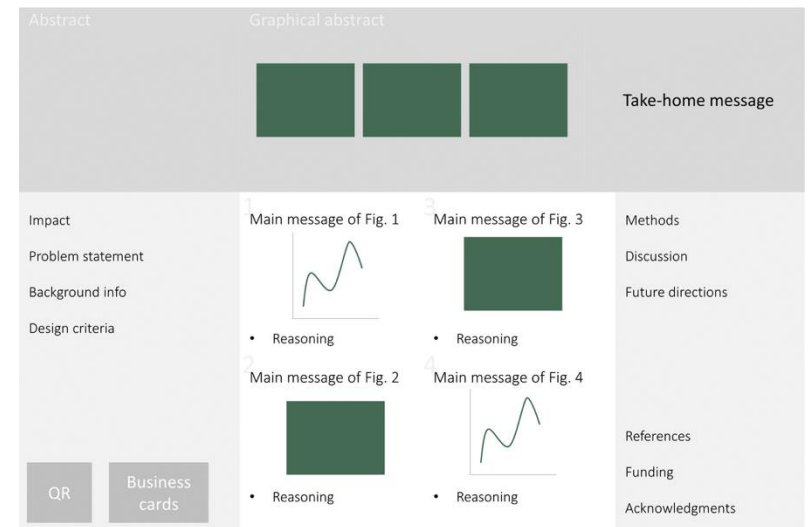
Better poster (Mike Morrison)



Even better poster (MIT)

Towards an even better poster: templates for improving #betterposter

Maxine Jonas



Better and evenbetter posters

- Easier and quicker reading/viewing
- Viewers more likely to retain main findings
- UI/CCOM poster templates available from Design Center
 - <https://designcenter.uiowa.edu/templates>

Getting started

- Check instructions before you start
 - Final printed poster size
 - Vertical vs. horizontal orientation
 - Need to include abstract or poster number?
- Logos: be sure any logo you use is allowed, current, and high resolution
 - UI Health Care/CCOM logos on the [Loop](#):
 - UI logos available from [UI branding](#)
 - Design Center can also add logos for you
- Poster title, authors should match submitted abstract
- CASE REPORTS: general rule is to obtain consent (form in the [Loop](#))



FYI: Hawk/Herky
logos not allowed

Main text

- Unless instructed, do not include abstract
- 2-3 bullets/sentences for Introduction or Background
 - Be specific to your topic only; no broad background or introductory information
- Include an Aim or Objective separate from Intro/Background
 - This can be bolded or in spotlight color
- Keep Materials and Methods brief
 - Give overviews, not specific details; use flowcharts, pictograms
- Discussion sections are not always necessary, but if included, keep to 2-3 bullet points
- Acknowledge any limitations

Conclusions/Summary

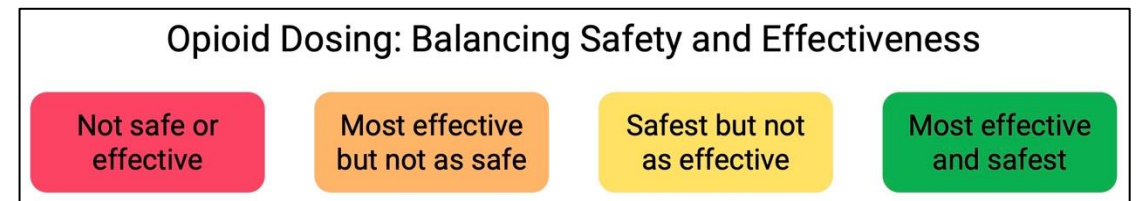
- After title, most important part of poster
- Unless otherwise instructed, consider using “Clinical Implications,” “Impact on Current Research” or other descriptive heading instead of Conclusion/Summary
- **No references!**
- Acknowledgements
 - Thank those who helped but are not co-authors
- Funding, financial/other disclosures
 - ALWAYS note funding source(s) for the work (senior author will know)
 - Can be listed in very small text, lower right corner

Using graphs, charts, tables in place of text

- Consider using tables, graphs/charts in place of Results data
 - Don't duplicate data in text and a table
- Keep design simple and data/text to a minimum
 - Use complex graphs in manuscript: scatter plots, waterfall, etc.

Safer	Most safe dose but not as effective.	Most effective and most safe dose.
Less Safe	Dose is not safe nor effective.	Most effective dose but not as safe.
	Less Effective	More Effective

- This is a spectrum and there is a trade off as we try to get the dose more effective, it may become less safe & as we try to get it more safe, it may become less effective.
- The most acceptable quadrant is marked green and the least acceptable quadrant is marked bright red.
- The yellow quadrant can be attempted but it is generally not recommended.
- The bottom right quadrant is more acceptable than the one in bright red but it is still not acceptable.



Graph? Chart? Table?

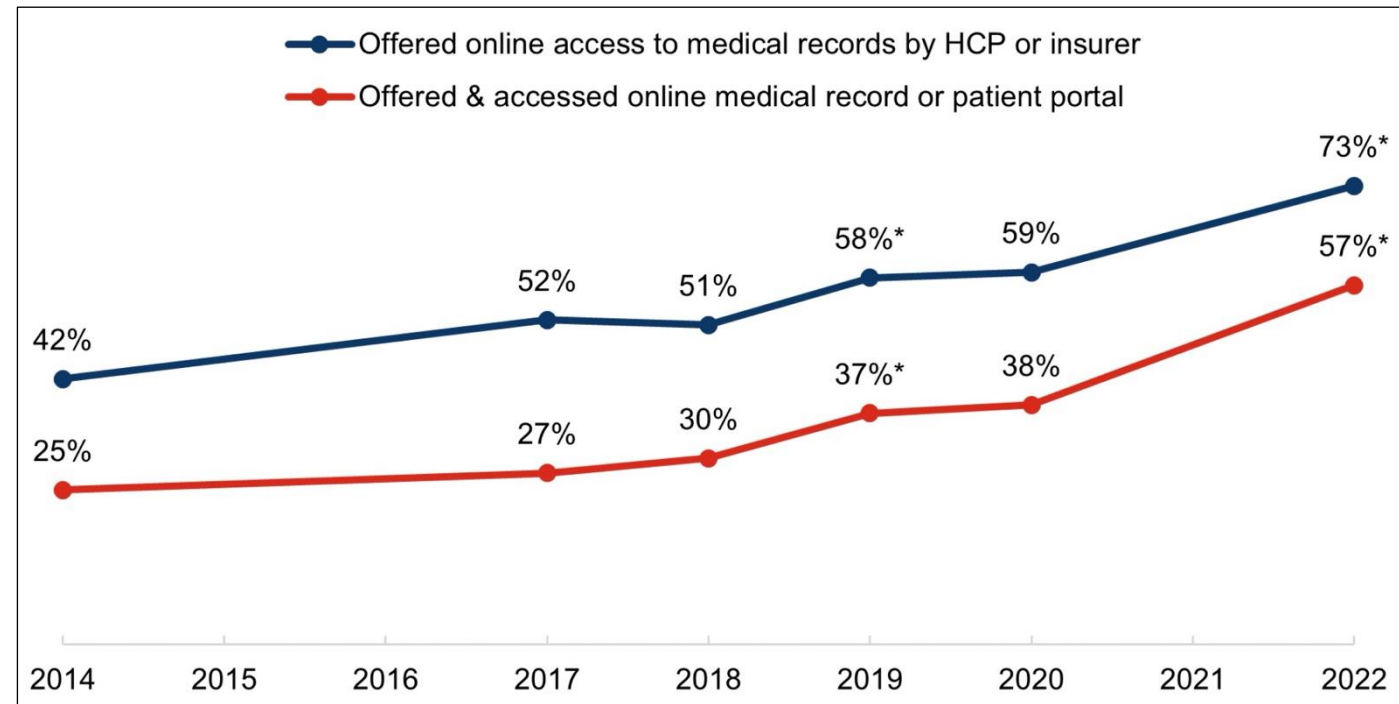
- In general, save dense tables that report *all* data, exact values/numbers, for manuscript
- Use *truncated* tables, graphs, charts on posters
- Present data points that are statistically significant, trending, important
- You may need to try different formats for a set of data
- Ask study/team biostatistician for guidance

Example: graph better illustrates increase

Percent of individuals nationwide offered and accessed online medical record or patient portal, 2014-2022.

	Offered online access to medical records by HCP or insurer (%)	Offered & accessed online medical record or patient portal (%)
2014	42	25
2015		
2016		
2017	52	27
2018	51	30
2019	58*	37*
2020	59	38
2021		
2022	73*	57*

*Significantly different from previous year ($p < 0.05$)

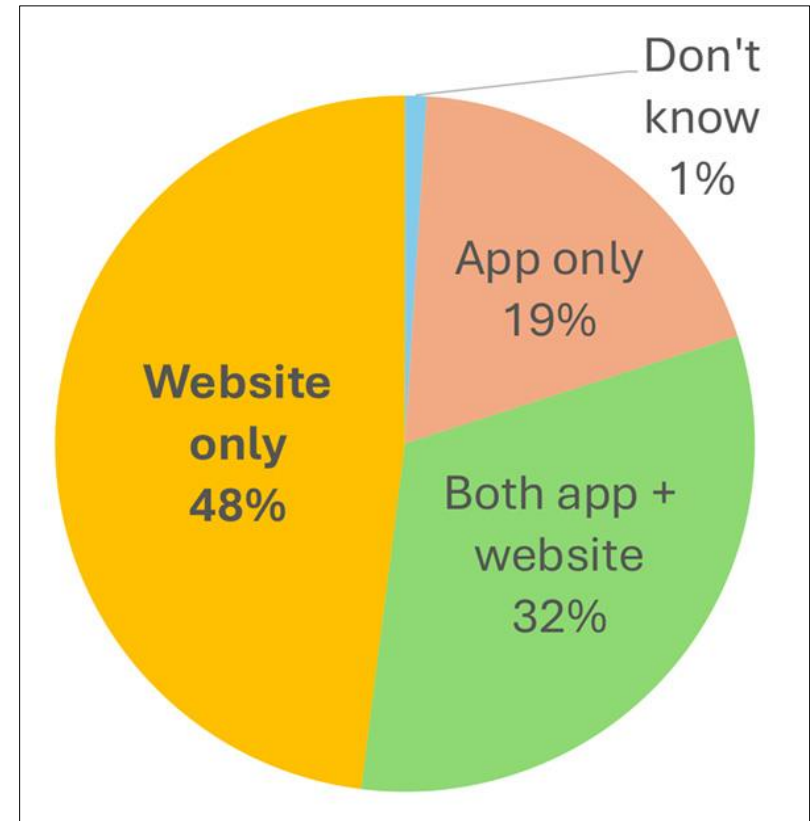


*Significantly different from previous year ($p < 0.05$)

Example: pie chart easier to read

Methods individuals used to access their online medical records, 2022.

Don't know	1%
App only	19%
Both app + website	32%
Website only	48%



Example: graphic easier to read

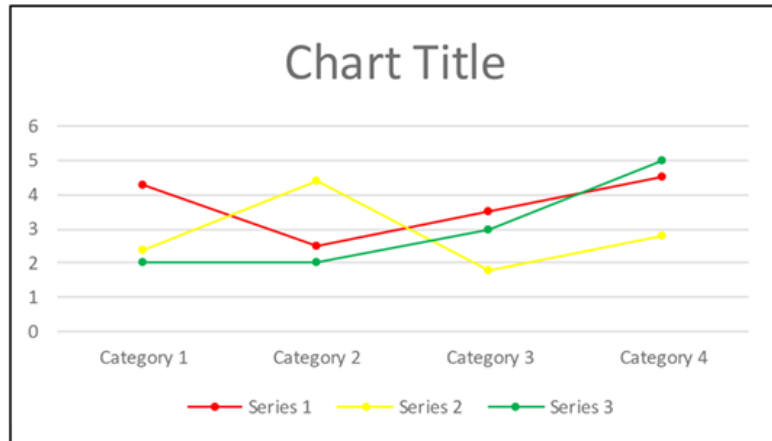
Theme	Component Codes	Illustrative Quotes
Personal Readiness and Health Context	Building New Lifestyle Habits	"I think the biggest challenge is the fatigue. That there are some days where the fatigue is too over- too much to push through, and get the physical activity in. So, it's definitely, learning that line as to where, pushing myself to like, walk will make me feel better, which sometimes it does." -306
	Weight Loss	
	Comorbid Conditions	
	Lifestyle Tracking	
Program Content and Experience	Fatigue	"the tips and the tricks were really a good idea, you know, because it-it, at least for me, it gets my mind going on how, you know, I can eat healthier and what I can do to like, replace something that's like maybe a little bit fatty with something that's not so fatty, or something that's not so healthy with something that's healthier." -112
	Web-Based	
	Cancer-Specific Feedback	
	Course Key Takeaways	
Social and Environmental Factors	Limited Course Recall	"my 86-year-old mother does live with me. Her food choices are not the same as mine. (laughs) So, I allow myself to share those meals with her, but I'm also aware it's like, 'I should probably be eating something different.'" -124
	Social Support	
	Healthcare Support	
	Geographic Location	
Resource Accessibility and Lifestyle Change Feasibility	Time Constraints	"The exercise portion, I really haven't been able to do much in that aspect just because I have like three different jobs that I do right now. So, it's REALLY hard to fit in going to the gym or doing something like that." -112
	Outside Interventions	
	Finances	
	Grocery Shopping	
Program Impact on Fatigue and Behavioral Change	Symptom Improvement	"Yeah, actually I've gotten better which is-which is really good. So, I don't know. I think I've just been trying to be more active, walking more, getting a lot more fresh air and that could be part-of what it is that and just some additional exercise." -64
	Physical Activity	
	Fatigue	
	Diet Improvement	

Table 2. Summary of themes and representative quotations from qualitative interviews.

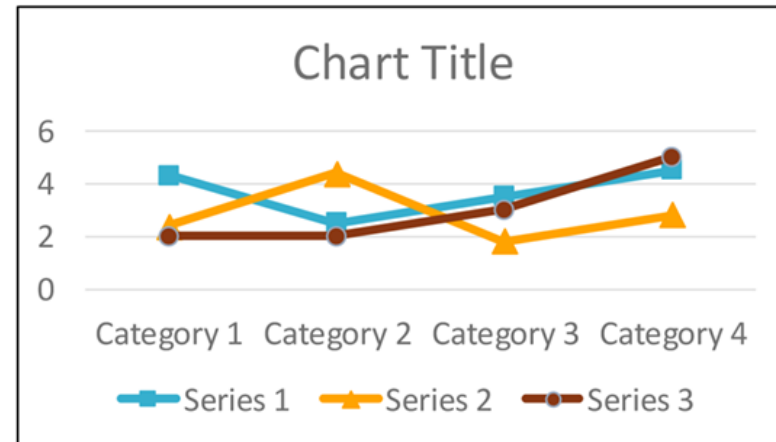


Design

- Keep in mind how these will look when enlarged to poster size
- Use simple designs, bold colors; avoid red/green color combo



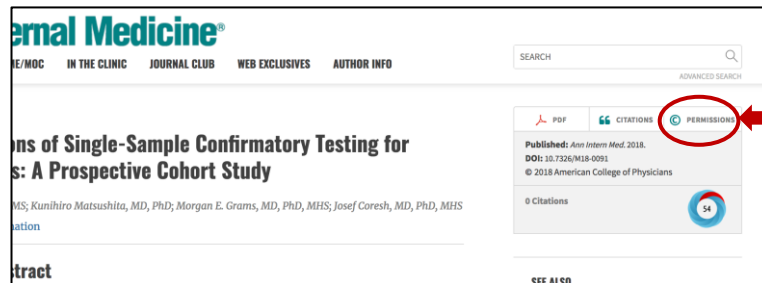
Faint lines in light colors and small text are more difficult to read.



Bolder, darker lines and larger text are easier to read.

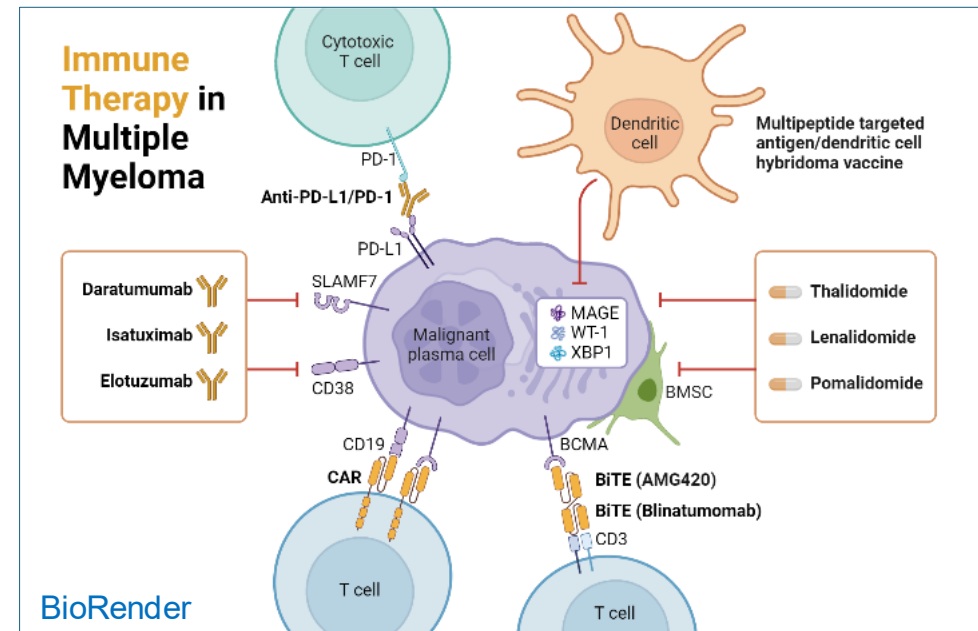
Figures, images

- Always try to use your own images
- Don't reuse a previously published image without permission or at least citing the source (citing only is fine for in-house presentations)
- Articles will always have a link to permissions



Use of AI figures/images

- Any AI use *must* be disclosed; add small notation on image
 - [Copilot](#) (Microsoft, UI supported)
 - [ChatGPT Edu](#) (UI supported; must request approval)
 - [BioRender](#)
 - [FigureLabs](#)
 - [SciDraw](#)
- **ALWAYS** review generated images for accuracy
- **NEVER** input patient information into ANY AI source; no image generators are currently HIPAA compliant



Figure/image resolution

- Figures/images *must* be high resolution for printing
- Images downloaded directly from online sources will likely be low resolution
 - Looks ok on screen but will be pixelated at full poster print size
- If image is created in PPT or graphics program, save at ≥ 300 dpi/ppi

Figures/images, graphs, tables

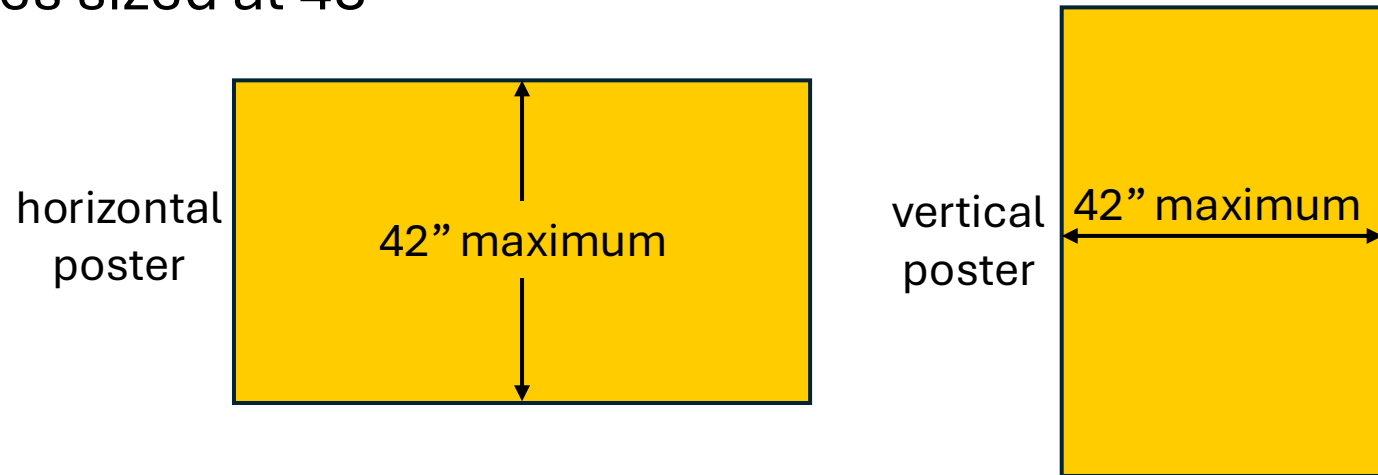
- No need to number figures or tables on a poster
 - Place each image next to descriptive text
- Should be self-explanatory
- Include descriptive figure legends, titles for tables

More info for viewers

- Post your email address
- Post a QR code for lab, study page, related publications

Final thoughts

- Don't be afraid to leave white space on a poster - it's breathing room for the eyes
- Size *proportionately*: if final poster size is 42x60, set up PPT at 21x30 for smaller files, easier to email
 - Max poster height for Design Center printers is 42"
 - Many online templates sized at 48"



Where to print

- Design Center (based in Internal Medicine)
- <https://designcenter.uiowa.edu/form/poster-printing-request-form>
 - Click “yes” for “Is your poster related to academic medical research?”
 - Read the submission form carefully - everything you need to know is there

- **Don't wait until the last minute**

- **Allow at least 2 business days for printing (rush fees apply)**



- When your poster is ready for pickup you will receive an automated email from uiowadesigncenter@gmail.com and a text message if you provide a cell number; email gives directions for pick-up.

Increasing hepatitis C screening in an outpatient clinic: Pilot data from a resident-led quality improvement project

Ian Kidder MD, Rachel Genova, MD PhD, Dave Dimachkie MD, He Chang MD, Taylor Becker MD, Steven Stone MD, Adil Hassan MD, Todd Wiblin MD, Gwen Beck, MD
University of Iowa Hospitals and Clinics, Department of Internal Medicine, Iowa City, IA

Background

- Hepatitis C virus (HCV) is the most common blood-borne pathogen in the US, affecting 2.4 million Americans
- From 2004-2014, HCV infection rates quadrupled among adults 18-39 years old
- To address this, the United States Preventative Services Task Force (USPSTF) updated HCV screening guidelines in March 2020 to include all adults aged 18-79, regardless of exposure risk

Aim

- Increase HCV screening for individuals 18-79 years old in our resident clinic by 15% in the first 6 months post-intervention

Local Setting

- Internal medicine residency continuity of care clinic at the University of Iowa

References

- Kaplan DE. Hepatitis C Virus. Ann Intern Med. 2020;173(5):ITC33-ITC48.
- Denniston MM, Jiles RB, Drobeniuc J, Kleven RM, Ward JW, McQuillan GM, et al. Chronic hepatitis C virus infection in the United States, National Health and Nutrition Examination Survey 2003 to 2010. Ann Intern Med. 2014;160(5):293-300.
- Zibbell JE, Asher AK, Patel RC, Kupronis B, Iqbal K, Ward JW, et al. Increases in Acute Hepatitis C Virus Infection Related to a Growing Opioid Epidemic and Associated Injection Drug Use, United States, 2004 to 2014. Am J Public Health. 2018;108(2):175-81.
- Westbrook RH, Dushenko G. Natural history of hepatitis C. J Hepatol. 2014;61(1 Suppl):S58-68.
- Falade-Nwulia O, Suarez-Cuervo C, Nelson DR, Fried MW, Segal JB, Sulkowski MS. Oral Direct-Acting Agent Therapy for Hepatitis C Virus Infection: A Systematic Review. Ann Intern Med. 2017;166(9):637-48.
- CDC. Know More Hepatitis campaign. May 2020. <https://www.cdc.gov/knowmorehepatitis/materials.htm>.

Methods

- Updated health maintenance alert in our electronic medical record (Epic)
- Updated posters in patient rooms
- SlicerDicer and Excel for analysis

Results

- Pre-intervention:
 - 3100 patients seen in clinic
 - 661 screened (21.3%)
- Post-intervention:
 - 2538 patients seen in clinic
 - 857 screened (33.8%)

Conclusions

- Aim not met but statistically significant screening rates after intervention
- This may reflect increased provider awareness of updated screening guidelines secondary to our intervention

HCV screening rates **increased** from **21.3%** to **33.8%** ($p < 0.001$) post-intervention

Figure 1. Updated health maintenance tab

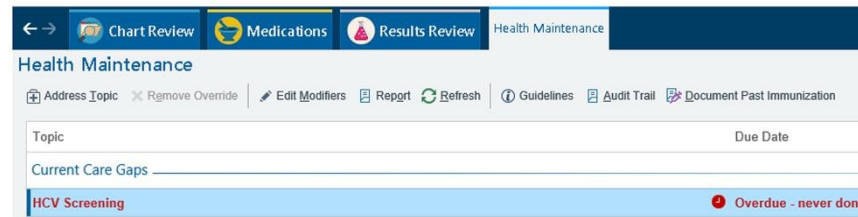


Figure 2. Updated poster

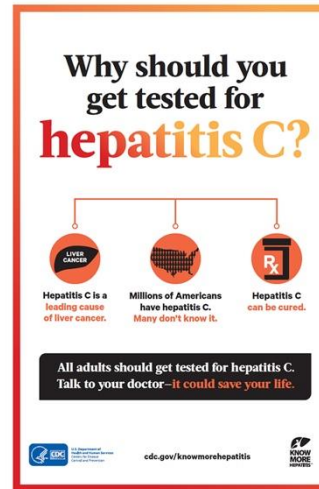
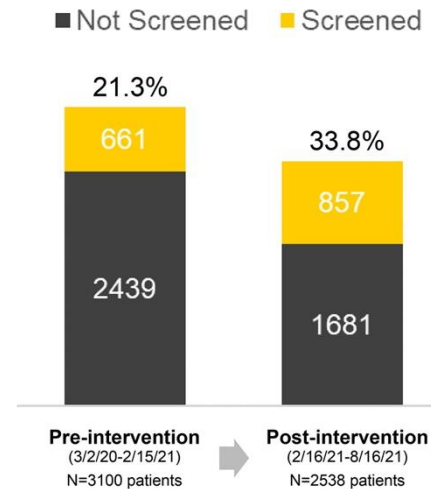


Figure 3. Intervention data



Acknowledgements

Keith Burrell, BA
Dr. Carly Kuehn
Dr. Ethan Kuperman
Dr. Yolanda Villalvazo
Dr. Antonio Sanchez



Comparison of Feeding Modalities during the Interstage Period

Janelle Buysse, Chaorong Wu, Trudy Pierick, Ben Reinking
Division of Pediatric Cardiology, Stead Family Children's Hospital
Department of Pediatrics, University of Iowa



University of Iowa
Stead Family
Children's Hospital

Background:

- For infants with single ventricle heart disease, the interstage period (from discharge after stage 1 palliation until admission for stage 2 palliation) remains a high risk time¹
- Weight gain is significantly associated with transplant free interstage survival and better outcomes during admission for stage 2 palliation (S2P)^{2,3}
- Despite the importance of interstage weight gain on outcomes during the interstage period and S2P there continues to be significant variation among centers in feeding modalities⁴

Purpose:

- To compare interstage outcomes in patients fed via oral feeds, combination of oral and enteral tube feeds, and enteral tube

Methods:

Study Design & Sampling

- Single center retrospective study
- Interstage patients from 2013-2019

Measures

- Data collected: method of feeding utilized for the majority of the interstage period, weights at discharge from stage 1 palliation and at time of stage 2 palliation, frequency of unplanned readmissions

Data Analysis

- Change in weight-for-age Z-score over interstage period was analyzed using type 3 test of fixed effects, tests of effect slices, and least squares means
- Frequency of unplanned readmissions was compared using type 3 test of fixed effects, and least square means

References:

- Ghanayem NS, Hoffman GM, Mussatto KA, et al. Home surveillance program prevents interstage mortality after the Norwood procedure. *J Thorac Cardiovasc Surg*. 2003;126(5):1367-1377. doi:10.1016/S0022-5223(03)00071-0
- Evans CF, Sorokin JD, Abraham DS, Wehman B, Kaushal S, Rosenthal GL. Interstage Weight Gain Is Associated With Survival After First-Stage Single-Ventricle Palliation. *Ann Thorac Surg*. 2017;104(2):674-680. doi:10.1016/j.athoracsur.2016.12.031
- Menon SC, McCandless RT, Mack GR, et al. Clinical outcomes and resource use for infants with hypoplastic left heart syndrome during bidirectional Glenn: summary from the Joint Council for Congenital Heart Disease National Pediatric Cardiology Quality Improvement Collaborative registry. *Pediatr Cardiol*. 2013;34(1):143-148. doi:10.1007/s00246-012-0403-9
- Carlo WF, Crota JF, Daball RJ, Anderson JB. Practice trends over time in the care of infants with hypoplastic left heart syndrome: A report from the National Pediatric Cardiology Quality Improvement Collaborative. *Congenit Heart Dis*. 2017;12(3):315-321. doi:10.1111/chd.12442

Infants fed via oral route
had better outcomes
across the interstage
period

Those fed exclusively
orally had better weight
gain

Those fed exclusively with
enteral tube feeds had
more unplanned
readmissions

Questions?
Email Janelle-buysse@uiowa.edu

Results:

- 30 patients were categorized by feeding modality utilized for the majority of the interstage period (Table 1)

Table 1: Sample Patient Characteristics

Gender	Male	56.7% (17)
	Female	43.3% (13)
Birthweight	Mean 3.13kg	Std Dev 0.54kg
Cardiac Diagnosis	Hypoplastic Left Heart Syndrome	50% (15)
	Double inlet left ventricle	10% (3)
	Double outlet right ventricle	10% (3)
	Unbalanced AV Canal	10% (3)
	Pulmonary atresia with intact ventricular septum and hypoplastic right ventricle	13.3% (4)
	Other**	6.7% (2)
Route of nutrition at discharge	Oral only	3.4% (1)
	Combination of enteral tube and oral	83.3% (25)
	Enteral tube only	13.8% (4)

**Interrupted aortic arch, balanced AV canal with pulmonary stenosis and aortic hypoplasia

Weight Gain

- Patients fed orally during the interstage period experienced significantly less decrease in weight for age z-score across the interstage period in comparison with those fed with combination of oral and enteral tube feeds and exclusively enteral tube fed ($p < 0.05$, Table 2)

Table 2: Change in Weight-for-age Z-score

Feeding Method	N	Mean	Std Dev	Minimum	Maximum
Oral	13	-0.32	1.19	-2.62	1.75
Combination of enteral tube and oral	9	-1.78	1.49	-4.43	0.46
Enteral tube only	2	-1.88	0.22	-2.03	-1.72

Unplanned Readmissions

- Enteral tube only fed infants had significantly more unplanned readmissions than either oral only or combination of oral and enteral tube fed infants ($p < 0.05$, Table 3)

Table 3: Readmissions by Route of Nutrition

Feeding Method	N	Mean	Std Dev	Minimum	Maximum
Oral	13	-0.32	1.19	-2.62	1.75
Combination of enteral tube and oral	9	-1.78	1.49	-4.43	0.46
Enteral tube only	2	-1.88	0.22	-2.03	-1.72

Effective Presentations

Or how to avoid Death by PowerPoint



Effective presentations

- Same best practices as for abstracts and posters
- Distill data and findings in an easy-to-follow way
- Explain in plain language as much as possible; avoid too much technical jargon
- Generally, each slide should only contain take-home messages
- Know your audience - do they have: general knowledge about your topic, an understanding of methods; what implications or take-home message(s) will interest them most?

First slides

- If presenting accepted abstract, title must be exactly as submitted
- Indicate format: case report, chart review, lit review, QI, etc.
- Include all authors and correct affiliations
- If required, include disclosures, funding on a separate slide (show only briefly during presentation)

Intro/Background, Methods

- Explain topic or hypothesis and why it's important/relevant
- Take the audience through study or case chronologically
- Give overview of methods, study design
 - Leave out statistical analysis methods
 - Use a flow chart, images to show materials/methods
- Case reports: patient presentation/complaints, initial eval

Results

- Present significant data, most important findings
- Use simple tables, graphs, etc.
- Case reports: relevant labs, imaging, treatment course
- Acknowledge limitations

Conclusions/Summary

- As for posters, if possible, use a different heading
 - Clinical Implications, Future Directions, etc.
- Emphasize the “so what?” message: what you want your audience to remember
- Case reports: outcomes, follow-up, current status

Other stuff

- No references!
 - Exception: if your case or study is directly related to a published work—contracting/verifying previous findings, secondary analyses, questioning standard practices, etc. (can include in Intro/Background)
- Thank mentor, patient, study participants, support staff, etc.
- Leave a few minutes for questions

Presenting

- Use an outline or notes to help you with what to say; don't just read your slide text
- **Practice!** Present to a colleague, friend, your dog
- Time your talk in practice sessions

