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WIP presentation

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ALCOHOL-RELATED CLINICAL PRACTICES IN SURGICAL HEALTHCARE

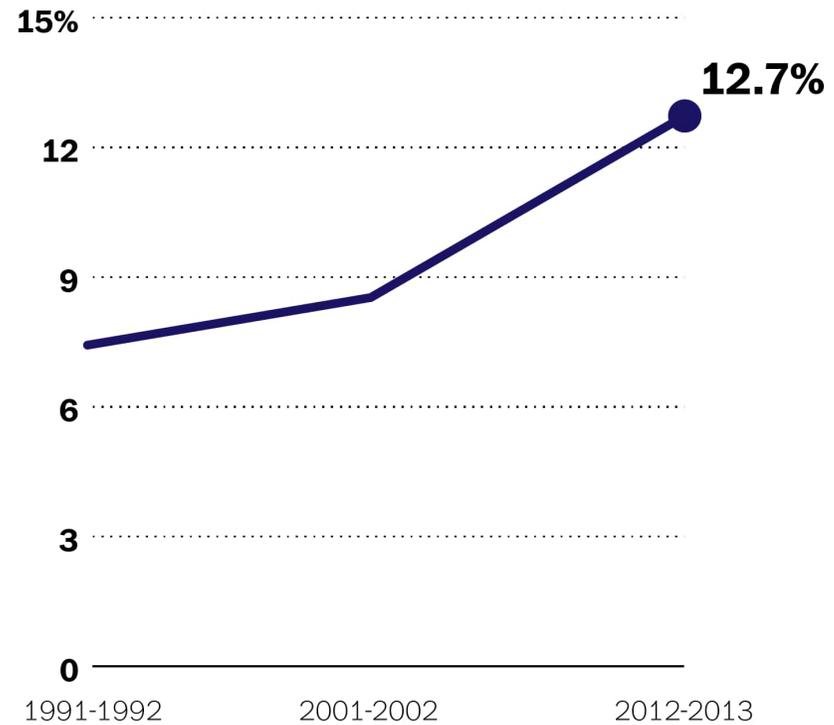
Qualitative findings from patients and healthcare
providers

LEARNING OBJECTIVES OF TODAY'S TALK

1. Gain a broader understanding of how alcohol use can impact surgical outcomes
2. Learn more about barriers and facilitators of alcohol screening and interventions prior to surgery through presentation of qualitative data
3. Learn about ongoing research and strategies to improve alcohol-related clinical care in the context of elective surgical procedures

ONE IN EIGHT AMERICANS HAS AN ALCOHOL USE DISORDER

Rate of alcohol use disorder (alcoholism) among U.S. adults age 18 and older



Grant et al., 2017
JAMA

HEAVY ALCOHOL USE IN AMERICAN SURGICAL PATIENTS

- 8% - 88.5% across studies (Harris, A H. S., et al., 2008)
 - Highest otolaryngology and thoracic surgery
 - Literature on this topic is sparse, definitions are inconsistent, and results are only as accurate as electronic health record data

ALCOHOL AND SURGERY: WHAT'S THE PROBLEM?

High risk alcohol use
(2 drinks/day) is one
of the most
prevalent surgical
risk factors

Post-operative
Alcohol withdrawal

Complicates
anesthesia and pain
control

Pre-existing alcohol
problems predict
post-operative
opioid misuse

Increases
postoperative
complications

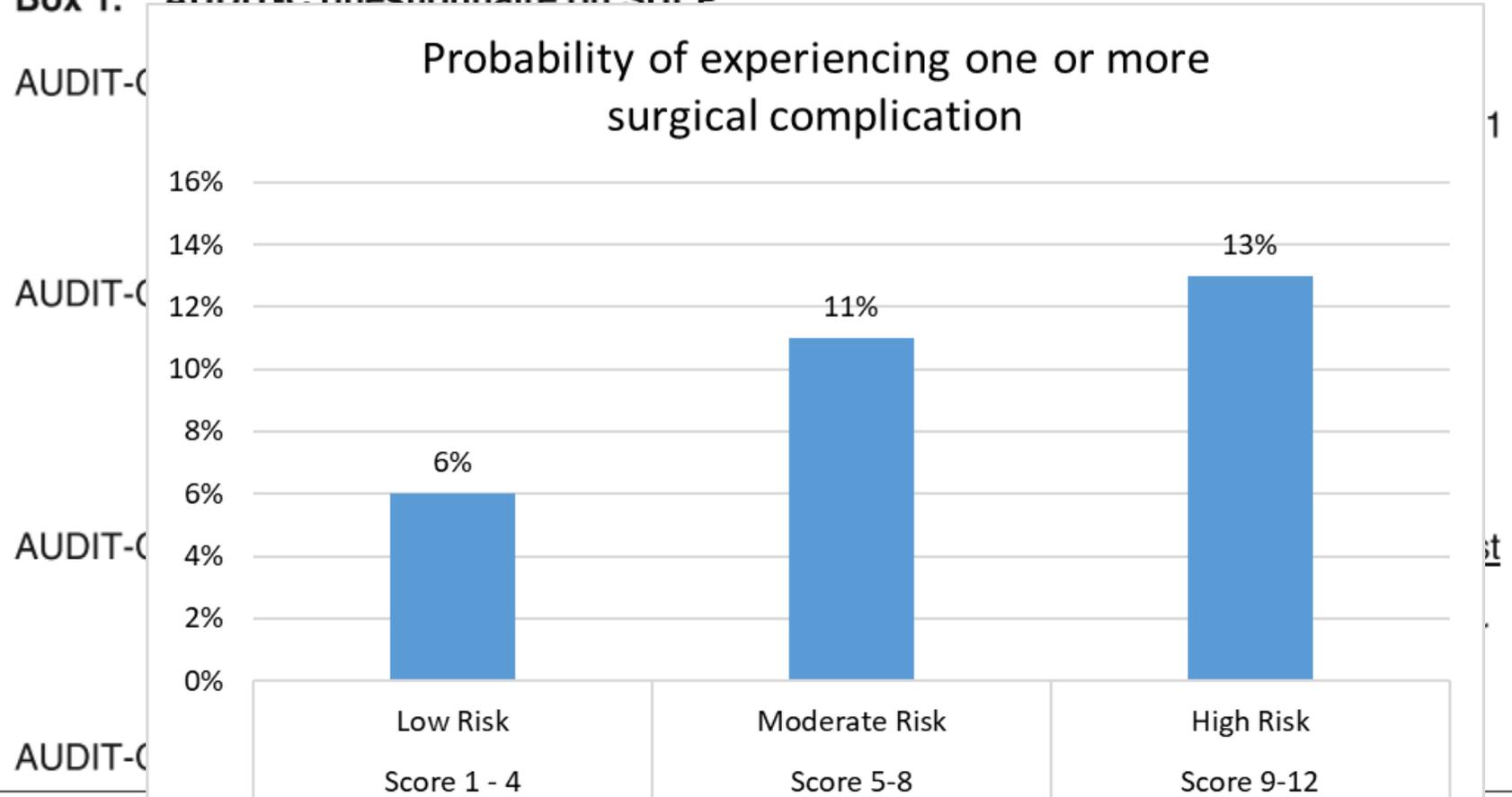
(Khuri, 2008)

(Harris, Frey, Debenedetti, & Bradley, 2008)

(Eliassen, 2013)

DEFINING ALCOHOL-SURGICAL RISK

Box 1. AUDIT-C questionnaire on SHEP



HOW DO WE ASSESS AND ADDRESS ALCOHOL USE IN AN ELECTIVE SURGERY CONTEXT?

A chronic problem meets an acute care setting

SURGICAL HEALTH OPTIMIZATION

The time between the decision to do surgery and the actual time of surgery provides the perfect opportunity for patients and healthcare providers to work together to "train" patients for surgery.

*Strengthen
muscles*

*Improve
nutrition*

*Lose
weight*

*Quit
smoking*

*Stop
Drinking?*

PRE-OPERATIVE ABSTINENCE REDUCES SURGICAL RISKS

4 weeks of abstinence.....

Egholm, 2018;
Tonnesen et al, 1999

- Reduces surgical complications
- Less nurse care
- Less myocardial ischemia and arrhythmias
- Less oxygen deficiency in the blood (sudden hypoxemia)
- Improved surgical stress response (based on heart rate, plasma concentrations of catecholamines, and interleukin 6)



2 weeks of abstinence.....

Tonnesen et al, 1992

- improves suppressed cellular immune functioning (2 months normalizes it)

COCHRANE REVIEW

- 3 RCTs Intensive alcohol interventions (pharmacological strategies for managing withdrawal, patient education and motivational interviewing, relapse prophylaxis)
- Alcohol dependent patients
- Reduced likelihood of complications (RR = 0.62, 95% CI 0.40 to 0.96)
- Increase alcohol 'quit rate' (RR 8.22, 95% CI 1.67 to 40.44)

WHAT IS BEING DONE AND IS IT WORKING?

- **Preoperative Alcohol Screening** —
 - Are patients being screened for alcohol use?
 - Are standardized screening tools used?
- **Preoperative Alcohol Intervention** —
 - Are short conversations taking place with brief feedback and advice?
- **Referral to Treatment** —
 - Are referrals to brief therapy or additional treatment being offered?

SYSTEMATIC LITERATURE REVIEW: ALCOHOL SCREENING

- Lack of standardized and validated preoperative alcohol screening in the US.
- AUDs are often overlooked or ignored in surgical populations
- Unsuccessful attempts to increase alcohol screening and referral in past research

SYSTEMATIC LITERATURE REVIEW: INTERVENTION

- Only four published studies report using a behavioral treatment approach to intervene in alcohol use (and other health behaviors) prior to surgery.
 - Two found reductions in alcohol use, and one reported reductions in surgical complications
 - Several interventions focused on multiple behaviors (e.g. smoking, alcohol, and nutrition)

**ALCOHOL SCREENING AND
PREOPERATIVE INTERVENTION
RESEARCH (ASPIRE)**

ALCOHOL SCREENING AND PREOPERATIVE INTERVENTION RESEARCH (ASPIRE)

Aim 1

- Qualitative data collection to identify screening and intervention needs and barriers and inform intervention development (N = 29)

Aim 2

- Phase 2: Refine intervention through an open-trial (N = 12)

Aim 3

- Phase 3: Conduct a randomized pilot trial (N = 90)
- Mixed Methods Exit Interviews (N = 20) (Qual/Quant)

QUALITATIVE STUDY

Study conducted at Michigan Medicine

QUALITATIVE METHODS

- Patients recruited from pre-operative anesthesia clinic at a large academic medical center
- Providers recruited by e-mail from clinics that saw a large number of elective and semi-elective surgical patients
- One-on-one Semi-structured Interviews
- Iterative Data Collection Process
- Thematic analysis, Coding, and Data Reduction

SURGICAL PATIENTS N=20

Category	N = 20
Age	Median (56.5) Range (21 – 70)
Female	5
Race	
White	17
Black	2
Other	1
Hispanic Ethnicity	1
Current Tobacco Use (yes)	6
Current Illicit Drug use (yes)	3

Surgery Type	
Orthopedic	6
Urology	3
Head and neck	2
Stomach	2
Reproductive	1
Nephrology	1
Ophthalmology	1
Facial	1
Neurosurgery	1
Colorectal surgery	1
Inguinal hernia repair	1
Surgery Stay	
Inpatient	9
Outpatient	10
Not sure	1
AUDIT-C Score	
4 to 6	12
7 to 11	8

SURGICAL HEALTHCARE PROVIDERS

N = 9

Category	N = 9
Age	Median = 42 (range 34 – 53)
Years as a licensed practitioner	Median = 16 Range (6 -22)
Female	4
Provider Type	
General/transplant Surgeon	1
Colorectal Surgeon	1
Plastic Surgeon	1
Hand Surgeon	1
Head and Neck Surgeon	1
Advanced Practice Professional	2
Registered Nurse	2

DOMAINS OF INQUIRY

- What do patients and providers think/know about alcohol use, health risks, and its connection with surgical outcomes?
- What are the current barriers to alcohol screening and intervention?
- What do patients and providers need and want in terms of enhancing clinical care in this area?

PATIENT AND PROVIDER PERCEPTIONS
OF ALCOHOL AND SURGICAL RISKS

PATIENTS LACK CONCERN OR AWARENESS OF RISK

I haven't really thought about how alcohol might change the way that the surgery will go. I didn't know if that was an actual thing that could happen, I guess....

PATIENTS BELIEVE ALCOHOL USE IS HEALTHY

Now did you see the news this morning? They did have a big blurb on here than alcohol and...they're saying...doctors are saying alcohol is now good for your health.

PROVIDERS LACK KNOWLEDGE

I haven't seen a lot in our literature about the effects of alcohol on wound healing and surgical complications. That may be part of it. We just see it so explicitly with tobacco, and we don't see it as much with alcohol.

PROVIDERS UNDERESTIMATE ALCOHOL-RELATED RISK

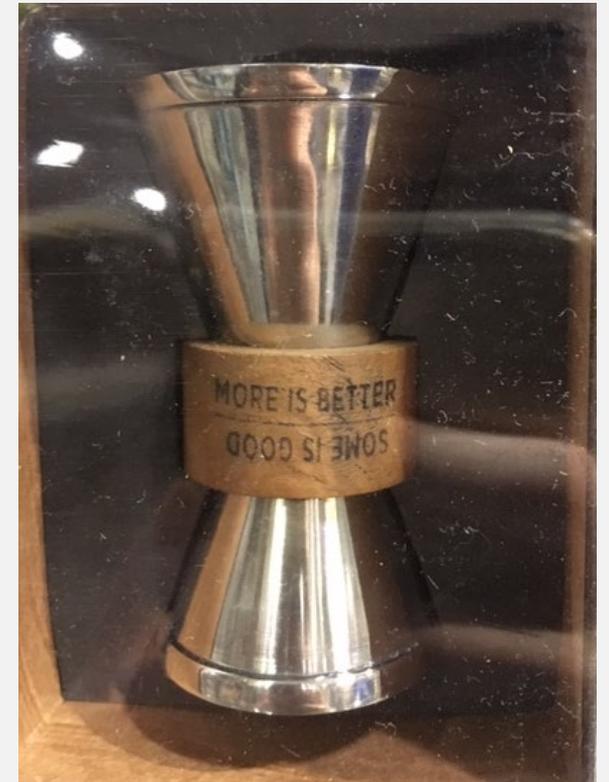
You could probably tell the healing difference between the, you know, few cigarettes per day person and a non-smoker. But someone drinks six pack of beer per day, it may not actually affect much of anything except for maybe their postoperative pain control and how they come in and out of anesthesia. The anesthesia part doesn't really affect me per say...

PROVIDERS OWN ALCOHOL USE MAY BIAS RISK PERCEPTION

....I don't know any surgical provider who smokes. Like there are maybe some, but if they did it they probably do it in some dark hole because it's just so...but most of us drink. So maybe we just have a different view on alcohol use just because of our own whatever bias.

NEEDS: EDUCATION

- First educate providers and institutions
- Disseminate research findings
- “De-normalize” heavy drinking from a HEALTH perspective
- Then provide more education and brief advice to patients prior to surgery, addressing common misconceptions



PRE-OPERATIVE ALCOHOL SCREENING

Limitations and barriers

SCREENING LIMITATIONS AND BARRIERS

- Clinics use quantity-frequency questions, not validated questionnaires
- The assessment is seen as reflexive, like checking a box

SOME PATIENTS UNDER-REPORT ALCOHOL USE

If you ask me how much I drank...I drink, I might say I have a glass of wine a day where in fact, I have maybe 2 or 3, so you know that's sort of...I think human nature to kinda be a little not on the mark with some of things, but yeah. I think I...I answered the questions honestly the last few times I've been in, especially the pre-surgery things."

DOCTORS CAN BE INTIMIDATING

people answer questions the way they do is because they're worried about being judgedjudgement of like 'Well, what are they thinking?' you know? I think that's the biggest question. It's like 'What do they think of this? Am I normal? Am I not normal?'

PROVIDERS DO NOT ALWAYS LOOK AT
ALCOHOL USE SCREENING
INFORMATION

*I always know if someone reports being a smoker.
It's not even all that clear to me if I know whether
they report their alcohol use*

SCREENING NEEDS

- Use validated screening tools
- Use alcohol biomarkers
- Make a hard stop in electronic health record, just like tobacco use?
- Automate medical chart review for alcohol risks??
- “screening with a reason”

Provider: *“But I think giving them [the patient] the reason, it’s not like I want to know this because I’m being nosy. It’s like, there’s a reason I’m asking you. So, I feel like that’s maybe what’s missed.”*

SCREENING WITH A REASON; PATIENT SUGGESTION

So it could be as simple as a doctor could say... 'Just so you know, studies out there have shown that drinking this much alcohol before surgery can... affect you in this way. Wanna make sure that we're putting you in the best possible scenario. We're not trying to catch you or anything like that.'

PRE-OPERATIVE ALCOHOL INTERVENTION

Limitations and barriers

LIMITATIONS AND BARRIERS

- Brief advice and alcohol intervention is not taking place
- Patients are willing to receive advice and information but not always interested in coming back for extra appointments
 - Time and distance
 - Conflicting priorities
 - Lack of concern and personal experience (my surgery went fine last year)v

PATIENTS EXPERIENCE STIGMA

I: What type of questions or things...additional information may you want to know if a nurse or a doctor said 'we recommended people don't drink for a month before surgery? What questions might you have about that?'

P: Well, I'll say why. I mean what's the reason. I might not even ask because they might say, well are you an "alcoholic" for asking why.

PROVIDERS VIEW ALCOHOL INTERVENTION AS A LOW PRIORITY

So ifyou gave me some amount of money and it was to be used for preoperative health optimization, I would probably spend it on things like smoking, obesity, diabetes....And I would not spend it on alcohol.”

PROVIDERS NEED STRONG RATIONALE AND CLEAR POLICIES

it kind of goes back to that conversation we were having before where like people are like, 'well, why do I have to do this, why do I have to quit smoking, or like why is it your policy to do that.'

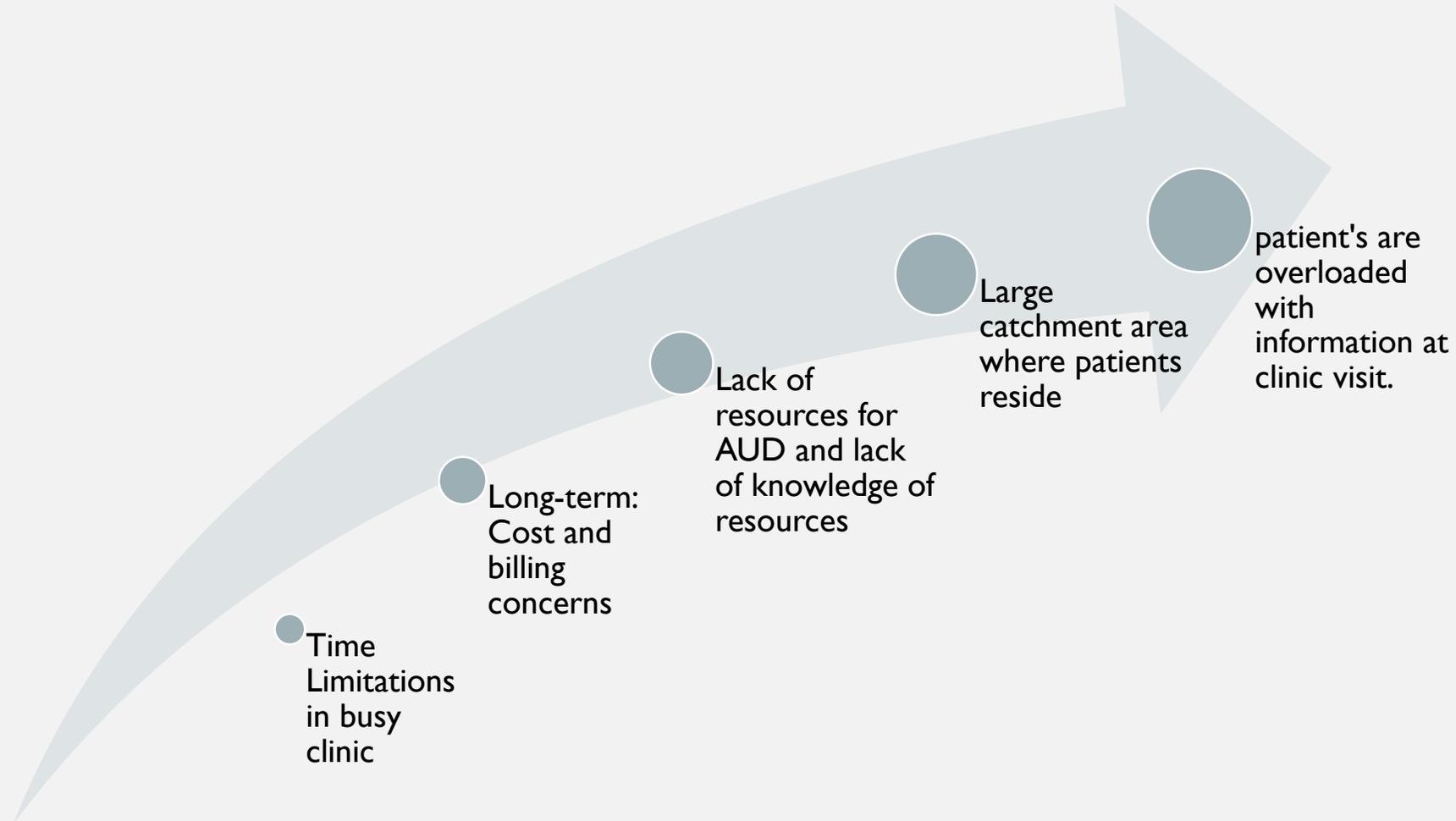
So having explicit reasons for why somebody would need that I think will help us move the conversation with patients so that it's not awkward.

SURGERY IS LIKE A BUSY SUPERMARKET LINE

*Do you feel like that
[alcohol screening] could be
improved at this point?*

Yeah, I'm sure it can. Because this is hard stuff. So you come in, you got a bone sticking out of your leg, I'm like I'll fix your bone. But these other things, these squishy things are hard. And clinical medicine, particularly clinical surgery is a high throughput business. So, you know, you don't stop in line at the cash register at the grocery store and have a 5-minute conversation. it's kind of set up to move stuff through.

BARRIERS TO INTERVENTION IMPLEMENTATION



INTERVENTION NEEDS

PATIENTS WANT A COMPELLING MEDICAL RATIONALE

So if you say don't drink for a month before. That's great. And then don't drink for a month after. Okay. That's 2 months. So, ya know... It'd be nice to know ... what the risks are. This is what's happening in your body and how it heals faster.....

PATIENTS WANT TO KEEP THE
DISCUSSION FOCUSED ON HEALTH
(NOT ADDICTION)

- Patients are more willing to have a discussion if it was perceived as within the medical realm, but not mental health/addiction realm
- Some did not want a social worker, but would prefer a nurse or doctor

FOCUS ON SHORT-TERM ABSTINENCE

- Many patients who didn't want to stop drinking long-term indicated they were willing to abstain for a short-time when the benefits were clear and salient.

CLEAR CONCISE RECOMMENDATIONS

- Patients reported all wanted this information through clear concise recommendations
- High variability in how and when they wanted the information
 - Healthcare provider advice
 - Paperwork
 - By phone
 - By text
 - Through an app
 - Rarely in-person, as an additional medical appointment

WHAT DO PROVIDERS NEED OR WANT?

Information

education, education, education

clear information about
alcohol risk cut-offs and
biological mechanisms of
action

clear plan of action for
recommendations, referral, or
follow-up

WHAT DO PROVIDERS RECOMMEND?

- “IF you build it they will come”



LONG TERM IMPLEMENTATION NEEDS

- Billable
- Built into Electronic health record (trigger to pull)
- Revenue positive

SO HOW DO YOU ADDRESS
ALCOHOL USE DURING THE
SURGICAL EPISODE OF CARE?

Next Steps

RECOMMENDATIONS FOR “ALCOHOL FREE SURGERY”

Screen patients with a validated tool and get it into clinics early in pre-op episode of care!

- 3-item AUDIT-C \geq 5

What is Recommendation for pre-op health optimization?

- 4-6 Rule

Pre-op Alcohol Intervention

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graph TD; A[Pre-op Alcohol Intervention] --> B[Integrated Surgical Health Advice]; A --> C[Health Coaching]; D[WHAT SHOULD INTERVENTION INCLUDE?]
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WHAT SHOULD INTERVENTION INCLUDE?

Integrated Surgical Health Advice

- Brief, Clear Recommendations
- Reinforced with Paperwork
- This advice should come from clinic staff

Health Coaching

- More intensive
- NOT called an alcohol treatment
- Choice of modality
- Includes other health tips
- Focus on acute surgical risks not chronic risks
- Use Motivational Interviewing
- Future integration of pharmacology

ALCOHOL AND YOUR SURGERY

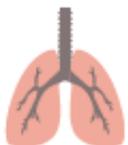
ALCOHOL'S EFFECT ON YOUR SURGICAL HEALTH

WHAT ARE THE RISKS?

- Increased risk of surgical complications,
- Pain management difficulties,
- Problems with anesthesia,
- Medication interactions

WHO IS AT RISK?

WOMEN WHO HAVE 8+ DRINKS PER WEEK
MEN WHO HAVE 15+ DRINKS PER WEEK



HOW DOES ALCOHOL EFFECT HEALTH?

Daily or near-daily alcohol use negatively impacts every major organ system including your heart, lungs, liver, kidney, and immune system.

WHAT CAN YOU DO?

TAKE CONTROL OF YOUR SURGICAL HEALTH BY FOLLOWING THE 4-6 RULE



4-6 RULE

To make your surgery as safe as possible, we recommend you abstain from alcohol for 4 weeks before and for 6 weeks after surgery.

TIPS AND RESOURCES

ALCOHOL AND YOUR SURGERY

ALCOHOL USE REDUCTION STRATEGIES



- Remove alcohol from your home
- Avoid situations where you know you will be tempted to have a drink
- Seek support from a friend or loved one
- Make a commitment to yourself and decide to stick with it
- Remind yourself you want to be as healthy as possible for your surgery
- Ask your doctor about what is safe and best for you

WITHDRAWAL RISK

Seek Medical advice if you drink heavily on a daily or near-daily basis. It can be dangerous to abruptly stop alcohol use. If you experience Anxiety, Tremors/Shaking, Headache, Nausea, Vomiting, Insomnia, Sweating, Hallucinations, or Seizures when you stop drinking, you should only stop alcohol use with medical supervision. You could be at risk for life-threatening alcohol withdrawal complications.

RESOURCES

SAMSHA'S NATIONAL HELPLINE
1-800-662-HELP (4357)
TTY: 1-800-487-4889

STUDY INFORMATION

ASPIRE Study - University of Michigan
Principal Investigator: Dr. Anne Fernandez
Email: UM-aspire-study@med.umich.edu

IRBMED#HUM00156743

NEXT STEPS

RANDOMIZED PILOT TRIAL

- Aim 3; randomized pilot trial
 - Outcomes acceptability and feasibility
- Conduct SMART trial as an R01
 - Micro-randomization

PRECISION HEALTH GRANT

- Precision health grant (natural language processing and machine learning to predict post-operative opioid misuse)
- Identify patients with alcohol and other drug use disorders using Electronic Health Record Data Mining
- Extending through an R21-R33 proposal right now
automated identification of patients with alcohol problems one month prior to surgery

THANKS!

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- K23 (NIAAA 023869)
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QUESTIONS