

# Smoking Cessation in People With HIV

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# Disclosures

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Dr. Triplette reports consulting fees from GO2 Foundation for Lung Cancer.

Brandon Omernik has nothing to disclose.

# Disclaimer

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# Data Considerations

*Data in this presentation offer a limited perspective of how systemic, social, and economic factors impact health. We recognize that racism, not race, creates and perpetuates health disparities.*



To Learn More:

<https://www.cdc.gov/minorityhealth/racism-disparities>

# Outline

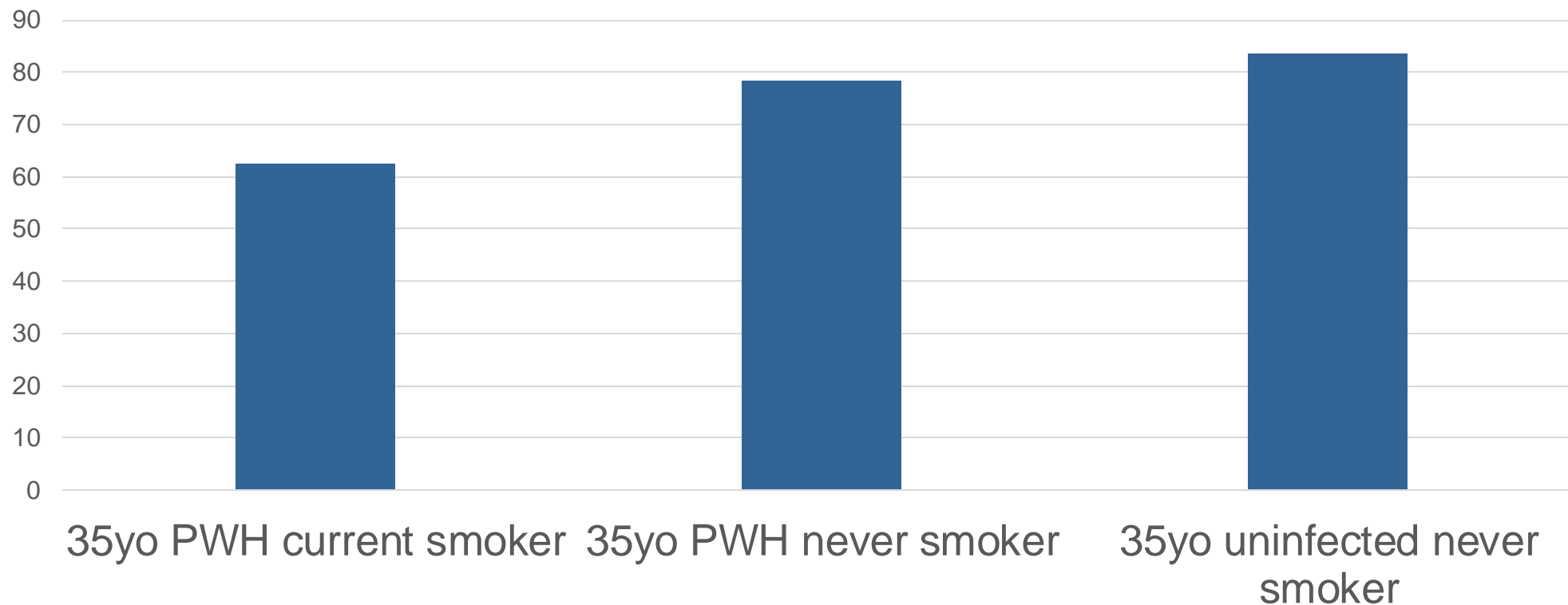
- 1) Review burden of smoking in people with HIV
- 2) Describe the Fred Hutch tobacco cessation program as a care model
- 3) Discuss tobacco cessation counseling strategies
- 4) Describe pharmacologic treatment and best practices
- 5) Explore tailoring smoking cessation for people with HIV

# Smoking Prevalence in PWH

- Different estimates from Western countries suggest at least a 2-fold increased prevalence of smoking in PWH vs. people without HIV
- In US: pooled self-reported data from 1999-2016 using NHANES
  - In 2016: 47% of PWH were currently smoking compared to 25.5% for those without HIV
  - Comparable quit rates (declined 10.7% in PWH vs. 8.0% in those without)
- Smoking is increasingly related to social determinants of health in PWH
  - Race
  - Mental health
  - Other substance use/abuse

# Smoking Impact in PWH

- Life expectancy by HIV and smoking status, Denmark



# Effectiveness of smoking cessation in PWH

- Using a broad mix of strategies appears as effective in PWH to people without when access is equal (observational studies)
- In other settings PWH appear less likely to be offered cessation therapy
- There is broad safety data (phase 3 trials) for pharmacologic therapy in PWH but would consider varenicline over bupropion due to better efficacy data and:
  - Ritonavir accelerates bupropion clearance
  - Lopinavir/Ritonavir and efavirenz decrease bupropion concentrations by 75%
- Studies on effectiveness of particular strategies is limited:
  - High vs. low intensity behavioral therapy
  - Technology assisted cessation
  - Pharmacologic vs. non-pharmacologic treatment
  - Tailored strategies for PWH (and intersectionally-tailored strategies)

*Lam, et.al. Drug Alcohol Depend. 2020.*

*Shahrir, et.al. Prog Cardiovascular Dis. 2020.*

*Legerwood, et.al. Nicotine Tob Red. 2016*





# Fred Hutch Living Tobacco-Free Services Overview

# Rationale for Screening and Treating Tobacco Use Disorders

**Tobacco use is a modifiable risk factor**

Persistent tobacco use is associated with increased risk of recurrence, second primary cancers, poor treatment response, drug interactions, and diminished quality of life

Evidence-based clinical guidelines exist for effectively treating tobacco dependence

Patients' use of evidence-based cessation treatment is low and providers miss many opportunities to advise cessation and treat tobacco dependence

# Fred Hutch Stepped-Care Model Approach

## **STEP 3: MAXIMUM INTENSITY**

- Address psychiatric or substance abuse comorbidity
- Combination NRT + Rx medication education
- Long-term follow-up and maintenance

## **STEP 2: MODERATE INTENSITY**

- First-line pharmacotherapy (combination NRT)
- Brief motivational and cessation counseling
- Arrange referral and/or follow-up

## **STEP 1: MINIMUM INTENSITY**

- Identify all current tobacco users
- Provide self-help materials (Q2H smartphone app, resource letter)

# Assessing and Addressing Tobacco Use

# Assessing Tobacco Use

## 5 A's (Every clinician-patient interaction)

- **Ask** - Identify and document tobacco use status for every patient at every visit.
- **Advise** - In a clear, strong, and personalized manner, urge every tobacco user to quit.
- **Assess** - Is the tobacco user willing to make a quit attempt at this time?
- **Assist** - For the patient willing to make a quit attempt, use counseling and pharmacotherapy to help him or her quit.
- **Arrange** - Schedule follow-up contact, in person or by telephone, preferably within the first week after the quit date.

## 5 R's (Patients not ready to make a quit attempt)

- **Relevance** – Encourage the patient to indicate why quitting is personally relevant.
- **Risks** - Ask the patient to identify potential negative consequences of tobacco use.
- **Rewards** - Ask the patient to identify potential benefits of stopping tobacco use.
- **Roadblocks** - Ask the patient to identify barriers or impediments to quitting.
- **Arrange** - The motivational intervention should be repeated every time an unmotivated patient has an interaction with a clinician. Tobacco users who have failed in previous quit attempts should be told that most people make repeated quit attempts before they are successful.

# Screening and Documenting Tobacco Use

## Fred Hutch Screener Question

In the past 6 months have you smoked cigarettes or used any other forms of tobacco products, such as cigars, chewing tobacco, or e-cigarettes?

**Substance & Sexual Activity**

**Tobacco**

**Smoking**

Never Former **Every Day** Some Days Unknown      Passive exposure: Never **Past** Current

Types:  Cigarettes  Pipe  Cigars  E-Cigarettes  Hookah

**Cigarettes**

Start date: 1965      Quit date:

**Pack Years**

Packs/day: 0.5      **0.50** 1 2      Years: 58

Pack years: 29

**Smokeless**

Never Former Current Unknown

**Comments**

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# Physical Benefits of Quitting

## 24 Hours

- Carbon monoxide levels return to normal
- Nicotine level in the blood drops to zero

## 1 Month

- Shortness of breath and coughing subside
- Smell and taste improve

## 1-2 Years

- Risk of coronary artery disease is reduced by half

## 5 Years

- Risk of oral, throat, bladder and esophagus cancers cut in half
- Stroke risk is the same as a non-smoker

## 10-20 Years

- Lung cancer risk reduced by half
- Risk of coronary heart disease similar to that of a non-smoker

# Exploring Patient Desire and Readiness to Quit

## Change Talk

Desire	Ability	Reasons	Need	Commitment	Taking Steps
<ul style="list-style-type: none"><li>• Verbs include "Want", "Like", and "Wish"</li></ul>	<ul style="list-style-type: none"><li>• Verbs include "Can" and "Should"</li></ul>	<ul style="list-style-type: none"><li>• Specific arguments for change.</li><li>• Ex. "I would probably feel better if...."</li></ul>	<ul style="list-style-type: none"><li>• Statements about action taken</li><li>• Ex. "This week I started..."</li><li>• "I actually went out and..."</li></ul>	<ul style="list-style-type: none"><li>• Examples include: "I will", "I promise", "I am ready to.."</li><li>• Lower levels of commitment ex. "I will think about..."</li></ul>	<ul style="list-style-type: none"><li>• Specific examples of actions taken to provide behavior change.</li><li>• Ex. "I tried a few days without smoking this week"</li></ul>

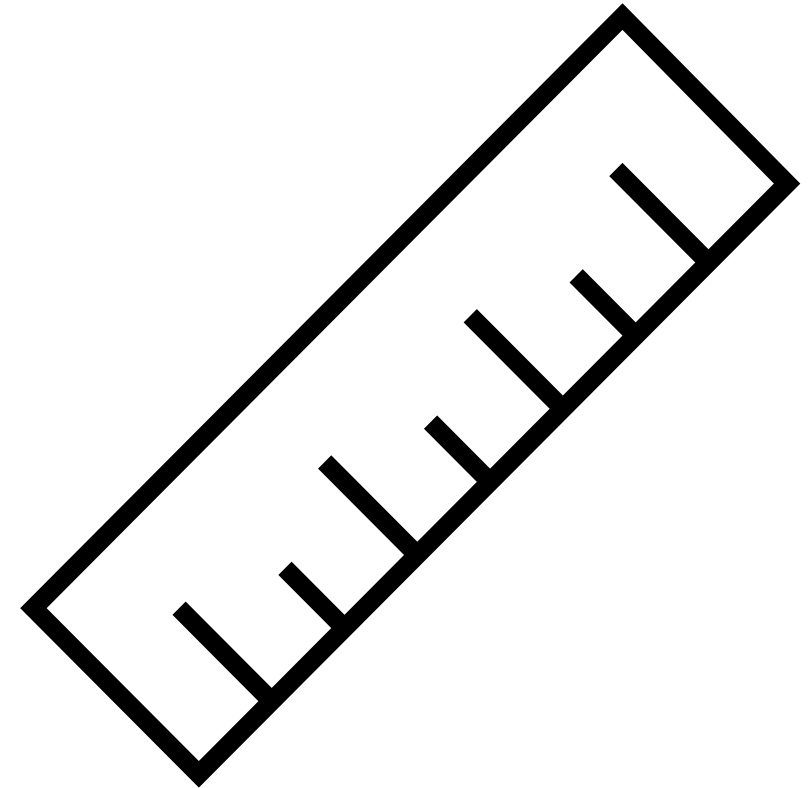


# Measuring Readiness to Quit

## Assessing Importance and Confidence

"A 1-10 ruler can be used to ask about various motivational dimensions, including readiness, desire, or commitment"

- The first step is to ask about the importance of change, and then elicit a numerical rating.
- Ex. "How important is it for you to quit tobacco use? Could you tell me on a scale from 1 to 10, where 1 is not at all, and 10 is extremely important?"
- Follow-up with open questions.
  - "Why did you give yourself a score of \_\_ and not 1?"
  - "What would it take to go from a \_\_ to a higher number?"



# Other Behavioral Interventions

## Cognitive Behavioral Therapy

- Most studied and commonly used approach.
- Uses ABC model to improve coping skills, modify cognitions, and establish coping skills.

## Mindfulness

- Trains acceptance and recognition of thoughts, emotions, and actions related to tobacco use and build resilience against action.

## Acceptance and Commitment

- Builds resilience to aversive thoughts and physical experiences associated with tobacco use cessation.

## Relapse Prevention and Chronic Care

- Tobacco use is a chronically relapsing condition. Regularly scheduled check-ins may reduce risk of relapse.

# Pharmacotherapy For Tobacco Use

# Pharmacotherapy For Tobacco Cessation

## 7 FDA-Approved Medications

**NRT agents occupy nicotine receptors reducing withdrawal symptoms and craving without the highly rewarding effects of commercial tobacco**

Nicotine Patches

Nicotine Gum

Nicotine Lozenges

**Bupropion increases dopamine and norepinephrine activity in the brain, simulating the rewarding effects of nicotine.**

Nicotine Inhalers

Nicotine Nasal Sprays

Bupropion

**Varenicline binds with nicotinic receptors and stimulates dopamine release, preventing the effects of cigarettes and simulating them.**

Varenicline

# Effectiveness of Monotherapy Approaches

Medication	Estimated Abstinence Rate (6 Months, 95% CI)
Self-Directed Quit Attempts (Cold Turkey)	4.5%
Varenicline	24%
Bupropion	17%
Nicotine Patch (2-Weeks)	18%
Nicotine Gum (2-Weeks)	16%
Nicotine Patch Extended Treatment (6-14 weeks)	23.4%
Nicotine Gum Extended Treatment (6-14 weeks)	19.0%
Nicotine (Nicotrol) Inhaler	18%

# Effectiveness of Combination Medications

Medication	Estimated Abstinence Rate (6 Months)
Patch + Fast-acting NRT	36.5%
Patch + Bupropion	38.9%
Patch + Nortriptyline	27.3%
Patch + Inhaler	25.8%

# Prescriber Information

Pharmacotherapy	Dosage	Duration	Availability	Precautions/Contraindications	Adverse Effects	Patient Education
<ul style="list-style-type: none"> <li>Nicotine Patch</li> <li>NicoDerm CQ<sup>®</sup></li> <li>Habitrol<sup>®</sup></li> </ul>	<p>If smoking 11cig/d or &gt;:</p> <ul style="list-style-type: none"> <li>21mg/24 hr</li> <li>14 mg/24 hr</li> <li>7 mg/24 hr</li> </ul> <p>If smoking 10 cig/d or &lt;:</p> <ul style="list-style-type: none"> <li>14 mg/24 hr</li> <li>7 mg/24 hr</li> </ul>	<ul style="list-style-type: none"> <li>6 weeks</li> <li>2 weeks</li> <li>2 weeks</li> <li>6 weeks</li> <li>2 weeks</li> </ul>	<ul style="list-style-type: none"> <li>Over the Counter (OTC)</li> <li>Medicaid reimbursement by prescription only</li> </ul>	<ul style="list-style-type: none"> <li>Uncontrolled Hypertension</li> </ul>	<ul style="list-style-type: none"> <li>Skin irritation</li> <li>Redness</li> <li>Swelling</li> <li>Itching</li> <li>Disruption in Sleep</li> <li>Nightmares</li> <li>Vivid dreams</li> </ul>	<ul style="list-style-type: none"> <li>Instruct patient to rotate patch site daily</li> <li>Instruct patient to remove patch prior to bedtime if sleep is disrupted and bothersome.</li> </ul>
<ul style="list-style-type: none"> <li>Nicotine Polacrilex Gum</li> <li>Nicorette Gum<sup>®</sup></li> </ul>	<ul style="list-style-type: none"> <li>2mg if smoking 24 or &lt; cig/d</li> <li>4 mg if smoking 25 or &gt; cig/d</li> <li>Do not exceed 24 pieces of gum/24 hr</li> </ul>	<ul style="list-style-type: none"> <li>Up to 12 weeks</li> </ul>	<ul style="list-style-type: none"> <li>Over the Counter (OTC)</li> <li>Medicaid reimbursement by prescription only</li> </ul>	<ul style="list-style-type: none"> <li>Poor dentition</li> <li>Xerostomia</li> </ul>	<ul style="list-style-type: none"> <li>Hiccups</li> <li>Upset stomach</li> <li>Jaw ache</li> </ul>	<ul style="list-style-type: none"> <li>Chew gum on a fixed schedule</li> <li>"Chew &amp; Park" each piece of gum for 30 minutes</li> <li>Avoid eating/drinking anything except water 15 minutes before &amp; during chewing</li> </ul>
<ul style="list-style-type: none"> <li>Nicotine Lozenge</li> <li>Commit<sup>®</sup></li> </ul>	<ul style="list-style-type: none"> <li>2mg if smoking the first cigarette <i>more than</i> 30 minutes after waking up</li> <li>4 mg if smoking the first cigarette <i>within</i> 30 minutes after waking up</li> <li>Do not use more than 20 lozenges/day</li> </ul>	<ul style="list-style-type: none"> <li>Up to 12 weeks</li> </ul>	<ul style="list-style-type: none"> <li>Over the Counter (OTC)</li> <li>Medicaid reimbursement by prescription only</li> </ul>	<ul style="list-style-type: none"> <li>Xerostomia</li> </ul>	<ul style="list-style-type: none"> <li>Local irritation to mouth &amp; throat</li> <li>Upset stomach</li> </ul>	<ul style="list-style-type: none"> <li>Avoid eating/drinking anything except water 15 minutes before &amp; during when using a lozenge</li> <li>Each lozenge will take 20 – 30 minutes to dissolve</li> </ul>
<ul style="list-style-type: none"> <li>Nicotine Inhalation System</li> <li>Nicotrol Inhaler<sup>®</sup></li> </ul>	<ul style="list-style-type: none"> <li>6 – 16 cartridges/day</li> </ul>	<ul style="list-style-type: none"> <li>Up to 6 months</li> </ul>	<ul style="list-style-type: none"> <li>Prescription Only</li> </ul>		<ul style="list-style-type: none"> <li>Local irritation to mouth &amp; throat</li> <li>Upset stomach</li> </ul>	<ul style="list-style-type: none"> <li>Each cartridge will take 80 – 100 inhalations over 20 minutes</li> <li>Instruct patient to puff on inhalers like a cigar. Absorption is in the buccal mucosa.</li> </ul>
<ul style="list-style-type: none"> <li>Nicotine Nasal Spray</li> <li>Nicotrol NS<sup>®</sup></li> </ul>	<ul style="list-style-type: none"> <li>0.5mg/inhalation/nostril 1-2 times/hr or PRN dosing</li> </ul>	<ul style="list-style-type: none"> <li>Up to 12 weeks</li> </ul>	<ul style="list-style-type: none"> <li>Prescription Only</li> </ul>	<ul style="list-style-type: none"> <li>Sinus infections</li> </ul>	<ul style="list-style-type: none"> <li>Nose/eye/upper respiratory irritation</li> </ul>	
<ul style="list-style-type: none"> <li>Bupropion</li> <li>Zyban<sup>®</sup></li> <li>Wellbutrin SR<sup>®</sup></li> </ul>	<ul style="list-style-type: none"> <li>150 mg daily x 3 days</li> <li>THEN</li> <li>150 mg BID</li> </ul>	<ul style="list-style-type: none"> <li>12 weeks</li> </ul>	<ul style="list-style-type: none"> <li>Prescription Only</li> </ul>	<ul style="list-style-type: none"> <li>History of seizures</li> <li>History of eating disorders</li> <li>Bulimia</li> <li>Anorexia</li> </ul>	<ul style="list-style-type: none"> <li>Insomnia</li> <li>Dry mouth</li> <li>Restlessness</li> <li>Dizziness</li> </ul>	<ul style="list-style-type: none"> <li>Overlap with smoking for 1-2 weeks</li> <li>Does not need to be tapered off</li> </ul>
<ul style="list-style-type: none"> <li>Varenicline</li> <li>Chantix<sup>®</sup></li> </ul>	<ul style="list-style-type: none"> <li>Days 1-3: 0.5mg po daily THEN</li> <li>Days 4-7: 0.5mg po BID THEN</li> <li>Days 8-End of treatment: 1mg po BID</li> </ul>	<ul style="list-style-type: none"> <li>12 weeks</li> <li>If the patient has quit smoking, may be given another 12 weeks of treatment</li> </ul>	<ul style="list-style-type: none"> <li>Prescription Only</li> </ul>	<ul style="list-style-type: none"> <li>Kidney problems or undergoing dialysis</li> <li>Pregnant or planning of getting pregnant</li> <li>Breast feeding</li> </ul>	<ul style="list-style-type: none"> <li>Mild nausea</li> <li>Sleep problems</li> <li>Headaches</li> </ul>	<ul style="list-style-type: none"> <li>Take medication with a full glass of water after you eat a meal.</li> <li>Allow 8 hours between each dose</li> <li>Take this medication a few hours before bedtime to avoid restlessness</li> <li>Overlap with smoking for 1-2 weeks</li> <li>Does not need to be tapered off</li> </ul>

# Patient Resources

## Tobacco Cessation Resources

### 2Morrow Health App

A smart phone app that provides tips on staying motivated to quit, coping with withdrawal and cravings, managing stress, and preventing slips and relapses.

Download the app for your iPhone or Android.

### Quit Line

Quitlines provide free coaching—over the phone—to help you quit smoking.

English: 1 (800) 784-8669  
Spanish: 1 (855) 335-3569  
Mandarin and Cantonese: 1 (800) 838-8917  
Korean: 1 (800) 556-5564  
Vietnamese: 1 (800) 778-8440

### Educational Resources

[Home | Smokefree](#)  
[Calling a Quitline Can Be Key to Your Success](#)  
[Keep It Sacred - Indigenous](#)  
[National LGBT Cancer Network](#)  
[Stopping Tobacco Use After a Cancer Diagnosis](#)  
[Prepare to Stay Smokefree | Quit Guide | Quit Smoking | Tips From Former Smokers | CDC](#)  
[Quitting Smoking for Older Adults](#)  
[You Can Quit 2 - Military](#)



# Conclusions

- Tobacco smoking is twice as common in PWH and may have a larger impact on life expectancy than in people without HIV
- Cessation treatments are safe and effective in PWH, but there is limited data on optimal strategies in this population
- Effective tobacco treatment involves:
  - Systematic identification of people currently smoking
  - A strategic and tailored approach to longitudinal counseling
  - Multi-method therapy (NRT and pharmacotherapy)

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