



Memorial Sloan Kettering  
Cancer Center

*NYSCHP - Traditional Chinese Medicine CE Webinar | January 30, 2024*

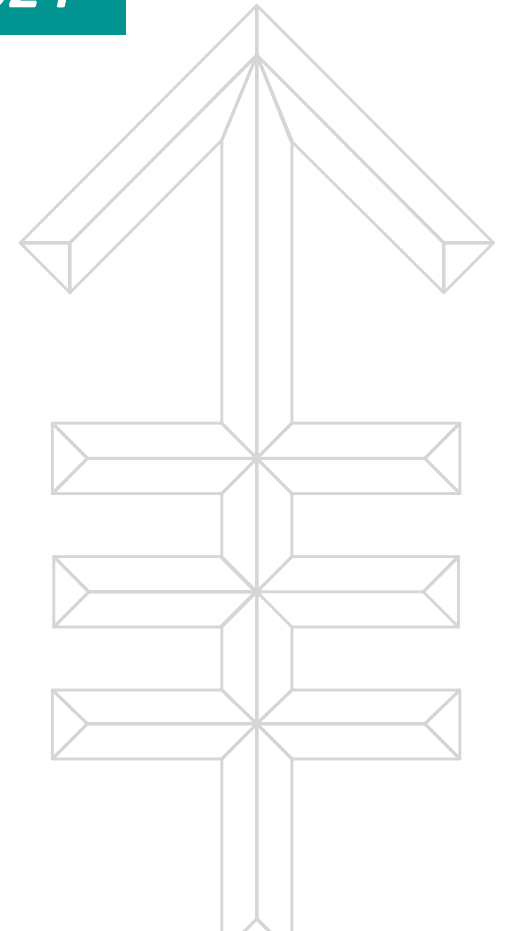
# *Integrating Herbal Medicine into Oncology Care Delivery*

Overview of About Herbs and Herbal Oncology Program

NYSCHP - Chinese Herbal Medicine Webinar Miniseries  
January 30, 2024

**Yen Nien (Jason) Hou, PharmD, DiplOM, LAc**

Herb Information Center Coordinator  
Manager, *About Herbs* Website  
Integrative Medicine Service



# Disclosures

Yen-Nien Hou declare no conflict of interest.

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# Learning Objectives

- Describe *About Herbs* website as a resource for herbs and supplements use in oncology setting
- Discuss how Herbal Oncology Program (HOP) was developed at Memorial Sloan Kettering Cancer Center
- Review how HOP was implemented and evaluated
- Explore future directions for TCM use in oncology settings



*Herbs & Supplements*

# Prevalence of use among cancer patients



**60%** of cancer patients may take  
≥2 dietary supplements daily

<https://www.mskcc.org/aboutherbs>  
AKA [aboutherbs.com](https://www.mskcc.org/aboutherbs)

*Herbs & Supplements*  
**How patients  
self-inform**



- **Internet-based searches**, along with family and friend recommendations
- **General belief** that natural products are safe
- **But** clinical information is quite limited
- **And** may not include potential herb – drug interactions (HDIs)
- **Nor** consider the unique and changing needs of cancer patients before, during, and after treatment



*General Guidelines*

# Think SĀF-TI first



***S*andardization** Most herbal products are not standardized, so impossible to compare potency

***A*bsorption** Herbal constituents that are not absorbed have no benefits

***F*unction** What are perceived benefits and how well have they been studied

***T*oxicity** Some products may be contaminated with heavy metals, microbes, or unknown substances

***I*nteractions** HDIs may be underreported and/or not adequately studied



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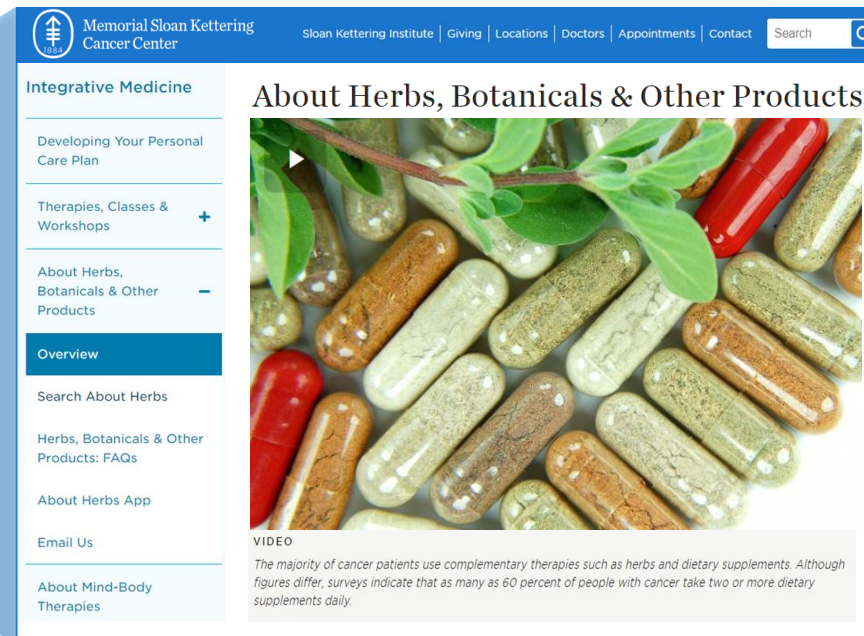
# Herbs & Supplements About Herbs Website

**Free** and **evidence-based**

**For** clinicians, patients, and caregivers

**With** evidence especially relevant to cancer patients

**And** notes clinical relevance of potential HDIs



The screenshot shows the Memorial Sloan Kettering Cancer Center website. The page title is "About Herbs, Botanicals & Other Products". The navigation bar includes "Sloan Kettering Institute", "Giving", "Locations", "Doctors", "Appointments", "Contact", and a search bar. The left sidebar menu includes "Integrative Medicine", "Developing Your Personal Care Plan", "Therapies, Classes & Workshops", "About Herbs, Botanicals & Other Products", "Overview", "Search About Herbs", "Herbs, Botanicals & Other Products: FAQs", "About Herbs App", "Email Us", and "About Mind-Body Therapies". The main content area features a video player with a play button and a photograph of various pills and capsules. Below the video, a text block reads: "The majority of cancer patients use complementary therapies such as herbs and dietary supplements. Although figures differ, surveys indicate that as many as 60 percent of people with cancer take two or more dietary supplements daily."



# AH Speaks to target audiences

To meet the specific needs of cancer patients and healthcare professionals

Jump to: [For Patients & Caregivers](#) [For Healthcare Professionals](#)

### For Patients & Caregivers

- How It Works +
- Purported Uses +
- Patient Warnings +
- Do Not Take If +
- Side Effects +
- Special Point +


Back to top ^

Transitioning from old format



To new, simplified patient format

## Turmeric



Common Names

- Indian saffron
- Curcumin
- Jiang huang

Share Print

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### For Patients & Caregivers

- What is it? +
- What is it used for? +
- What are the side effects? +
- What else do I need to know? +

### For Healthcare Professionals

- Scientific Name +
- Clinical Summary +
- Purported Uses +
- Mechanism of Action +
- Warnings +
- Contraindications +
- Adverse Reactions +
- Herb-Drug Interactions +
- Herb Lab Interactions +
- Dosage (OneMSK Only)** Internal to MSK +
- References** Links to PubMed Refs +

Back to top ^





# AH Speaks to target audiences

Citations link to PubMed abstracts in the Reference list

## Healthcare Professionals

### Herb-Drug Interactions

- Adenosine: The caffeine content may inhibit the hemodynamic effects of adenosine (34).
- Anticoagulants / Antiplatelets: Theoretically, consumption of large amounts (5-1 gallon) may provide enough vitamin K to antagonize the effects of anticoagulants and antiplatelet agents, though this effect has not been reported in humans (29) (34).
- Atropine: The tannin content may reduce the absorption of atropine.
- Iron supplements: The tannin content may reduce the bioavailability of iron. Green tea should be taken either 2 hours before or 4 hours following iron administration.
- Codeine: The tannin content may reduce the absorption of codeine (18).
- Bortezomib: EGCG and other polyphenols can inhibit the therapeutic effect of bortezomib and other boronic acid based proteasome inhibitors (37).
- Tamoxifen: EGCG was shown to increase the oral bioavailability of tamoxifen, increasing the potential for their interactions (39).
- Verapamil: The bioavailability of verapamil increased significantly in the presence of EGCG, thought to be due to P-glycoprotein inhibition by EGCG (39).
- Irinotecan: A study found EGCG to inhibit transport of irinotecan and its biliary elimination, resulting in their prolonged half-life which can increase toxicity (40).
- Cytochrome P450 3A4 substrates: Green tea extract inhibits CYP 3A4 enzyme and the intracellular concentration of drugs metabolized by this enzyme (43) (44).
- UGT (Uridine 5'-diphospho-glucuronosyltransferase) substrates: Green tea polyphenols inhibit UGT enzymes in vitro and can increase the side effects of drugs metabolized by UGT (45).
- Acetaminophen: Green tea was shown to increase acetaminophen-induced liver damage (46).

### References

- 37 Goldin EB, Lam P, Kardosh A, et al. **Green tea polyphenols block the anticancer effects of bortezomib and other boronic acid based proteasome inhibitors.** *Blood* 2009 Jun 4;113(23):5927-37.
- 38 Shin SC, Choi JS. **Effects of epigallocatechin gallate on the oral bioavailability and pharmacokinetics of tamoxifen and its main metabolite, 4-hydroxytamoxifen, in rats.** *Anticancer Drugs.* 2009 Aug;20(7):584-8.

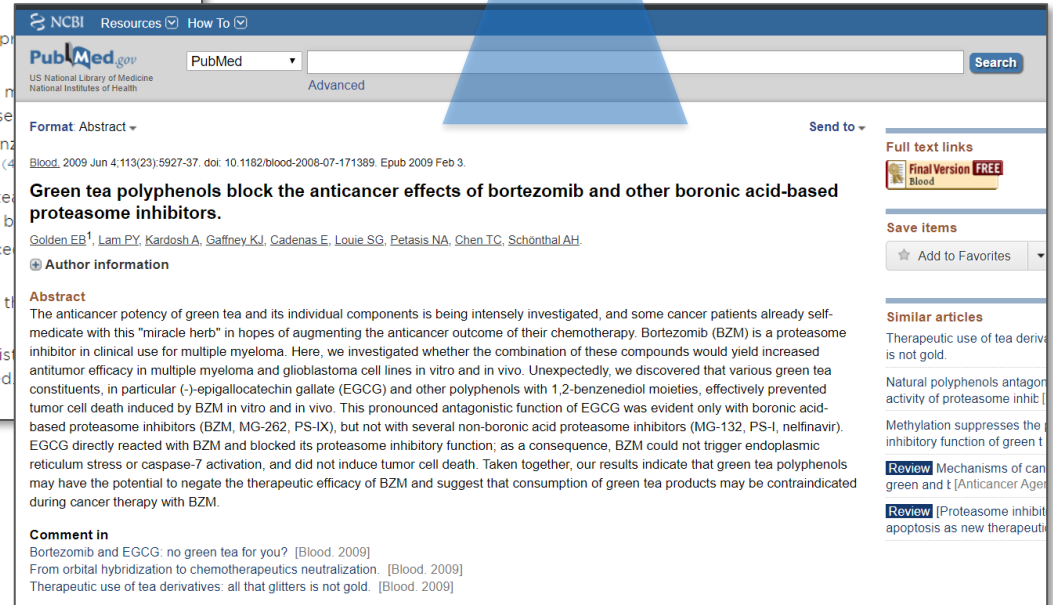
## Green Tea



### Common Names

- Chinese tea
- Green tea extract
- Green tea polyphenols
- Epigallocatechin gallate (EGCG)

Jump to: [For Patients & Caregivers](#) [For Healthcare Professionals](#)

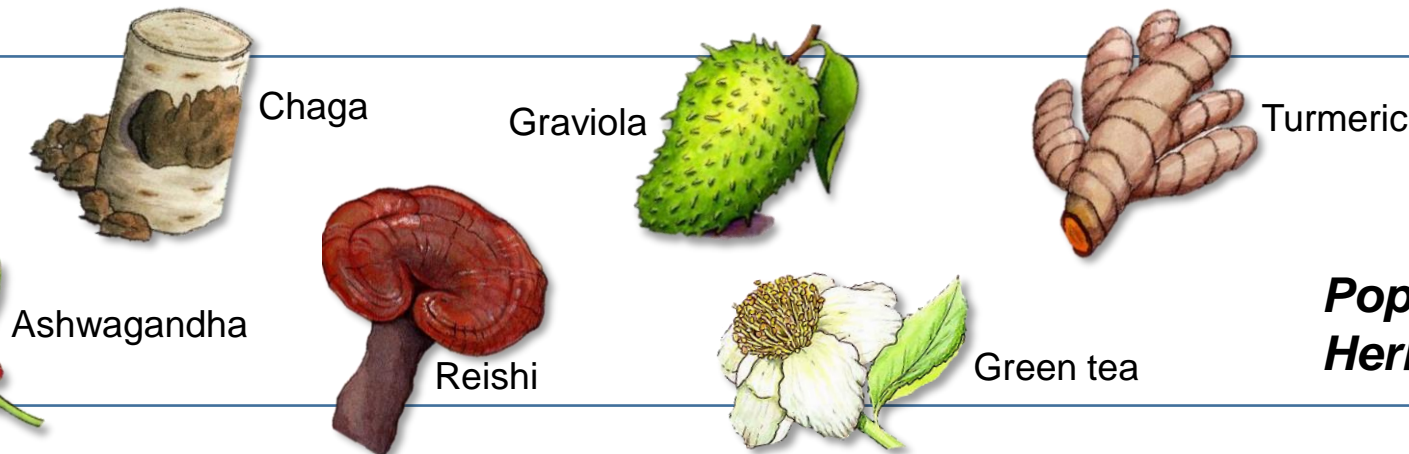


The screenshot shows the PubMed website interface. The search bar contains 'PubMed' and the search button is visible. The article title is 'Green tea polyphenols block the anticancer effects of bortezomib and other boronic acid-based proteasome inhibitors.' The authors listed are Golden EB, Lam PY, Kardosh A, Gaffney KJ, Cadenas E, Louie SG, Petasis NA, Chen TC, Schönthal AH. The abstract text is visible, starting with 'The anticancer potency of green tea and its individual components is being intensely investigated, and some cancer patients already self-medicate with this "miracle herb" in hopes of augmenting the anticancer outcome of their chemotherapy. Bortezomib (BZM) is a proteasome inhibitor in clinical use for multiple myeloma. Here, we investigated whether the combination of these compounds would yield increased antitumor efficacy in multiple myeloma and glioblastoma cell lines in vitro and in vivo. Unexpectedly, we discovered that various green tea constituents, in particular (-)-epigallocatechin gallate (EGCG) and other polyphenols with 1,2-benzenediol moieties, effectively prevented tumor cell death induced by BZM in vitro and in vivo. This pronounced antagonistic function of EGCG was evident only with boronic acid-based proteasome inhibitors (BZM, MG-262, PS-IX), but not with several non-boronic acid proteasome inhibitors (MG-132, PS-1, nelfinavir). EGCG directly reacted with BZM and blocked its proteasome inhibitory function, as a consequence, BZM could not trigger endoplasmic reticulum stress or caspase-7 activation, and did not induce tumor cell death. Taken together, our results indicate that green tea polyphenols may have the potential to negate the therapeutic efficacy of BZM and suggest that consumption of green tea products may be contraindicated during cancer therapy with BZM.'



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# Making use of *About Herbs*




## Popular Herbs

### Quick Start

- *Get familiar with popular herbs*
- *Get familiar with our latest TCM entries*
- *Use the Alphabet Directory and search bar to locate other herbs*

**Xiao Yao San** Share Print



**Common Names**


- Free and Easy Wanderer
- Rambling Powder
- Jia Wei Xiao Yao San
- Dan Zhi Xiao Yao San
- Augmented rambling powder
- Kamishoyosan
- TJ-24

Jump to: [For Patients & Caregivers](#) [For Healthcare Professionals](#)

**For Patients & Caregivers**

Tell your healthcare providers about any dietary supplements you're taking, such as herbs, vitamins, minerals, and natural or home remedies. This will help them manage your care and keep you safe.

**Ma Zi Ren Wan** Share Print



**Common Names**

- Hemp Seed Pill
- Hemp Seed Formula
- Mashinigan
- TJ-126


Jump to: [For Patients & Caregivers](#) [For Healthcare Professionals](#)


**Search About Herbs** Share Print


Search by keywords:  
 Search


Browse by name:  
[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)


18 Herbs found

**Acal Berry**  

 Acal berry is the edible fruit of a palm tree native to South America. It is used in traditional...  
**Purported Uses:** Cancer, Heart disease, Stroke  
[Mechanism of Action](#) [Potential Interactions](#)

**Agaricus**  

 Agaricus blazei is an edible mushroom native to Brazil and is cultivated in Japan for medicinal...  
**Purported Uses:** Arteriosclerosis, Cancer, Diabetes, Hepatitis, High Cholesterol  
[Mechanism of Action](#) [Potential Interactions](#)

**AHCC**  

 AHCC is a proprietary mushroom extract used to prevent and treat cancer.  
**Purported Uses:** Cancer prevention, Cancer treatment  
[Mechanism of Action](#) [Potential Interactions](#)


**Alfalfa**  

 Alfalfa is a food crop, and its leaves and seeds are thought to have diuretic properties, to be...  
**Purported Uses:** Diabetes, Cholesterol, Diuretic, GI disorders, Asthma, allergies, Thyroid, Lactation, Menstrual disorders  
[Mechanism of Action](#) [Potential Interactions](#)

**Aloe Vera**  

 Aloe vera is a succulent plant, and the thick gel obtained from its leaves is used for wound...  
**Purported Uses:** Burns, Dry skin, Cancer, Treatment side effects, Inflammation, Diabetes, Colitis  
[Mechanism of Action](#) [Potential Interactions](#)

**About Herbs**  
 Expert advice and information on supplements, integrative medicine treatments, and more.  
[Newsletter Sign Up](#)  
[Manage Preferences](#)

[Herbs, Botanicals & Other Products: FAQs](#)

**About Mind-Body Therapies**



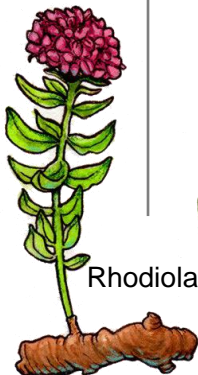




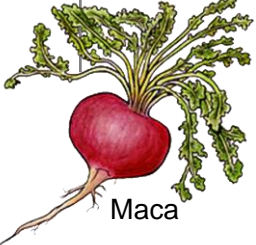





# Examples of herb and supplement uses

*But evidence is often limited or lacking*

Appetite	Cognition	Fatigue	Immune function	Menopause symptoms	Nausea	Pain	Sleep	Stress/ Anxiety	Weight loss
Cannabis	Carnitine	Astragalus	Astragalus	Black Cohosh	Astragalus	Arnica	Cannabis	5-HTP	5-HTP
Ginger	Ginkgo	Carnitine	Chaga	Chasteberry	Cannabis	Bromelain	Chamomile	Ashwagandha	Garcinia
Shi Quan	Ginseng	CoQ10	Coriolus	Dong Quai	Ginger	Cannabis	Hops	Cannabis	Green tea
Da Bu Tang	Gotu Kola	Ginseng	Ginseng	Flaxseed	Peppermint	Capsaicin	Kava	Chamomile	Mate
	Rhodiola	Mate	Lentinan	Maca		Devil's Claw	Lavender	Kava	Maitake
		Reishi	Maitake	Pollen Extract		Glucosamine	Lemongrass	Lavender	Taurine
		Rhodiola	Reishi	Red Clover		Turmeric	L-Theanine	Lemongrass	
			Shiitake	Soy		Vitamin B6	Melatonin	Passionflower	
			Turmeric	Wild Yam		Willow Bark	Passionflower	St John's Wort	
			Vitamin C	XYS		Yunnan Baiyao	Valerian	XYS	

								
Rhodiola	Ginkgo	Astragalus	Ginseng	Dong quai	Maca	Flaxseed	St John's wort	Maitake

# Major categories of

## Herb-Drug Interactions

### Unintended or unwanted effects include

- Loss of drug efficacy
- Increased toxicities

#### Antioxidants vs Chemotherapeutic Agents

- Can interfere with chemotherapy efficacy
- Grape seed vs cisplatin

#### Phytoestrogens vs Hormonal Therapy

- May stimulate cancer growth, inhibit CT drugs
- Soy vs tamoxifen



#### Blood-Thinning Herbs vs Anticoagulants

- Increases bleeding risk
- Garlic vs Warfarin

#### Immunostimulant Herbs vs Immunosuppressants

- Increased rejection risk after bone marrow or organ transplant
- Astragalus vs cyclophosphamide



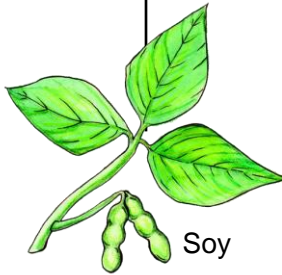




Herbs to avoid before surgery for bleeding or anesthesia risks

- Feverfew
- Garlic
- Ginger
- Ginkgo
- Kava
- Saw palmetto
- St. John's wort
- Valerian



# Botanicals with known HDIs and SEs



HDIs	Liver toxicities	Immuno-modulating	Hormonal activity	Antioxidant	Photo-sensitizing	Bleeding risk	High in oxalates
<p>Berberine Cannabis Isatis Kava Oleandrin Red yeast rice Reishi St John's wort</p>  <p>Red yeast rice</p>	<p>Black cohosh Chaparral Comfrey Garcinia Kava Noni Vitamin A</p>  <p>Astragalus</p>	<p>Astragalus Chaga Coriolus Echinacea Reishi</p>  <p>Soy</p>	<p>Astragalus Dong quai Ginseng Lavender Red clover Soy</p>	<p>Acai Astragalus Garlic Grape seed extract Graviola NAC Pomegranate Vitamin C Vitamin E</p>  <p>Graviola</p>	<p>St. John's wort Limes</p>  <p>St John's wort</p>  <p>Ginkgo</p>	<p>Dong quai Feverfew Garlic Ginger Ginkgo</p>	<p>Cranberry Chaga Dandelion Rhubarb Sheep sorrel Vitamin C</p>  <p>Vitamin C</p>



# Calculation for HDI safety with MZRW

Taxol: Strong substrate  
of CYP3A4, CYP2C8

CBD MW 314.464 g/mol

Bottomline:

CBD 50 mg PO daily

- Will not interfere with Taxol via CYP3A4
- Will not interfere with CYP2C8

In vitro, [S Yamaori - 2011](#):

- IC50 of CBD on CYP3A4 (competitive inhibition  $K_i=1$ ) is 11.7 $\mu$ M
- 11.7 $\mu$ mol/L x 314.464 ug/ $\mu$ mol = 3679 ug/L → 3679 ng/mL.
- Not achievable at 50mg every morning/patient reported dosing

In humans:

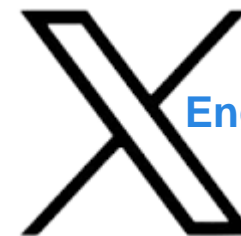
- [Systematic review \(2018\)](#) Dose of *800mg oral CBD* in a study involving 8 male and female cannabis smokers, reported a mean Cmax of 77.9 ng/mL and mean Tmax of 3.0 h (Haney et al., 2016)
- [A Phase 1 RCT \(2018\)](#) showed Cmax was 541.2 ng/mL and AUC  $\tau$  was 3236 ng·h/mL after *1500 mg CBD twice daily*



AH Stats



35 million+  
Internet Hits\*



Engagement rate:  
7.8%

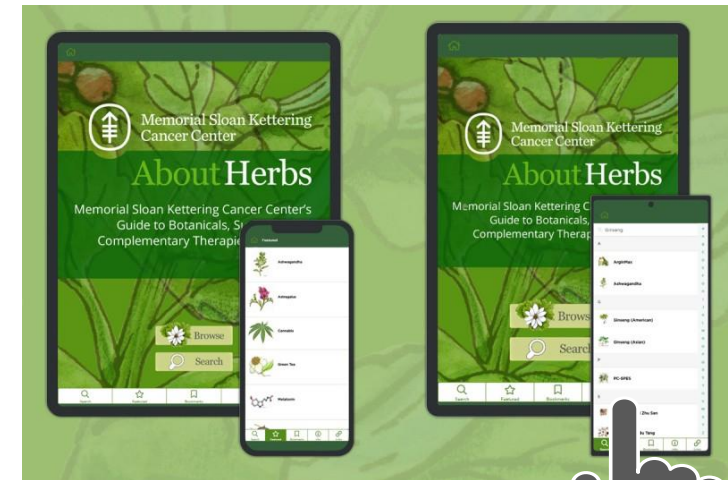


195  
Countries

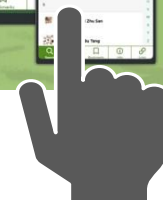


12 million+  
Unique Visitors\*

292  
Monographs

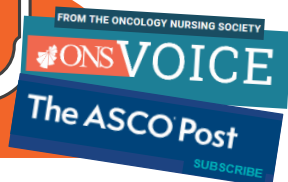


332,954  
App Downloads\*



\*Since inception

80,000  
Monthly HCP  
Subscribers



14,416  
Annual E-News Subscribers



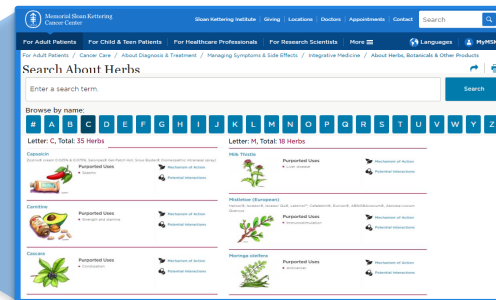
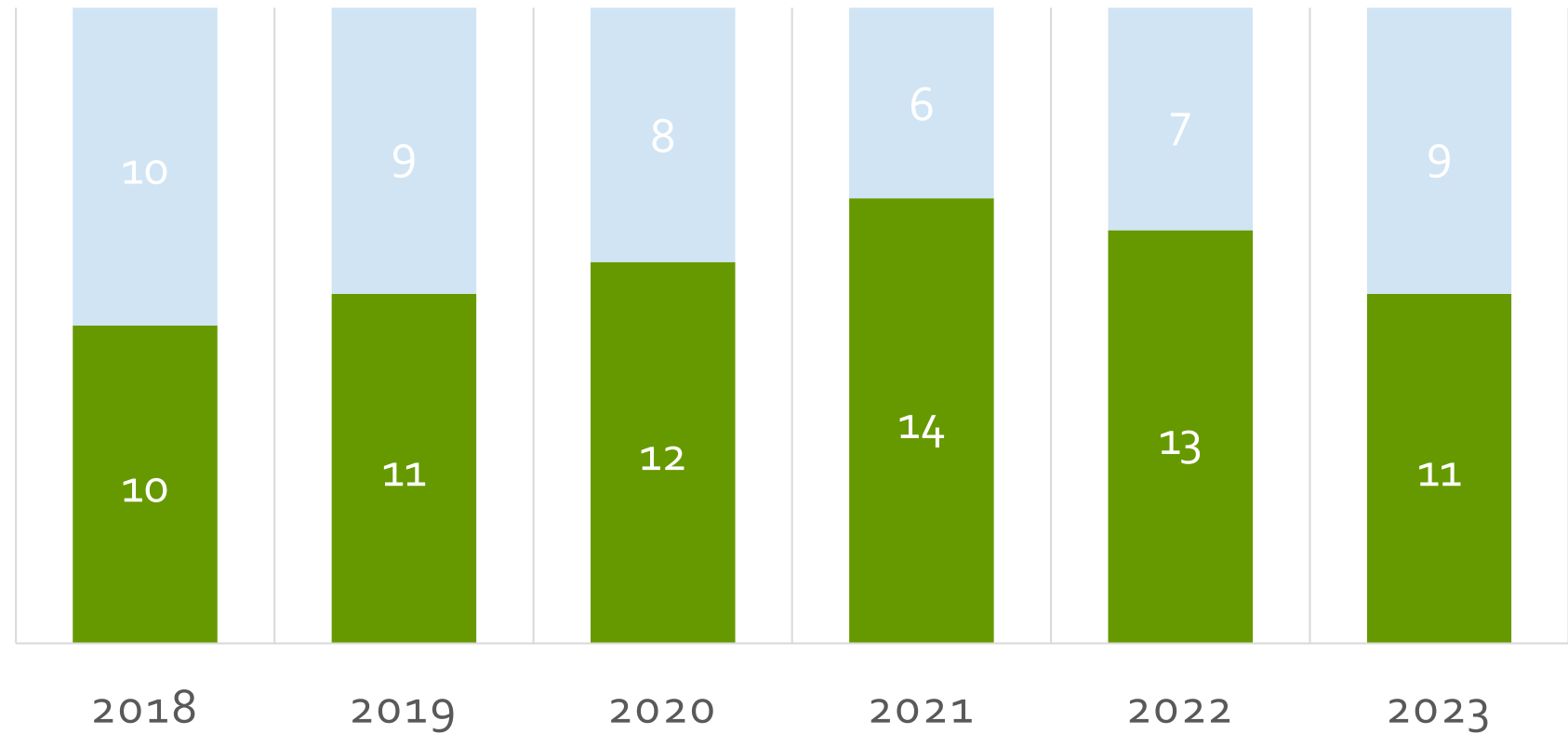
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# About Herbs Drives Traffic to *mskcc.org*



## TOP 20 SEARCH TERMS ON MSK MAIN PAGE

■ AboutHerbs ■ MSKCC



What are our visitors searching for?



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# About Herbs 2023 Updates



## Suan Zao Ren Tang

Purported Benefits, Side Effects & More

### Common Names

- Suanzaoren

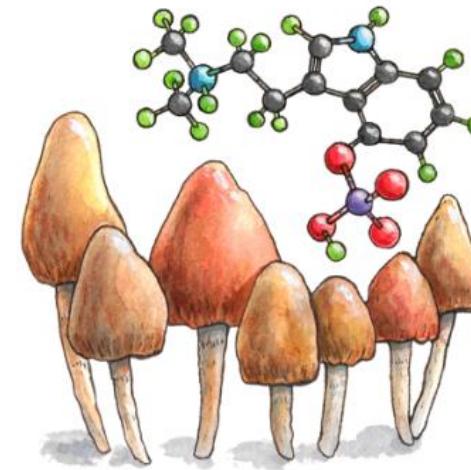


## Psilocybin

Purported Benefits, Side Effects & More

### Common Names

- Magic mushrooms
- Shrooms
- Boomers
- Buttons
- Purple passion
- Mushies (>12 other terms)



[Fall 2023 Issue, pg 11-13](#)



10k oncology professionals  
and pharmacists



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To advance the research and education of safe and appropriate use of herbs to improve the health and wellbeing of individuals impacted by cancer

**Research**

⋮

**Clinical education**

⋮

**Evidence-informed practice**



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Cancer Center

# MSK Herbal Dispensary



› Support Care Cancer. 2023 Jan 21;31(2):128. doi: 10.1007/s00520-023-07577-x.

## Integrating herbal medicine into oncology care delivery: development, implementation, and evaluation of a novel program

Yen-Nien Hou <sup>1</sup>, Susan Chimonas <sup>2</sup>, Jyothirmai Gubili <sup>1</sup>, Gary Deng <sup>1</sup>, Jun J Mao <sup>3</sup>

Affiliations + expand

PMID: 36680628 PMID: PMC9860233 DOI: 10.1007/s00520-023-07577-x

Free PMC article

### Abstract

**Objective:** To evaluate the feasibility of a novel program facilitating patient-provider communication about appropriate use of herbal medicine at a large academic cancer center and its impact on patient wellbeing.

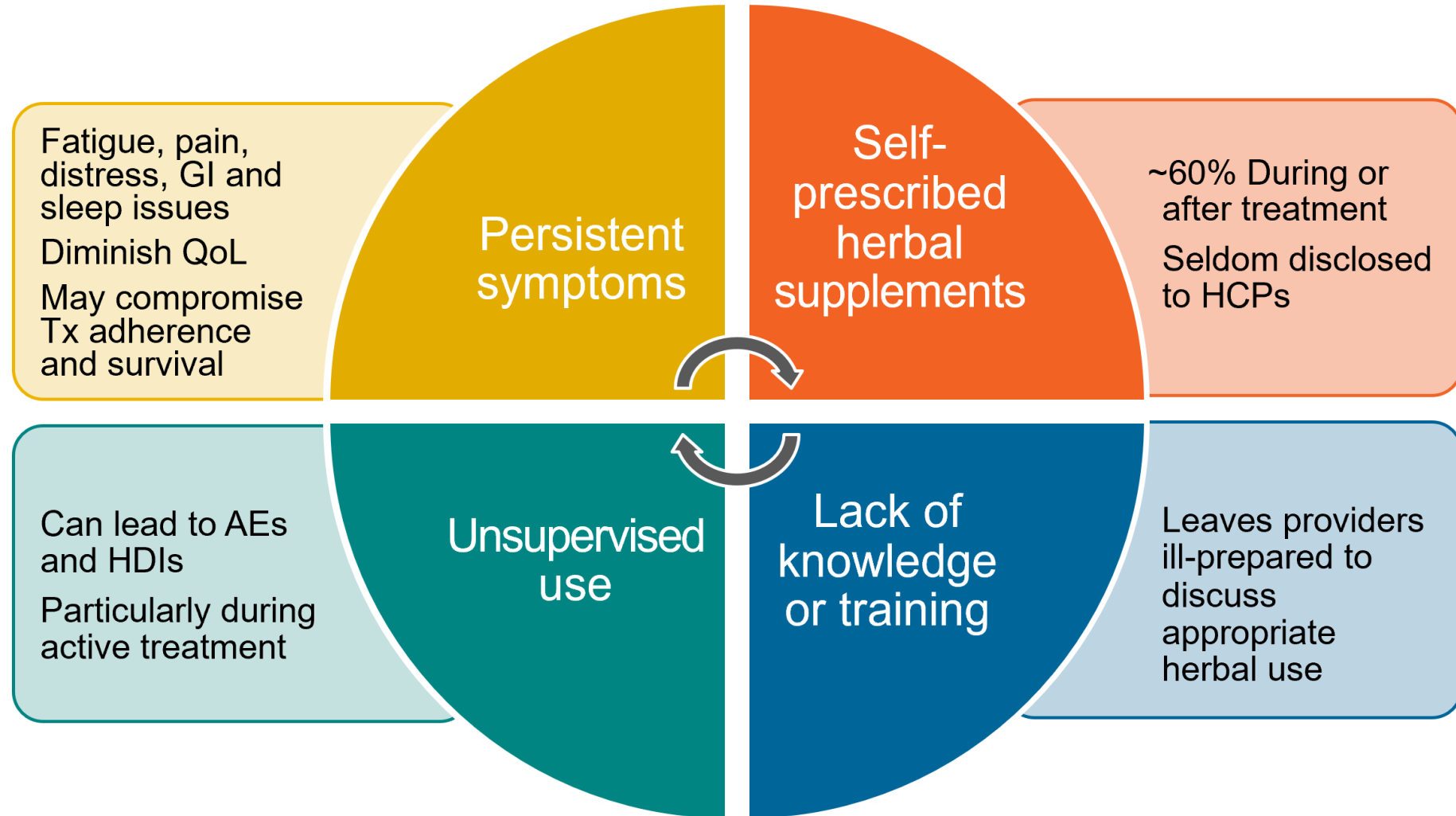


<https://pubmed.ncbi.nlm.nih.gov/36680628/>



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# Interrelated care gaps illustrate critical needs

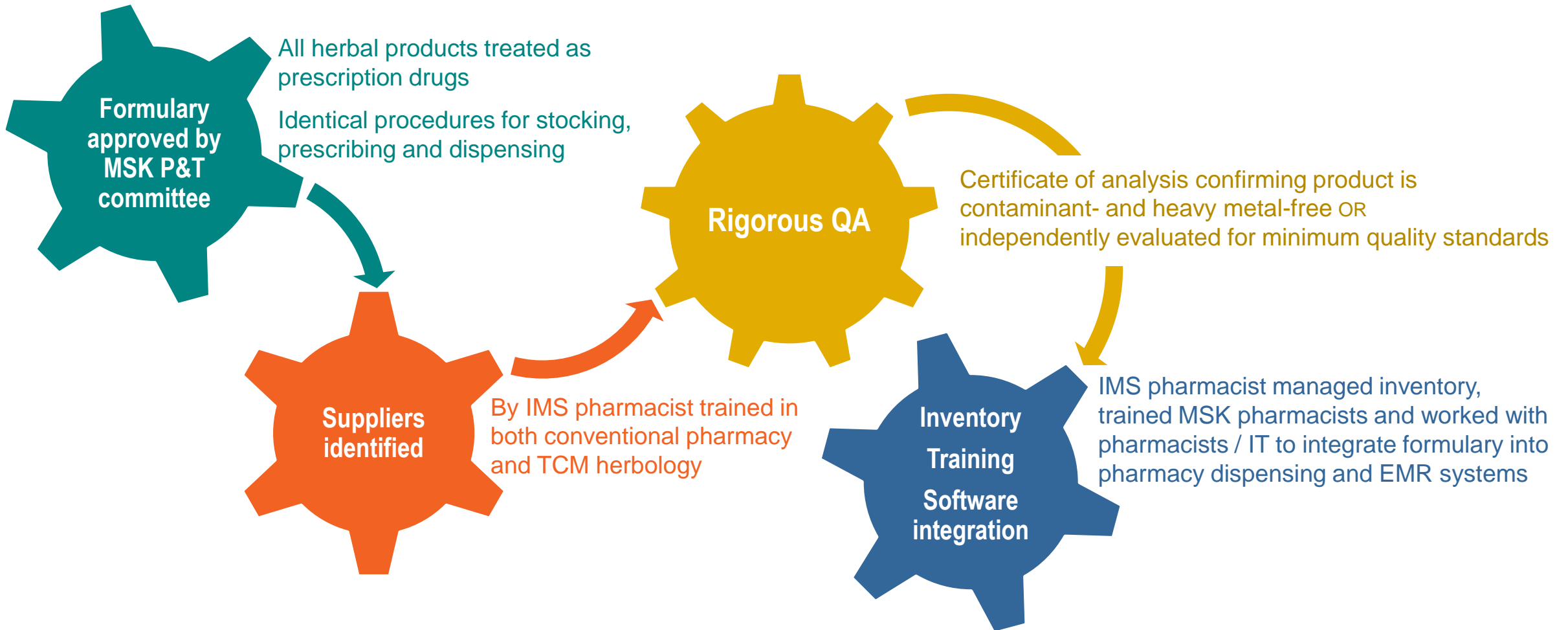




To develop, implement and evaluate a novel program facilitating patient-provider communication about, and appropriate use of, herbal medicine at a large academic cancer center



# Herbal formulary and dispensary process



# Shared decision-making with patients



- IM providers counseled patients
- Identified unmet symptom needs
- Prescribed TCM herbs when indicated



# Data evaluation and patient survey

## Medical record data on all participants Feb 2019 – Jan 2022

- Symptoms
- Other concerns that motivated patients to seek herbal products
- Types and quantities of dispensed TCM products
- Demographics

## Brief survey\* approved by MSK IRB to herbal Rx recipients: May – Aug 2021

- Symptoms or concerns patients hoped to address
- Satisfaction with HOP program and products dispensed
- Whether they experienced AEs
- How likely they were to recommend the dispensary program

\* Answer options were multiple choice, Yes/No, or 5-point Likert scales: extremely satisfied/likely to extremely dissatisfied/unlikely. Distributed via Research Electronic Data Capture (REDCap™) web application Harris et al. *J Biomed Inform* 2009; 42: 377–81; Vanderbilt University REDCap (Research Electronic Data Capture) 2018





# Program results: Feb 2019 – Jan 2022

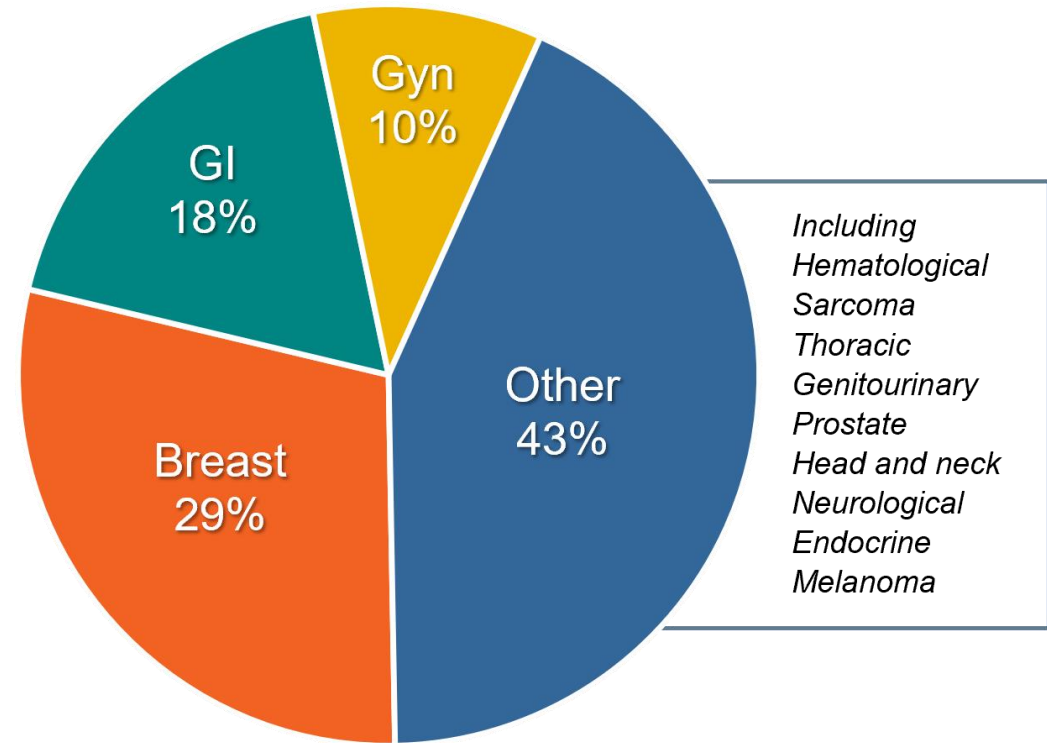
851 Outpatients with diverse cancers  
712 (84%) in active treatment

Age, median 61 y (18–98)

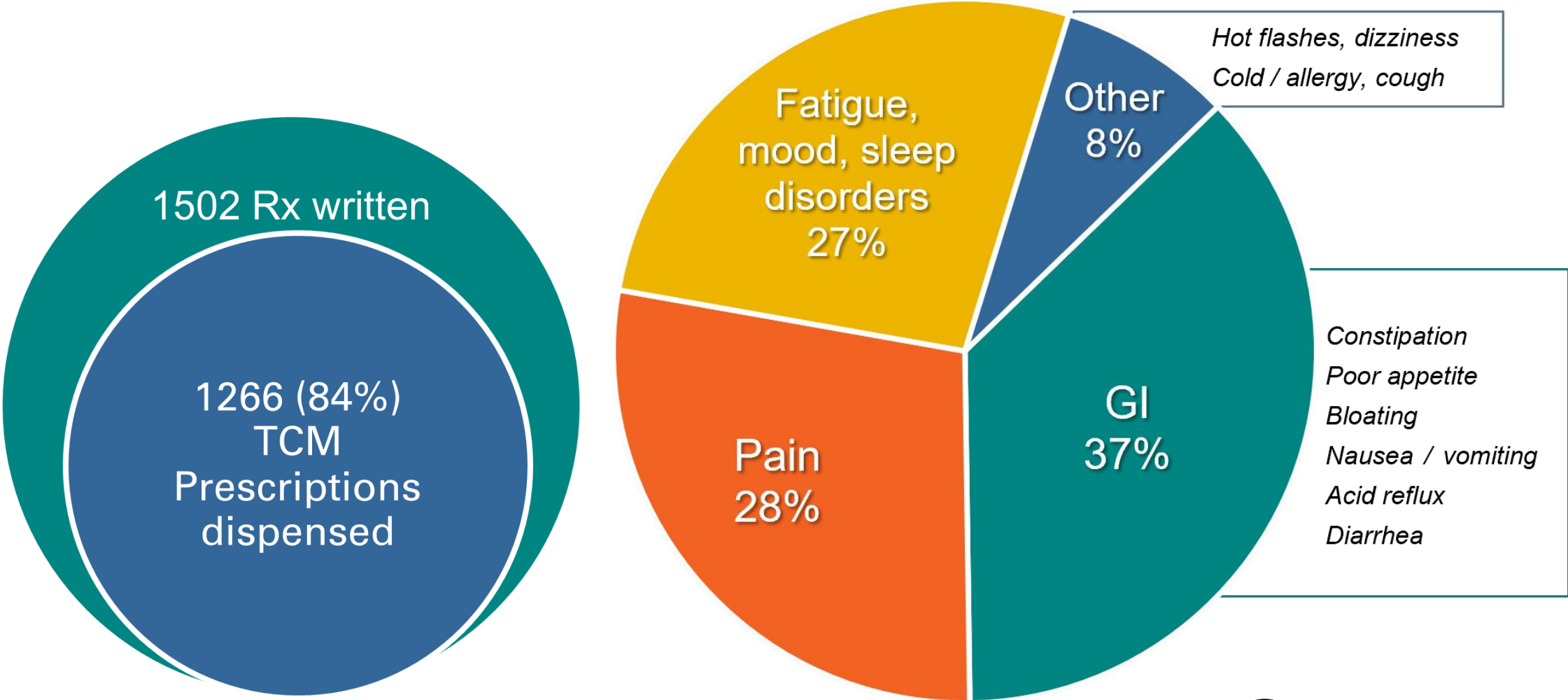
Female 606 (71%)

White 594 (70%)

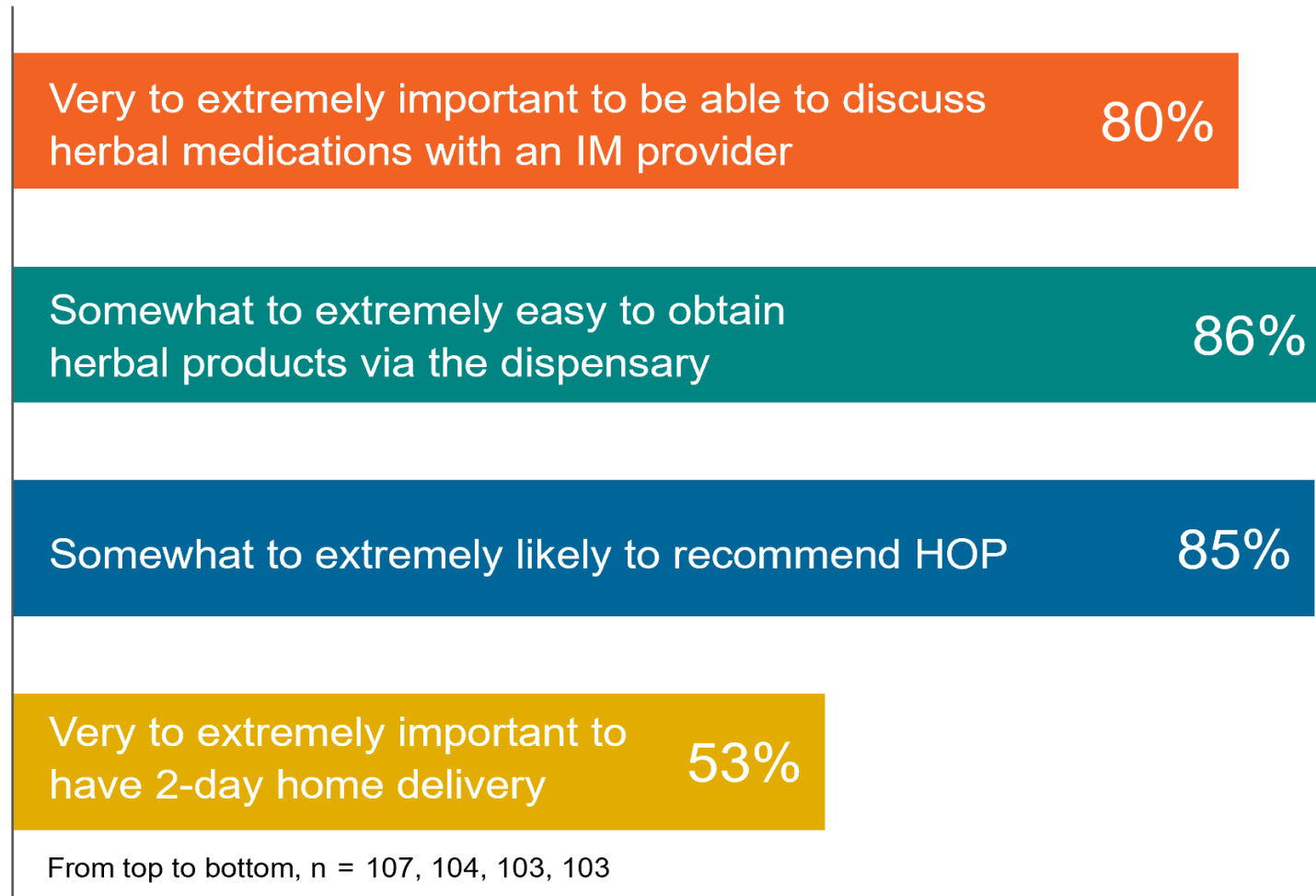
Insured 498 (59%)



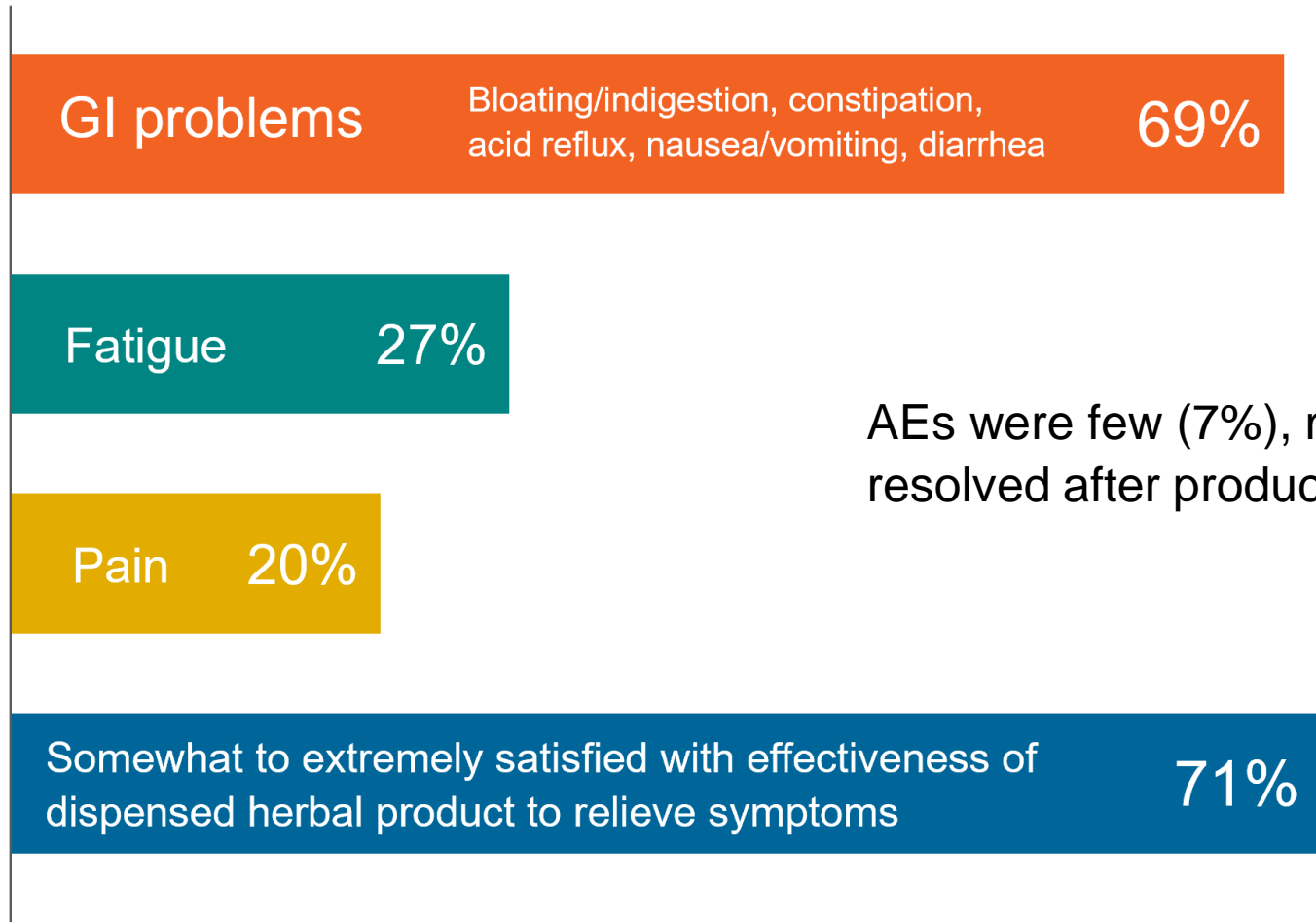
# Program results: Feb 2019 – Jan 2022



# Survey results: May – Aug 2021



# Symptoms participants hoped to address (n = 103)



AEs were few (7%), mild, and resolved after product discontinuation



# Evaluation limitations



Project based on methods for program development, implementation, and evaluation in a real-world setting, not a formal research protocol



Survey findings based on a patient sample self-selected for outcome evaluation may not represent the entire study population



Only immediate symptom relief with herbal products was evaluated; durability not known





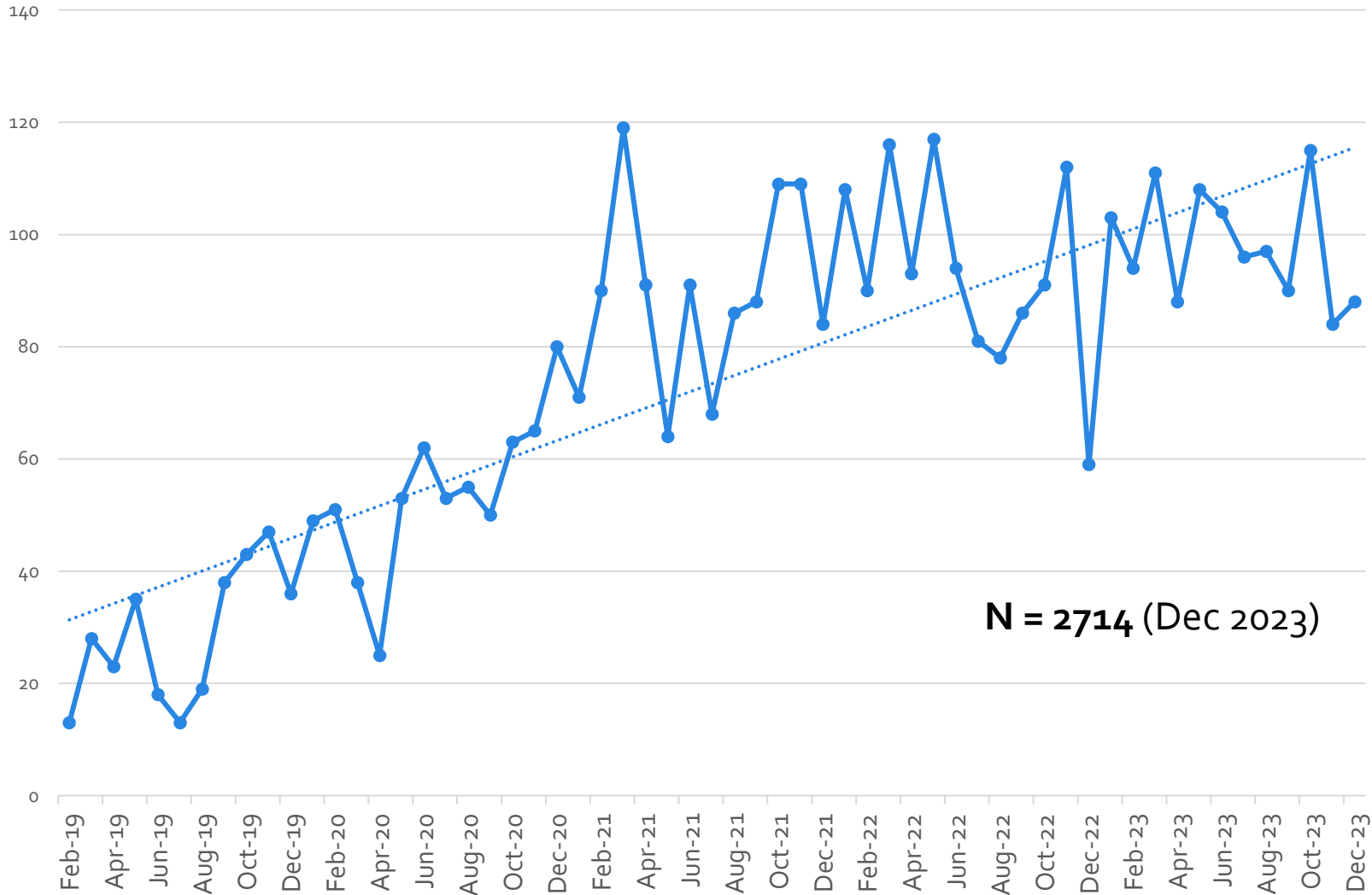
- Demonstrates feasibility of herbal medicine integration in an academic oncology setting
- High patient satisfaction
- Limited adverse events
- Elucidates future research directions



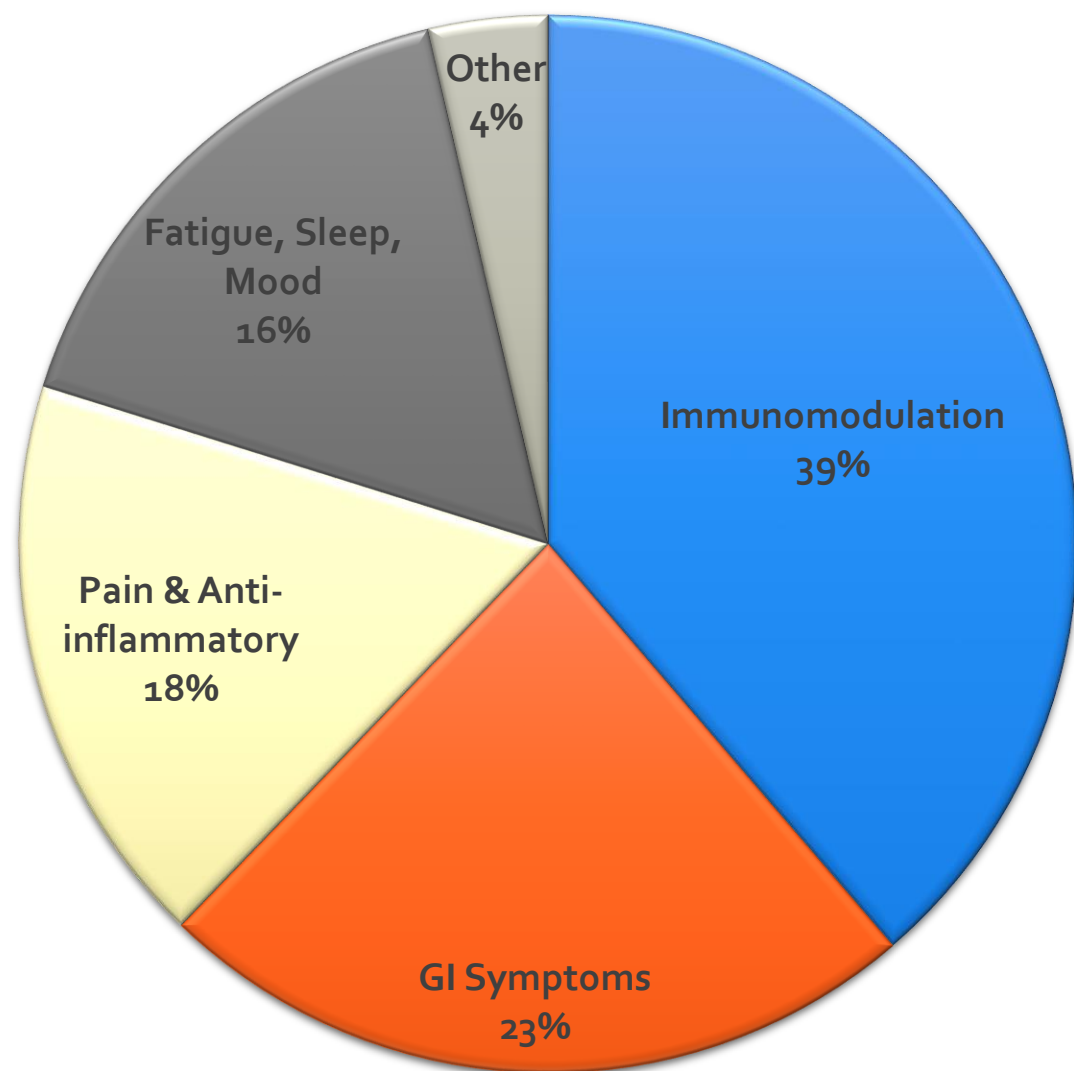
# MSK Herbal Dispensary



Month to Month Prescription Dispensed



# Rx Distribution by symptom (Rx = 4304, N = 2714) Dec 2023



Products dispensed:	4304 Symptoms	%	
Turkey Tail Mushroom	1276 Immunomodulation	30%	<b>Top 15 Dispensed</b>
Tibetree Pain Patch	524 Pain	12%	
Ma Zi Ren Wan	371 Constipation	9%	
Bao He Wan	252 GI Symptoms	6%	
Curcumin	235 Anti-inflammatory	5%	
Reishi spore	230 Immunomodulation	5%	
Sheng Mai Yin	217 Fatigue	5%	
Ginger	189 N/V and GI issue	4%	
Xiao Yao San	141 Mood/fatigue	3%	
Ban Xia Xie Xin Tang	127 N/V and GERD	3%	
Coriolus	115 Immunomodulation	3%	
Bu Zhong Yi Qi Tang	74 Fatigue	2%	
Shen Ling Bai Zhu San	72 Diarrhea	2%	
Suan Zao Ren Tang	58 Sleep	1%	
Zhi Bai Di Huang Wan	58 Hot flash	1%	
Ashwagandha	50 Adaptogen	1%	
Ling Gui Zhu Gan Tang	48 Dizziness	1%	
Jia Wei XYS	48 Fatigue	1%	
Melatonin	45 Sleep	1%	
Yu Ping Feng San	45 Immunomodulation	1%	
Dang Gui Bu Xue Tang	37 Blood tonic	1%	
Tian Wang Bu Xin Dan	30 Sleep	1%	






# Publications on dispensary products

Liou KT, ... Mao JJ. Pain Med. 2021 Jun 4;22(6):1435-1440.

*Pain Medicine*, 0(0), 2021, 1–6  
doi: 10.1093/pm/pnab072  
Advance Access Publication Date: 23 February 2021  
Original Research Article

OXFORD

## Herbal Topical Analgesic for Pain Management: Perspectives from Cancer Patients

Kevin T. Liou, MD,\* Connie Chen, MD,<sup>†</sup> Nicholas Emard, MS,\* Kathleen A. Lynch, MPH,<sup>‡</sup> Yen Nien Hou, PharmD,\* and Jun J. Mao , MD, MSCE\*

\*Integrative Medicine Service, Department of Medicine, Memorial Sloan Kettering Cancer Center, New York, NY; <sup>†</sup>Department of Medicine, NYU Winthrop Hospital, Mineola, NY; <sup>‡</sup>Department of Psychiatry and Behavioral Sciences, Memorial Sloan Kettering Cancer Center, New York, NY, USA

Yang M, ... Mao JJ. Phytomedicine. 2021 Feb;82:153459.

Phytomedicine 82 (2021) 153459

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Original Article

## Herbal formula MaZiRenWan (Hemp Seed Pill) for constipation: A systematic review with meta-analysis

Mingxiao Yang <sup>a,†</sup>, Ye Feng <sup>a,b,†</sup>, Yi Lily Zhang <sup>a</sup>, Colleen M. Smith <sup>a</sup>, Yen-Nien Hou <sup>a</sup>, Hui Wang <sup>a,c</sup>, Gary Deng <sup>a</sup>, Jun J. Mao <sup>a,\*</sup>

Review > Integr Cancer Ther. 2023 Jan-Dec;22:15347354231162080.

doi: 10.1177/15347354231162080.

## The Herbal Medicine *Suanzaoren* ( *Ziziphi Spinosae Semen*) for Sleep Quality Improvements: A Systematic Review and Meta-analysis

Mingxiao Yang <sup>1</sup>, Hui Wang <sup>2</sup>, Yi Lily Zhang <sup>1</sup>, Furong Zhang <sup>3</sup>, Xiaotong Li <sup>1</sup>, Soo-Dam Kim <sup>1,4</sup>, Yalan Chen <sup>3</sup>, Jiyao Chen <sup>3</sup>, Susan Chimonas <sup>1</sup>, Deborah Korenstein <sup>5</sup>, Jun J Mao <sup>1</sup>

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### Abstract

**Background:** Sleep disturbances are common and bothersome among cancer and noncancer populations. *Suanzaoren* (*Ziziphi Spinosae Semen*) is commonly used to improve sleep, yet its efficacy and safety are unclear.

**Methods:** We systematically searched PubMed, Cochrane Library, and EMBASE from inception through October 5, 2021, to identify randomized trials of *Suanzaoren*. We included randomized trials comparing *Suanzaoren* to placebo, medications, cognitive behavioral therapy (CBT), or usual care for

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PMCID: PMC9158428

Published online 2022 May 29. doi: [10.1177/15347354221081214](https://doi.org/10.1177/15347354221081214)

PMID: [35635135](https://pubmed.ncbi.nlm.nih.gov/35635135/)

## Herbal Formula Shenling Baizhu San for Chronic Diarrhea in Adults: A Systematic Review and Meta-analysis

Hui Wang, PhD,<sup>1,2,\*</sup> Yen-Nien Hou, PharmD,<sup>1,\*</sup> Mingxiao Yang, PhD,<sup>1</sup> Ye Feng, M Med.,<sup>1,3</sup> Yi Lily Zhang, DPT, LAc,<sup>1</sup> Colleen M. Smith, BA, LMT,<sup>1</sup> Wei Hou, M Med.,<sup>2</sup> Jun J. Mao, MD, MSCE,<sup>1</sup> and Gary Deng, MD, PhD<sup>1</sup>

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### Abstract

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#### Background:

Shenling Baizhu San (SBS), a well-known Chinese medicine herbal formula, has been widely used

Wang H, ... Mao JJ, Deng G. Integr Cancer Ther. 2022 Jan-Dec;21:15347354221081214.

Yang M, ... Mao JJ. Integr Cancer Ther. 2023 Jan-Dec;22:15347354231162080.

# About Herbs monographs on dispensary products

## Ma Zi Ren Wan

Purported Benefits, Side Effects & More



### Common Names

- Hemp Seed Pill
- Hemp Seed Formula
- Mashiningan
- TJ-126

## Shen Ling Bai Zhu San

Purported Benefits, Side Effects & More



### Common Names

- Ginseng & Atractylodes Formula
- Samryungbaekchul-san
- Jinryobyakujutsu-san

## Xiao Yao San

Purported Benefits, Side Effects & More



### Common Names

- Free and Easy Wanderer
- Rambling Powder
- Jia Wei Xiao Yao San
- Dan Zhi Xiao Yao San
- Augmented rambling powder
- Kamishoyosan
- TJ-24

## Suan Zao Ren Tang

Purported Benefits, Side Effects & More



### Common Names

- Suanzaoren
- Semen Ziziphus Spinosae
- Ziziphus
- Sour Jujube Decoction
- Ziziphus Decoction Formula
- Tabellae Suanzaoren Tang

# Herbal Education



## Herbal Formulations in Cancer Supportive Care

Pending ACPE Accreditation



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# MZRW Herbs



Huo Ma Ren  
Hemp seed  
Cannabis Fructus



Xing Ren  
Apricot seed  
Armeniaca Semen Amarum



Bai Shao  
White Peony root  
Paeoniae Radix Alba



Zhi Shi  
Unripe Bitter Orange  
Aurantii Fructus Immaturus



Da Huang  
Chinese Rhubarb root  
Rhei Radix et Rhizoma



Hou Pu  
Magnolia bark  
Magnoliae Officinalis Cortex



# BHW Herbs



Shan Zha  
Chinese Hawthorn fruit  
Fructus Crataegi



Shen Qu  
Medicated leaven  
Massa Medicata Fermentata



Zhi Ban Xia  
Prepared Pinellia Corm  
Rhizoma Pinelliae Preparatum



Mai Ya  
Barley sprouts  
Fructus Hordei Germinatus



Lai Fu Zi  
Radish seed  
Semen Raphani



Fu Ling  
Poria mushroom  
Sclerotum Poriae Cocos



Lian Qiao  
Forsythia fruit  
Fructus Forsythiae



Chen Pi  
Aged Tangerine peel  
Pericarpium Citri Reticulatae



# XYS (Jia Wei) Herbs



Bai Shao  
White Peony root  
Paeoniae Radix Alba



Dang Gui  
Chinese Angelica root  
Radix Angelicae Sinensis



Pao Jiang  
Sand-scalded Ginger root  
Zingiberis Rhizoma Praeparatum



Bo He  
Peppermint leaves  
Herba Menthae Haplocalycis



Bai Zhu  
Atractylodes root  
Atractylodis Macrocephalae Rhizoma



Zhi Gan Cao  
Baked Licorice root  
Radix Glycyrrhizae Preparata



Mu Dan Pi  
Peony root bark  
Cortex Moutan



Zhi Zi  
Gardenia fruit  
Gardeniae Fructus



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Chai Hu  
Bupleurum root  
Bupleuri Radix



Fu Ling  
Poria mushroom  
Sclerotum Poriae Cocos

# SMY Herbs

Ren Shen  
Asian Ginseng root  
Radix Ginseng



Mai Men Dong  
Creeping Lily-Turf root  
Radix Ophiopogonis

Wu Wei Zi  
Schisandra fruit  
Fructus Schisandrae



# BXXXT Herbs



Zhi Ban Xia  
Prepared Pinellia corm  
Rhizoma Pinelliae Preparatum

Huang Qin  
Chinese Skullcap root  
Radix Scutellariae



Huang Lian  
Goldthread root  
Rhizoma Coptidis

Da Zao  
Chinese Date fruit  
Fructus Jujube



Zhi Gan Cao  
Baked Licorice root  
Radix Glycyrrhizae Preparata

Gan Jiang  
Dried Ginger root  
Rhizoma Zingiberis



Ren Shen  
Asian Ginseng root  
Radix Ginseng



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inter



# SZRT Herbs



Suan Zao Ren  
Sour Jujube seed  
Semen Zizyphi Spinosae



Fu Ling  
Poria mushroom  
Sclerotum Poriae Cocos



Chuan Xiong  
Sichuan Lovage root  
Rhizoma Ligustici Chuanxiong



Zhi Mu  
Anemarrhena root  
Rhizoma Anemarrhenae



Gan Cao  
Licorice root  
Radix Glycyrrhizae Preparata



# Herbal Education



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## Herbal Formulations in Cancer Supportive Care

an Online Education Course

**Are you interested in learning how TCM herbal formulations can help reduce symptoms and side effects of cancer treatment?**



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# Future directions for TCM use in oncology settings

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## Investigational New Drug Applications; Exemptions for Clinical Investigations to Evaluate a Drug Use of a Product Lawfully Marketed as a Conventional Food, Dietary Supplement, or Cosmetic (Proposed Rule) Regulatory Impact Analysis – December 9, 2022

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Economic Impact Analyses of FDA Regulations

Quantifiable benefits of this proposed rule are cost savings that come from reducing the burden of submitting investigational new drug applications (INDs) to the Food and Drug Administration (FDA) for clinical investigations to evaluate a drug use of a product that is lawfully marketed as a food for human consumption (including both conventional foods and dietary supplements) or as a cosmetic. The proposed rule would have a one-time, upfront cost for current and future sponsors and sponsor-investigators who would have to read the rule. In addition, there would be costs to FDA associated with a new type of IND-related submission, a request for an FDA-determined exemption. The impact of this new submission is analyzed in section II.E, “Benefits of the Proposed Rule,” as a partial offset to the cost savings of the rule. Discounted over 10 years, the total net benefit of the rule is estimated to be \$33 million at a 3% discount rate and \$27 million at a 7% discount rate.

Content current as of: 12/20/2022

**Regulatory Impact Analysis:** [Investigational New Drug Applications: Exemptions for Clinical Investigations to Evaluate a Drug Use of a Product Lawfully Marketed as a Conventional Food, Dietary Supplement, or Cosmetic Preliminary Regulatory Impact Analysis](#) (PDF - 311KB)

<https://www.fda.gov/about-fda/economic-impact-analyses-fda-regulations/investigational-new-drug-applications-exemptions-clinical-investigations-evaluate-drug-use-product>



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# A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Letter: C, Total: 35 Herbs

Herb Name	Purported Uses	Mechanism of Action	Potential Interactions
<b>Capsaicin</b> Zostrix® cream 0.025% & 0.075%; Salicylax® Gel-Patch Hot, Sinus Buster® (homeopathic intranasal spray)	Spasms		
<b>Carnitine</b>	Strength and stamina		
<b>Cascara</b>	Constipation		

Letter: M, Total: 18 Herbs

Herb Name	Purported Uses	Mechanism of Action	Potential Interactions
<b>Milk Thistle</b>	Liver disease		
<b>Mistletoe (European)</b> Helixor®; Iscador®; Iscador Qu®, Lektinol™; Cefalektin®, Eurixor®, ABNOBaviscum®, Abnoba-viscum Quercus	Immunostimulation		
<b>Moringa oleifera</b>	Anticancer		

