Best of WCLC Supportive Care 2024

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10.5.2024

What we will cover

- Meet the Expert
  - Jennifer Temel and Cristiane Bergerot, PhD and Technology Based Interventions to Support Patients with Cancer
- Oral Abstracts
  - Music
  - Care for Older Adults with Lung Cancer
  - New Models to expedite referrals to supportive care

Background

- Guidelines recommend integrated palliative care into oncology care

BUT

- Patients have challenges making extra visits to PC
- PC has significant shortages in providers and clinic time

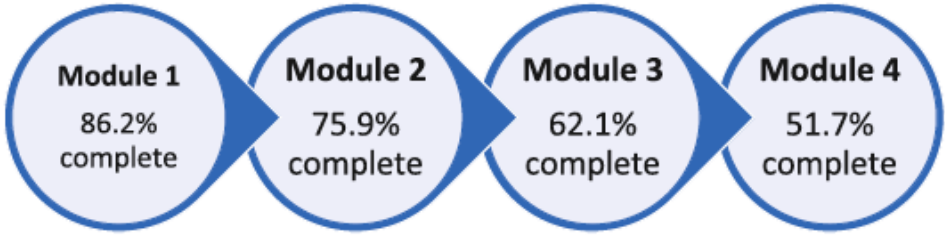
SO

- Digital health may be the answer

DREAMLAND Digital Health Application

- An educational and interactive journey as patients navigate their hospitalization.
- Self-administered with features to promote engagement and health behavior change.
- Incorporates components of cognitive behavioral therapy to foster effective coping.

DREAMLAND



Time Spent Mean (SD)	Time Spent Mean (SD)	Time Spent Mean (SD)	Time Spent Mean (SD)
22.8 minutes (13.5)	21.0 minutes (13.5)	14.6 minutes (5.6)	10.7 minutes (3.9)

TABLE 2 Effect of DREAMLAND on patient-reported outcomes at day 20 after intensive chemotherapy

Day +20	Sample size	Group assignment	Adjusted mean score	95% CI	*p*	Cohen d
QoL (FACT-Leukemia)	53	Usual care	110.72	103.23–118.20	.001	0.89
		Mobile app	132.06	124.14–139.99		
Anxiety symptoms (HADS-Anxiety)	53	Usual care	5.64	4.57–6.7	.010	0.60
		Mobile app	3.54	2.40–4.69		
Depression symptoms (HADS-Depression)	53	Usual care	6.29	4.95–7.64	.121	0.39
		Mobile app	4.76	3.33–6.18		
PHQ-9 depression symptoms	53	Usual care	8.35	7.06–9.65	< .001	0.89
		Mobile app	4.62	3.22–6.03		
Symptom burden (ESAS)	53	Usual care	40.60	32.83–48.38	.007	0.69
		Mobile app	24.89	16.79–32.98		
Self-efficacy (CASE)	53	Usual care	135.43	127.90–142.94	.004	0.69
		Mobile app	151.84	143.86–159.82		

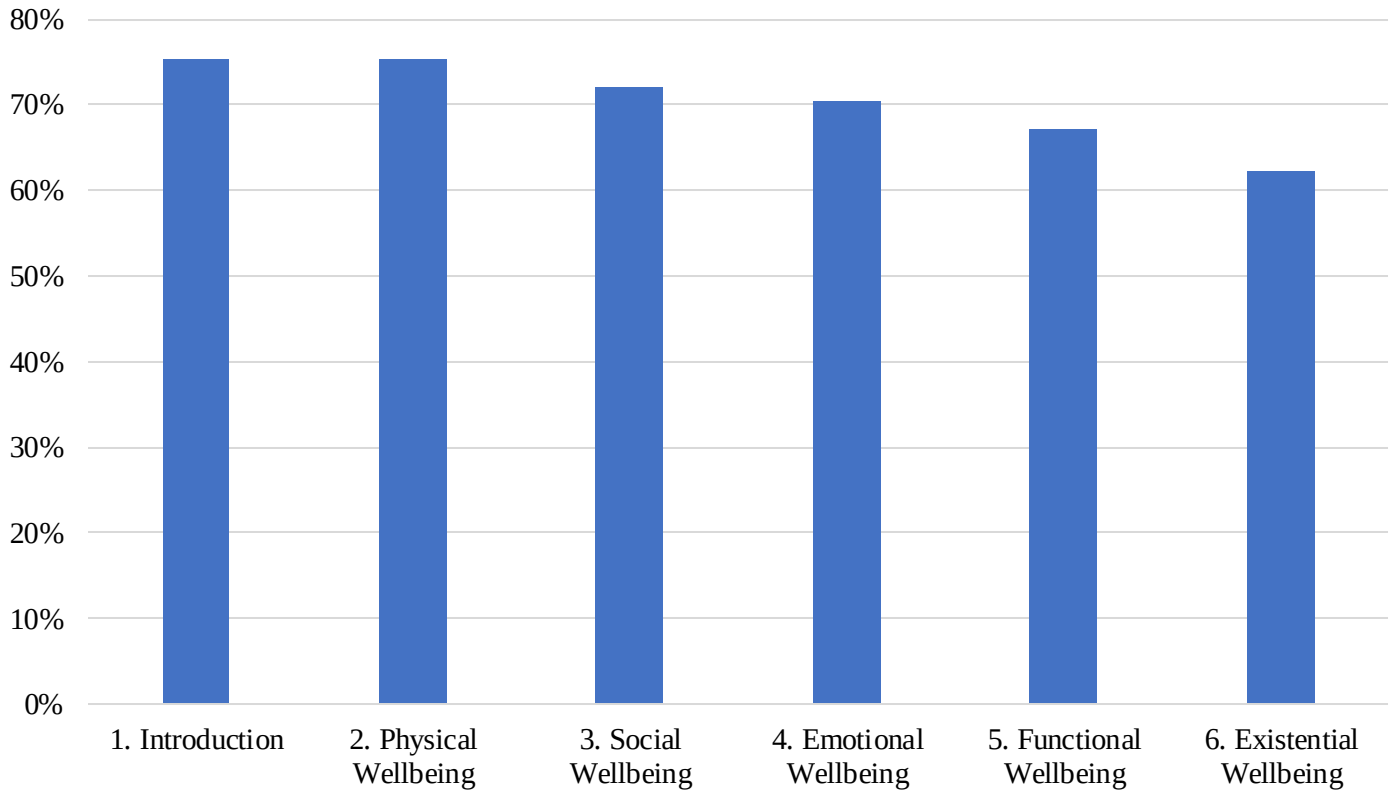
El-Jawahri Cancer 129 (7) 2023

THRIVE Digital Health App

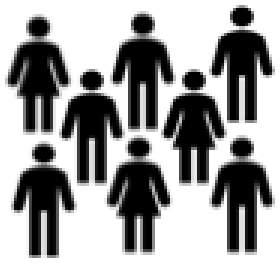
- Developed based on the data that early palliative care improves quality of life and our data about the importance of coping in driving the benefits of palliative care.
  - Modules mirror the domains of quality of life.
  - Coping strategies integrated throughout.

THRIVE Pilot Trial Results

- 70.5% (43/61) of patients assigned to THRIVE completed ≥ four of the six modules.
- 77.3% reporting above-average usability ratings for THRIVE.



THRIVE Randomized Trial



250 patients diagnosed with advanced lung cancer within the prior 12 weeks

Approached by study team to review study procedures, obtain consent, and collect baseline measures

RANDOMIZED

THRIVE

USUAL CARE

Participant-Reported Measures
Completed at weeks 6, 12, and 24

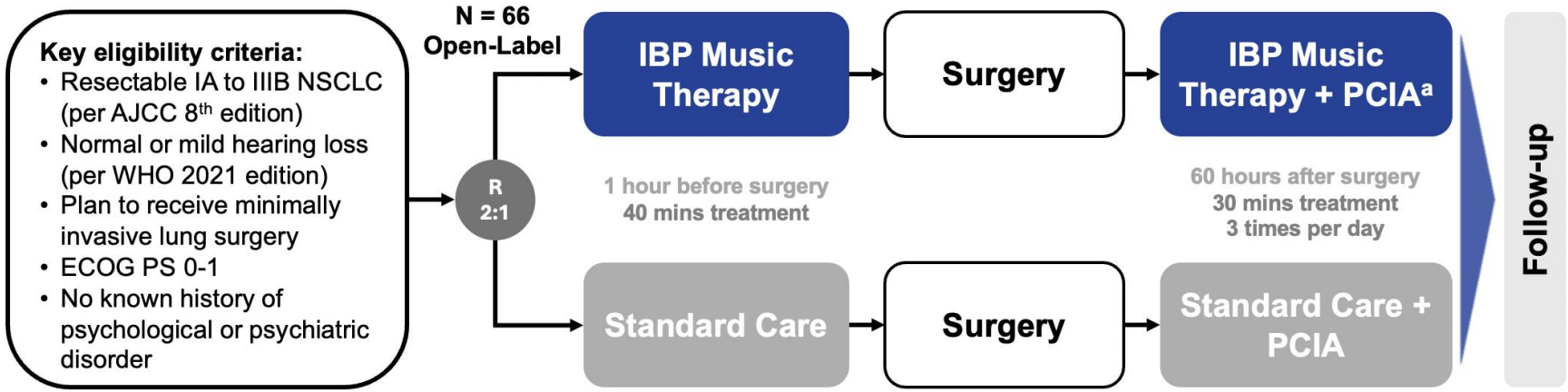
1. Quality of life (FACT-L)
2. Physical symptoms (MDASI)
3. Anxiety and depression symptoms (HADS)
4. Coping (Brief COPE)
5. Self-Efficacy (CASE)

Oral Abstracts:

- OA 07.03- The Effect of Personalized Music Therapy on Perioperative Pain and Anxiety in NSCLC Patients
- OA07.04 - Optimising Care of Older Patients with Lung Cancer – An Innovative Nurse-Led Model of Care
- OA07.05- Improving Supportive and Social Care in Lung Cancer with the 4R Oncology Model for Patient Care Planning and Delivery

Abstract OA07.03 The Effect of Personalized Music Therapy on Perioperative Pain and Anxiety in NSCLC Patients

MLH II Study Design



Primary endpoint
- Oxycodone-weight Ratio

Secondary endpoints
- VAS-P scores
- Rescue analgesia times
- VAS-A scores
- EORTC QLQ-C30 scores

Exploratory endpoint
- β-band power

- A target sample size of 66 patients provided 80% power to detect an absolute SMD of 0.4, corresponding to a reduction in oxycodone-weight ratio and with 10% drop-out rate

MLH, Music of Lung Health, NSCLC, non-small-cell lung cancer; AJCC, American Joint Committee on Cancer; WHO, World Health Organization; ECOG, Eastern Cooperative Oncology Group; PS, performance status; R, randomized; IBP, intensity-based personalized; PCIA, patient controlled intravenous analgesia; VAS-P, visual analogue scale for pain; VAS-A, visual analogue scale for anxiety; EORTC, European Organization For Research And Treatment Of Cancer; QLQ-C30, core quality of life questionnaire; [a] PCIA pump setting: 1mg/kg oxycodone, background infusion of 1.5ml/h, bolus dose of 1.8ml, lockout interval 5 minutes, maximum dose of 15ml/h

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Baseline characteristics in the mITT population

	IBP Music Therapy (n=39)	Standard Care (n=22)
Age, n (%)		
< 60 years	15 (38.5)	12 (54.5)
≥ 60 years	24 (61.5)	10 (45.5)
Male, n (%)	19 (48.7)	10 (45.5)
ECOG PS, n (%)		
0	36 (92.3)	20 (90.9)
1	3 (7.7)	2 (9.1)
Disease stage, n (%)		
I	30 (76.9)	15 (68.2)
II	4 (10.3)	1 (4.5)
III	5 (12.8)	6 (27.3)
Smoking status, n (%)		
Current/Former	18 (46.2)	10 (45.5)
Never	21 (53.8)	12 (54.5)

	IBP Music Therapy (n=39)	Standard Care (n=22)
Surgical type, n (%)		
VATS/RATS	36 (92.3)	21 (95.5)
Open surgery	3 (7.7)	1 (4.5)
Resection area, n (%)		
Sublobe (e.g. wedge, segment)	19 (48.7)	3 (13.6)
Lobe	20 (51.3)	19 (86.4)
Educational background, n (%)		
Below middle school	22 (56.4)	15 (68.2)
High school	12 (30.8)	3 (13.6)
College or above	5 (12.8)	4 (18.2)
Median SAS[a] (IQR)	42.5 (35.6-46.3)	41.3 (36.6-44.7)
Median VAS-A[a] (IQR)	3 (1-5)	3 (3-5.8)
Median QoL[a] (IQR)	6 (3-9.5)	5 (5-8)
Chronic pain history[a,b], n (%)		
Yes	11 (28.2)	4 (18.2)
No	28 (71.8)	18 (81.8)

SD, standard deviation; VATS, video-assisted thoracoscopic surgery; RATS, robotic-assisted thoracoscopic surgery; SAS, Self-Rating Anxiety Scale; QoL, Quality of Life; IQR, interquartile range; [a] Evaluated on the admission day; [b] Assessed by brief pain inventory questionnaire

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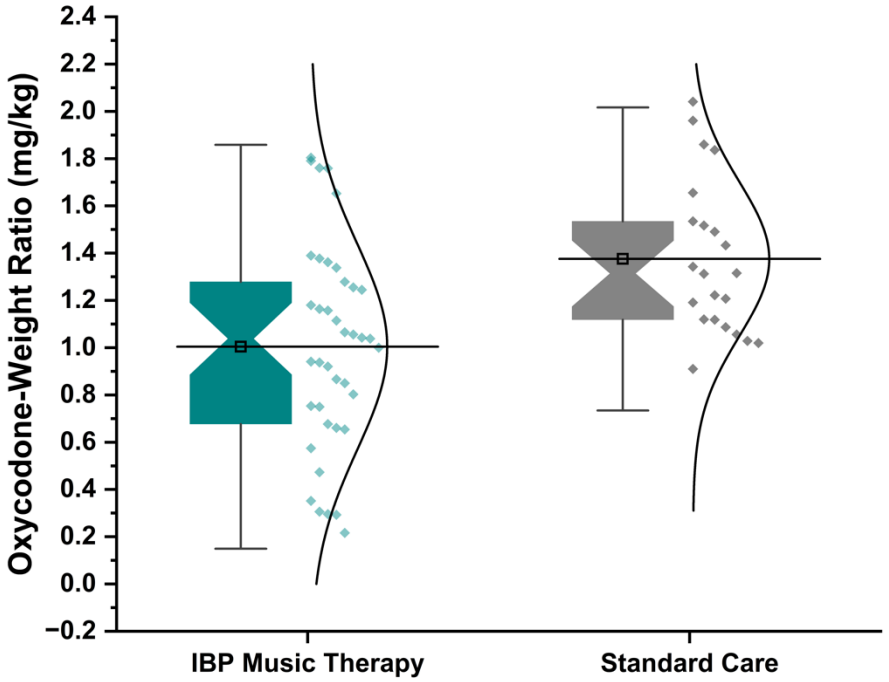
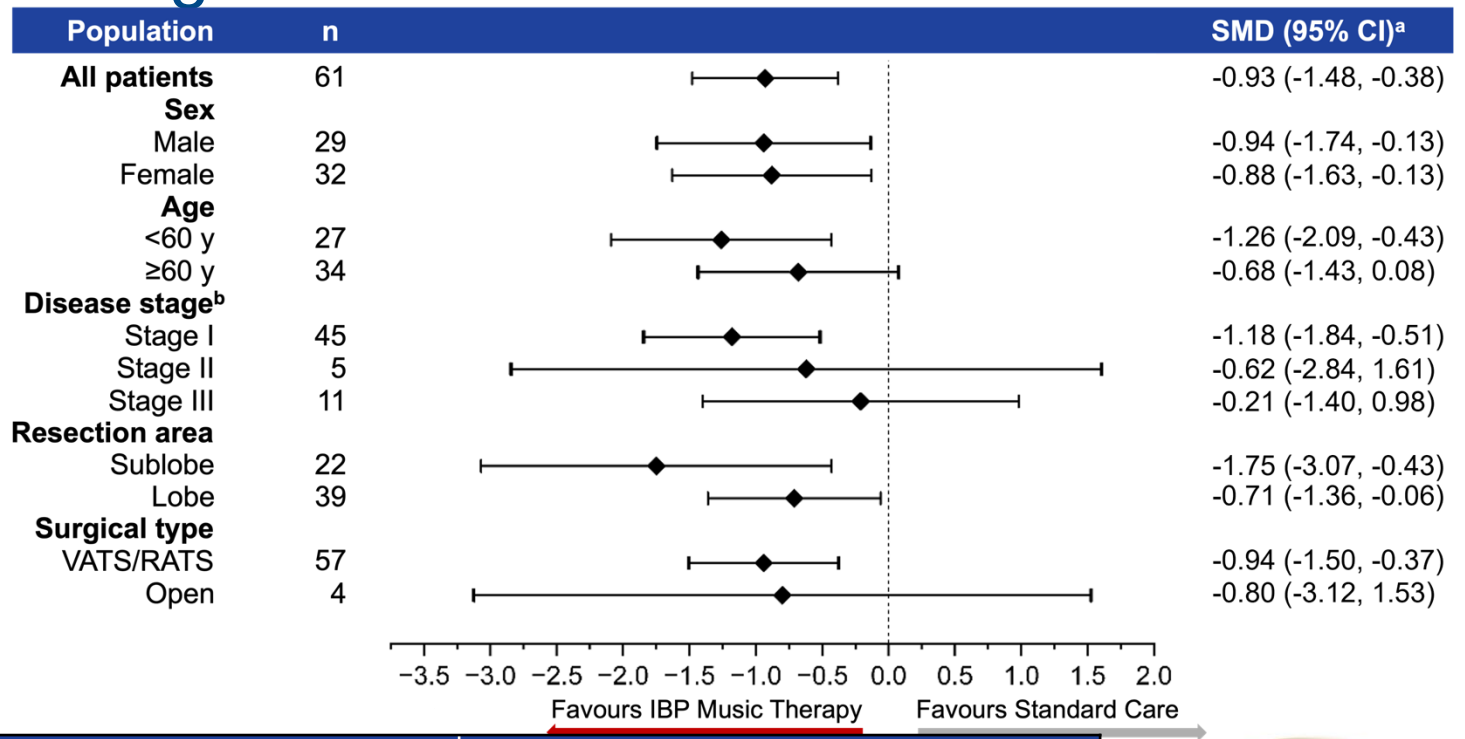
Primary Endpoint: Oxycodone-Weight Ratio





	Intensity-based Personalized Music Therapy (n=39)	Standard Care (n=22)
Mean Oxycodone-Weight Ratio[c], mg/kg (SD)	1.00 (0.44)	1.38 (0.33)
Standardized Mean Difference (95% CI)[a]	**-0.93 (-1.48, -0.38)**	
***P* value[d]**	<0.001	

SD, standard deviation; SMD, standardized mean difference; [a] Cohen's d; [b] clinical stage; [c] PCIA pump was stopped at 48 hours after first dose and the amount of oxycodone was calculated [d] independent-samples *t* test

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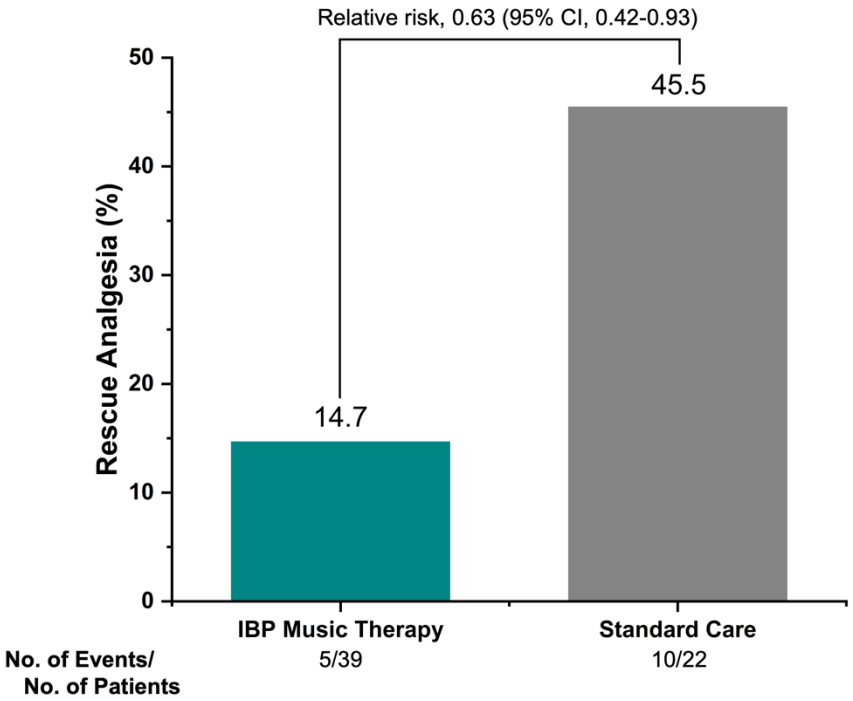
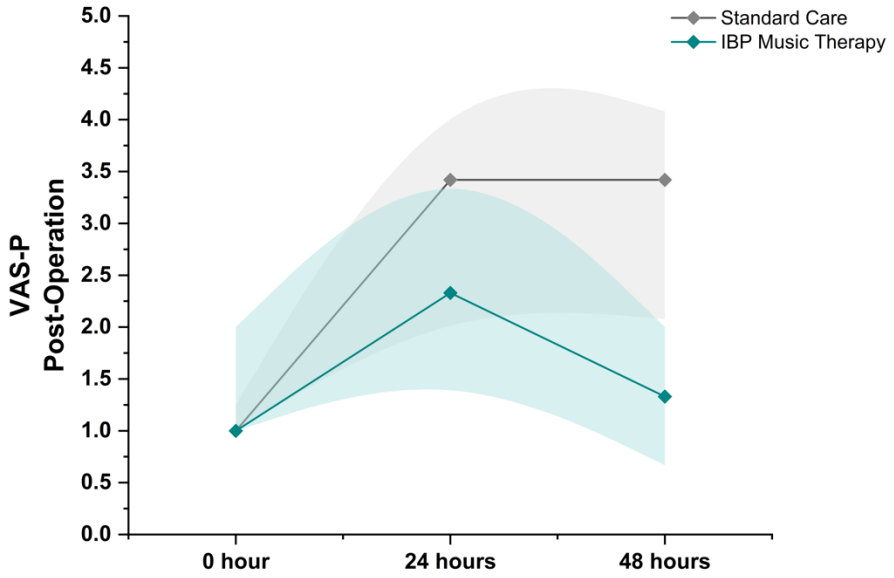
Secondary Endpoints: Pain Assessment





	IBP Music Therapy (n=39)	Standard Care (n=22)
Rescue Analgesia Requirement (%)[a]	14.7	45.5
Relative Risk (95% CI)	**0.63 (0.42, 0.93)**	
***P* value[b]**	0.004	

	0 hour[c]		24 hours		48 hours	
	IBP-MT (n=39)	SC (n=22)	IBP-MT (n=39)	SC (n=22)	IBP-MT (n=39)	SC (n=22)
Median VAS-P Scores (IQR)	1 (1-2)	1 (1-1.3)	2.3 (1.7-4)	3.4 (2.3-4.7)	1.3 (0.7-2)	3.4 (2.1-4.1)
***P* value[d]**	0.802		**0.04**		**<0.001**	

[a] Proportion of patients who used extra opioids with 48 hours after surgery; [b] Chi-squared test; [c] start from traveling to recovery room and fully awaked after surgery; [d] Mann-Whitney *U* Test

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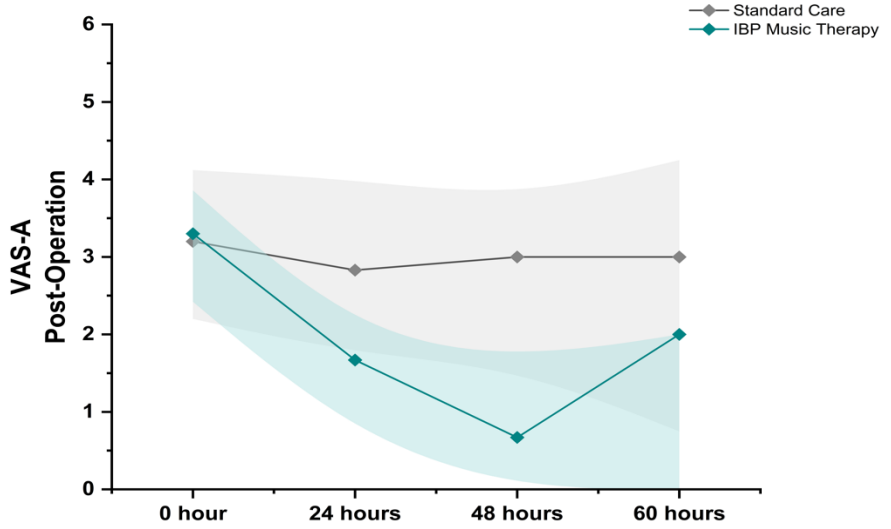
Secondary Endpoints: Anxiety Assessment



	Before Treatment		After Treatment		Operation Room		0 hour[a]		24 hours		48 hours		60 hours	
	IBP-MT (n=39)	SC (n=22)	IBP-MT (n=39)	SC (n=22)	IBP-MT (n=39)	SC (n=22)	IBP-MT (n=39)	SC (n=22)	IBP-MT (n=39)	SC (n=22)	IBP-MT (n=39)	SC (n=22)	IBP-MT (n=39)	SC (n=22)
Median VAS-A Scores (IQR)	3 (2-4)	3 (2.25-3.75)	1.5 (0-3)	3 (1.25-4.75)	2 (1-3.5)	5 (3-5)	3.3 (2.5-3.67)	3.2 (2-4)	1.67 (0.67-2)	2.83 (1.75-4)	0.67 (0-1.67)	3 (1.55-3.75)	2 (0-2)	3 (0.75-4.25)
***P* value[b]**	0.79		**0.045**		**0.042**		0.83		**0.003**		**<0.001**		**0.029**	

[a] start from traveling to recovery room and fully awaked after surgery; [b] Mann-Whitney *U* Test

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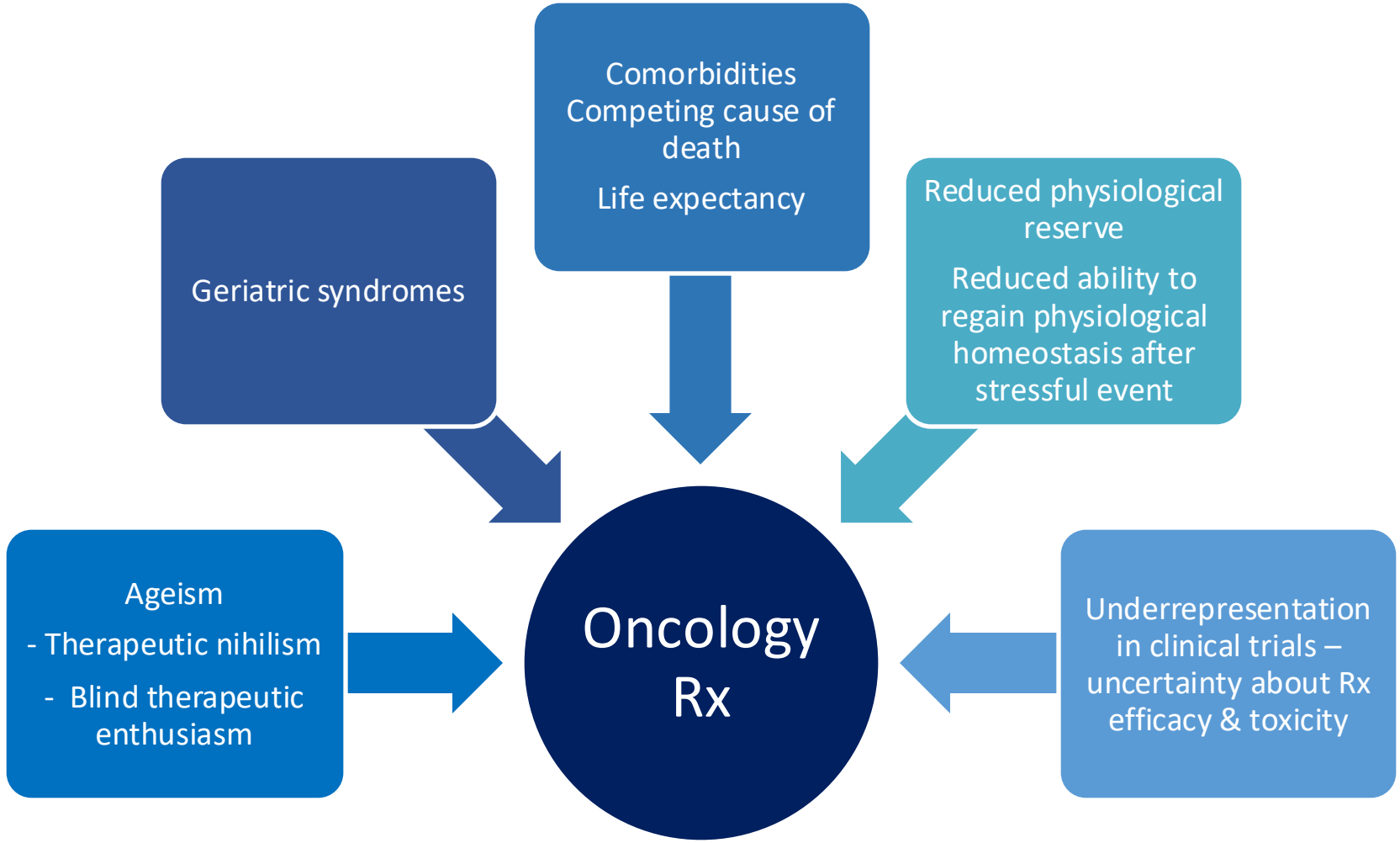
Conclusions

- MLH (Music of Lung Health) II study showed that intensity-based personalized music therapy has significant **effect of pain-relieving**
  - Lower oxycodone-weight ratio (1 vs 1.83 mg/kg, SMD, -0.93)
  - Lower rescue analgesia requirement (14.7% vs 45.5%, RR, 0.63)
  - Lower VAS-P scores (24 hours, median, 2.3 vs 3.4; 48 hours, 1.3 vs 3.4)
- Intensity-based personalized music therapy also has great **effect of anxiety-reducing**
  - Lower VAS-A scores (Pre-operation, median, 1.5 vs 3; 24 hours, 1.67 vs 2.83; 48 hours, 0.67 vs 3; 60 hours, 2 vs 3)
- Intensity-based personalized music therapy can **effectively alleviate dyspnea symptom** in the rehabilitation period by reducing anxiety status
  - Lower dyspnea scores (26.3 vs 41.2, SMD, -3.3)
  - Mediation effect (Indirect effect, 9.36)
- The positive correlation between changes of β-band power in the central brain area and VAS-A scores objectively prove the anxiety-reducing effect of intensity-based personalized music therapy (r = 0.41)

Abstract OA07.03 "The Effect of Personalized Music Therapy on Perioperative Pain and Anxiety in NSCLC Patients"

Strengths	• Clinically significant findings in pain reduction w/IMB vs SC • Statistically significant reduction in anxiety at 48 hrs in IMB vs SC
Considerations	• 2:1 Randomization • More individuals w/chronic pain hx in IBMT
Future Opportunities	• 1:1 Randomization • Additional co-morbidities

Oncology challenges in older patients



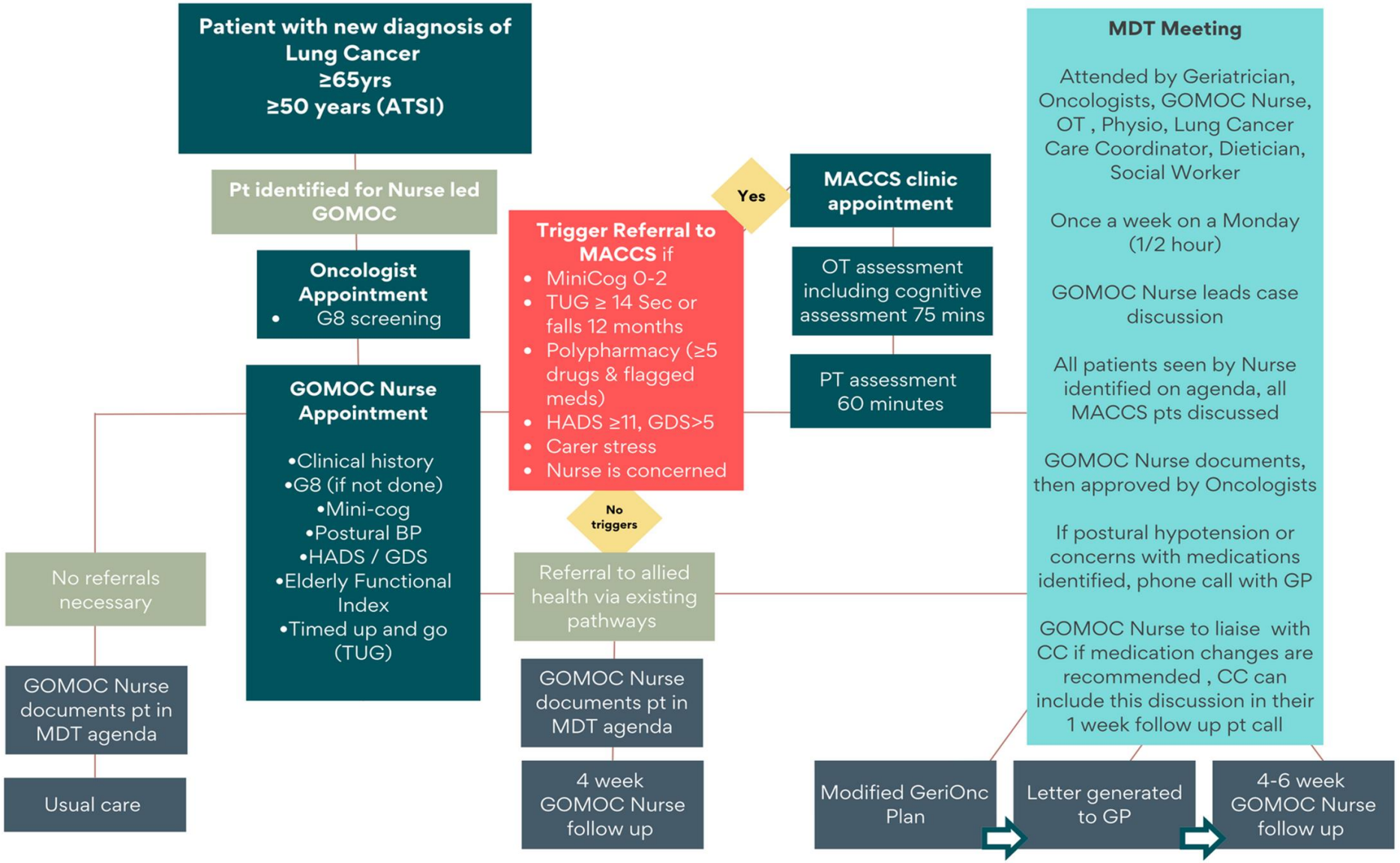
Geriatric Assessment in Cancer

- ↑ treatment completion
- ↑QOL
- ↓Hospitalisations/ ED presentations
- ↓Grade 3 Toxicities

Disalvo D et al JGO 2023

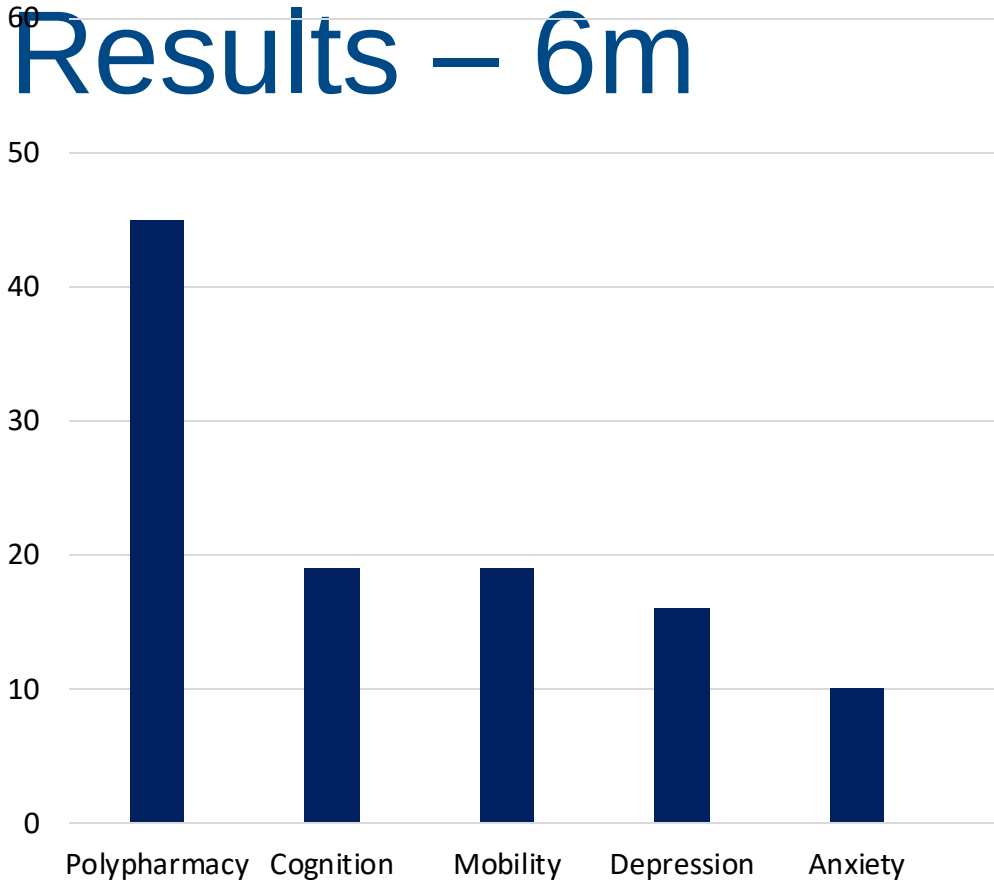
Nurse led multidisciplinary model of care in older patients with lung cancer

PATHWAY OF MANAGEMENT



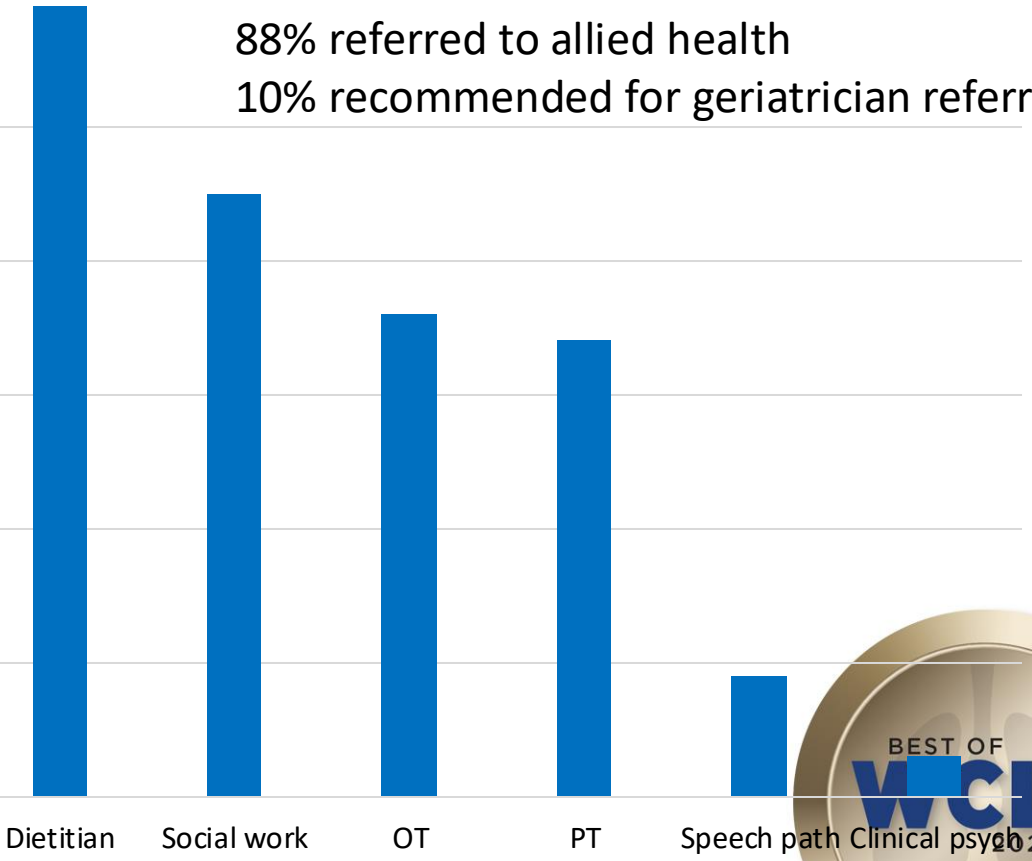
Results – 6m

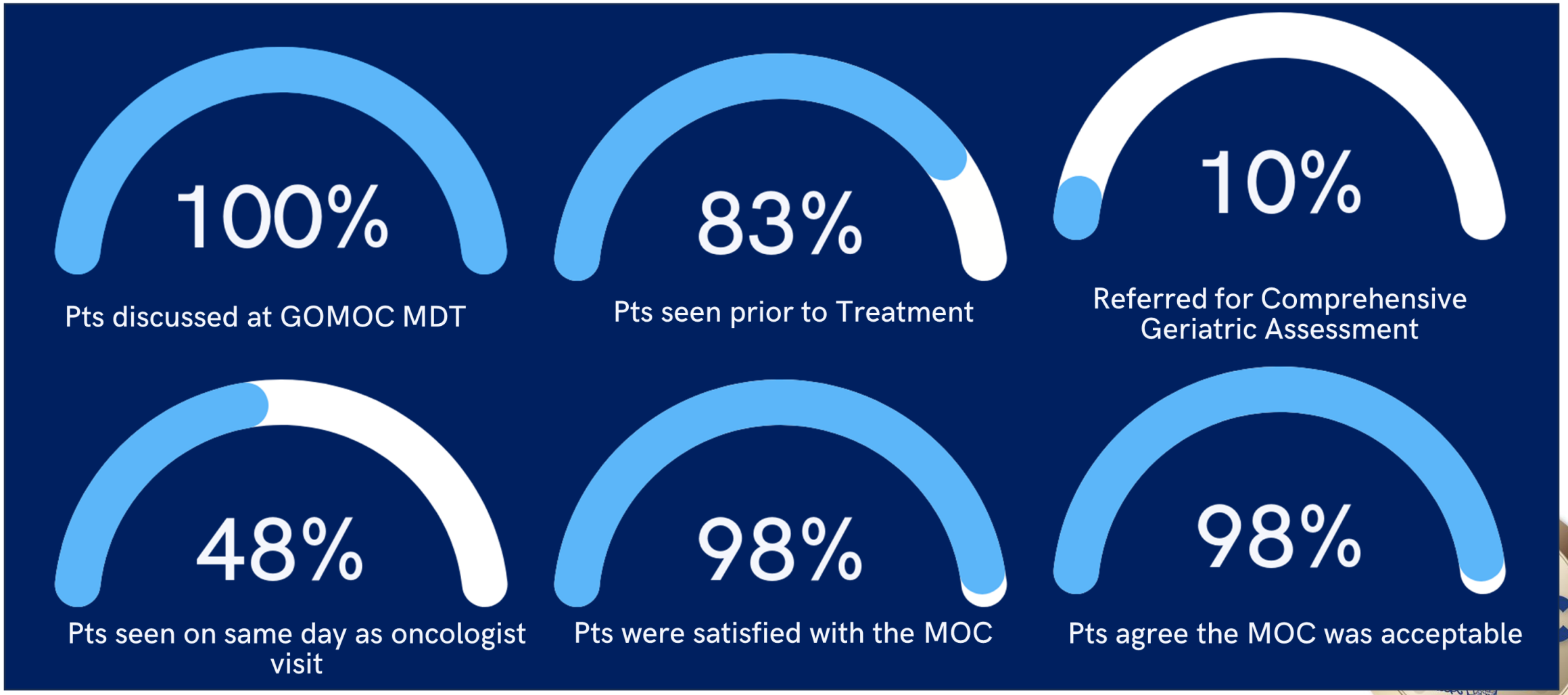
Issues identified



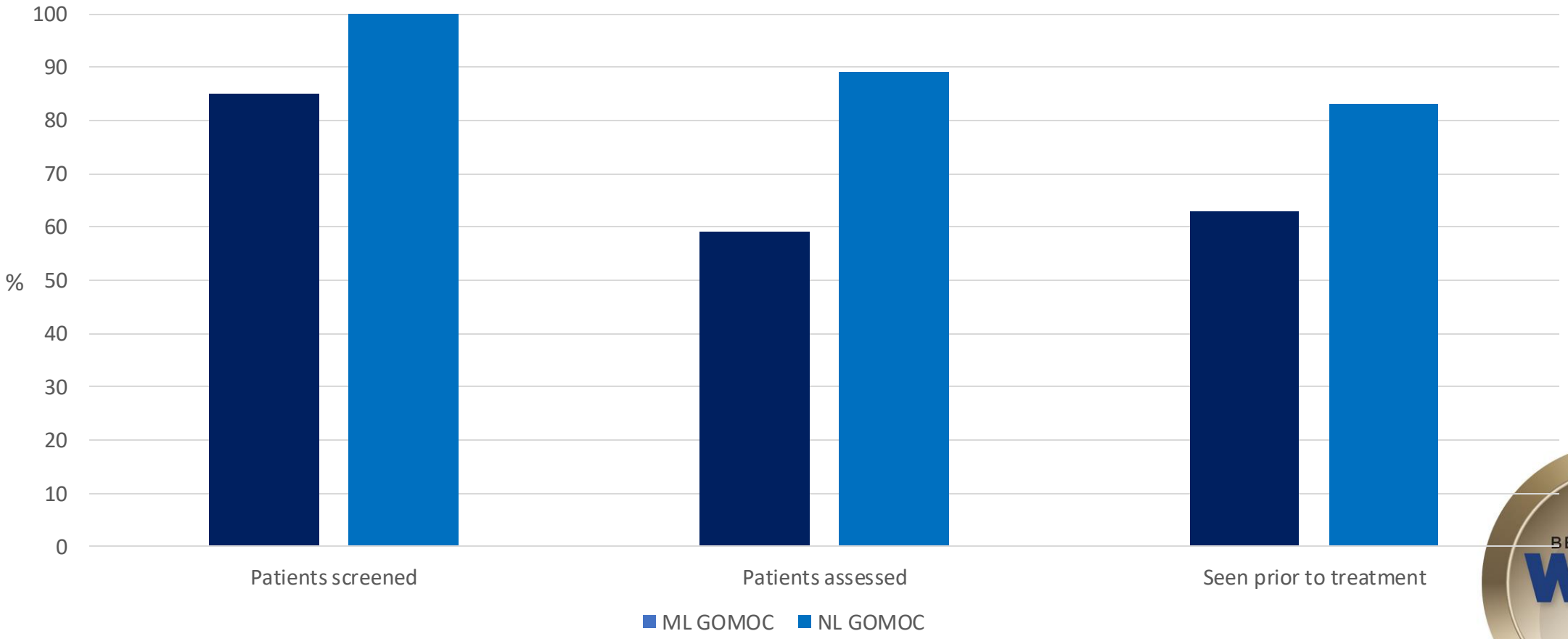
Referrals made

88% referred to allied health
10% recommended for geriatrician referral via GP




100%
Pts discussed at GOMOC MDT
83%
Pts seen prior to Treatment
10%
Referred for Comprehensive Geriatric Assessment
48%
Pts seen on same day as oncologist visit
98%
Pts were satisfied with the MOC
98%
Pts agree the MOC was acceptable

Medical-Led GOMOC vs Nurse-Led GOMOC



Conclusions & Future Directions

- Nurse-Led GOMOC increased the proportion of older patients with lung cancer undergoing geriatric screening and assessment
- This model of care was highly acceptable to patients and carers
- Future plans
  - Comparison of hospitalisations/ ED presentations / Gd 3+ toxicities / Rx discontinuation with Medical-Led GOMOC and historical controls
  - Cost Nurse-Led GOMOC

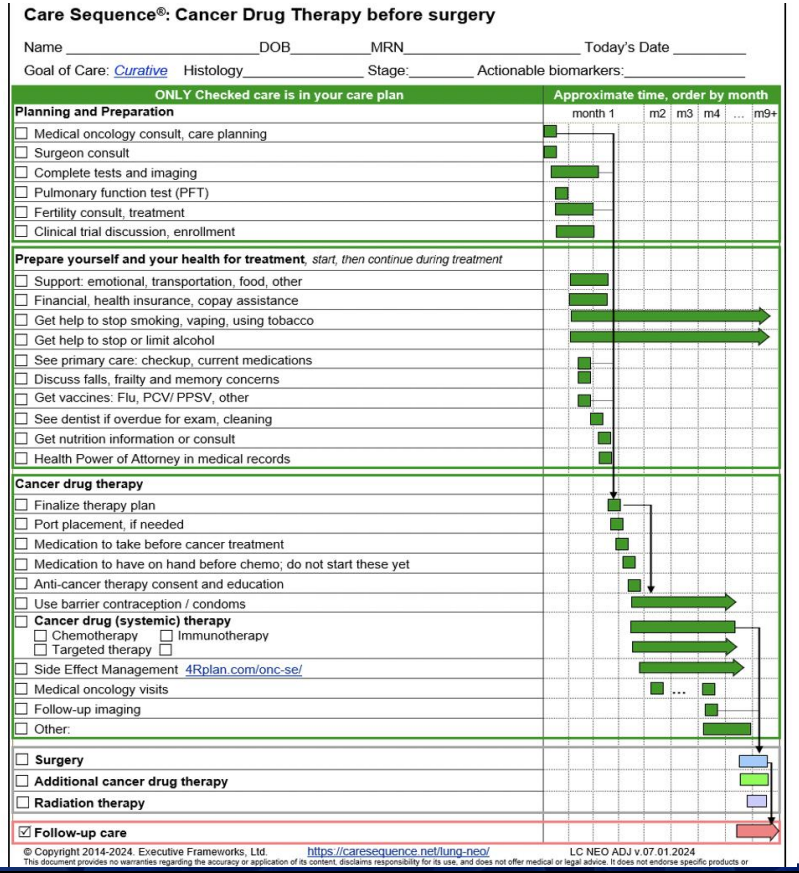
Abstract OA07.04 "Optimising Care of Older Patients with Lung Cancer – An Innovative Nurse-Led Model of Care"

Strengths	• Co-designed by ALL stakeholders • Nurse led program effective in increasing eligible patients seen, screened, assessed
Considerations	• Average time per patient • Utilize eHealth for G8/HADS/GDS
Future Opportunities	• Expand program throughout Cancer Center • Implement Geriatric ONN/CNS

Abstract OA07.05 Improving Supportive and Social Care in Lung Cancer with the 4R Oncology Model for Patient Care Planning and Delivery

Methods:

- Surveys of control cohort of patients who received care pre-4R (N=112)
- Implemented Care Sequence® plans
- Surveys of 4R cohort of patients who received these plans along with care (N=61)
- Analyzed 7 supportive and social care metrics for referral and completion of referral



Care Sequence®: Cancer Drug Therapy before surgery

Name _____DOB_____MRN_____ Today's Date _____

Goal of Care: *Curative* Histology_____ Stage:_____ Actionable biomarkers:_____

ONLY Checked care is in your care plan	Approximate time, order by month
Planning and Preparation	month 1 … m9+
☐ Medical oncology consult, care planning	
☐ Surgeon consult	
☐ Complete tests and imaging	
☐ Pulmonary function test (PFT)	
☐ Fertility consult, treatment	
☐ Clinical trial discussion, enrollment	
Prepare yourself and your health for treatment, *start, then continue during treatment*	
☐ Support: emotional, transportation, food, other	
☐ Financial, health insurance, copay assistance	
☐ Get help to stop smoking, vaping, using tobacco	
☐ Get help to stop or limit alcohol	
☐ See primary care: checkup, current medications	
☐ Discuss falls, frailty and memory concerns	
☐ Get vaccines: Flu, PCV/ PPSV, other	
☐ See dentist if overdue for exam, cleaning	
☐ Get nutrition information or consult	
☐ Health Power of Attorney in medical records	
Cancer drug therapy	
☐ Finalize therapy plan	
☐ Port placement, if needed	
☐ Medication to take before cancer treatment	
☐ Medication to have on hand before chemo; do not start these yet	
☐ Anti-cancer therapy consent and education	
☐ Use barrier contraception / condoms	
☐ **Cancer drug (systemic) therapy** ☐ Chemotherapy ☐ Immunotherapy ☐ Targeted therapy ☐	
☐ Side Effect Management 4Rplan.com/onc-se/	
☐ Medical oncology visits	
☐ Follow-up imaging	
☐ Other:	
☐ **Surgery**	
☐ **Additional cancer drug therapy**	
☐ **Radiation therapy**	
☑ **Follow-up care**	

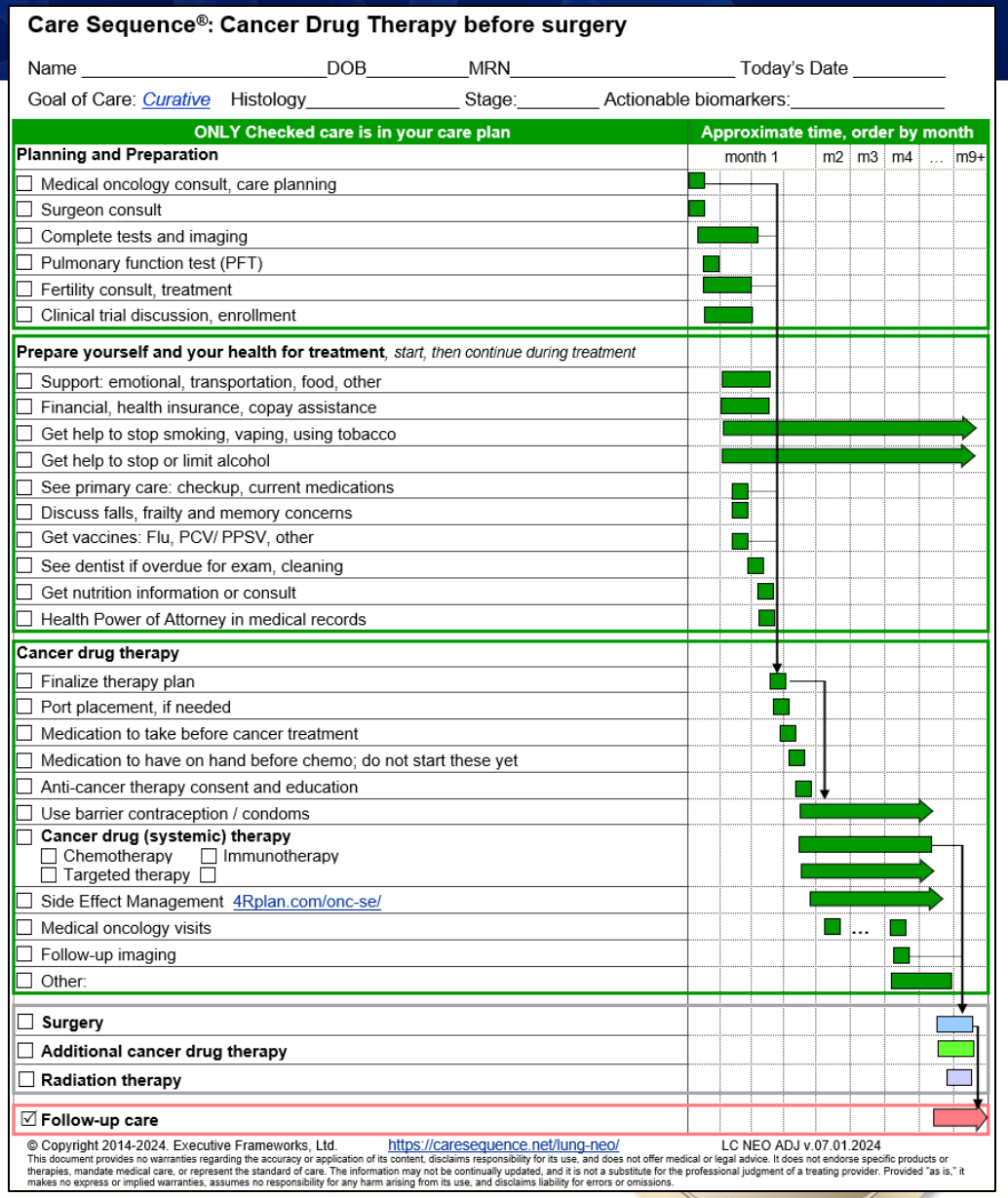
Background:

- It is difficult to identify and address the supportive and social care needs of patients with NSCLC
- The 4R Oncology® Model facilitates timely delivery of comprehensive care through 4R Care Sequence® plans
- 4R Oncology® model was implemented at 8 centers (4 community, 3 academic, 1 VA) and evaluated its impact on referrals to and receipt of supportive & social care in NSCLC.

4R (Right Information/Care/Patient/Time)

Methods:

- Surveys of control cohort of patients who received care pre-4R (N=112)
- Implemented Care Sequence® plans
- Surveys of 4R cohort of patients who received these plans along with care (N=61)
- Analyzed 7 supportive and social care metrics for referral and completion of referral



Care Sequence®: Cancer Drug Therapy before surgery

Name _____ DOB_____ MRN_____ Today's Date _____

Goal of Care: *Curative* Histology_____ Stage:_____ Actionable biomarkers:_____

ONLY Checked care is in your care plan	Approximate time, order by month: month 1	m2	m3	m4	…	m9+
Planning and Preparation						
☐ Medical oncology consult, care planning						
☐ Surgeon consult						
☐ Complete tests and imaging						
☐ Pulmonary function test (PFT)						
☐ Fertility consult, treatment						
☐ Clinical trial discussion, enrollment						
Prepare yourself and your health for treatment, *start, then continue during treatment*						
☐ Support: emotional, transportation, food, other						
☐ Financial, health insurance, copay assistance						
☐ Get help to stop smoking, vaping, using tobacco						
☐ Get help to stop or limit alcohol						
☐ See primary care: checkup, current medications						
☐ Discuss falls, frailty and memory concerns						
☐ Get vaccines: Flu, PCV/ PPSV, other						
☐ See dentist if overdue for exam, cleaning						
☐ Get nutrition information or consult						
☐ Health Power of Attorney in medical records						
Cancer drug therapy						
☐ Finalize therapy plan						
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☐ Use barrier contraception / condoms						
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☐ Side Effect Management 4Rplan.com/onc-se/						
☐ Medical oncology visits					…	
☐ Follow-up imaging						
☐ Other:						
☐ **Surgery**						
☐ **Additional cancer drug therapy**						
☐ **Radiation therapy**						
☑ **Follow-up care**						

Results: Referral rates significantly improved for all 7 metrics

Metric	% of Patients referred to this care		P value
	4R cohort (N=61)	Control cohort (N=112)	
Primary care and chronic care	88%	46%	**0.03**
Smoking Cessation for people who smoke	93% n=28	46% n=80	**0.0001**
Help with transportation and practical needs	76%	24%	**0.0001**
Emotional Support	74%	35%	**0.0001**
Nutrition consultation and/or resources	69%	29%	**0.0001**
Financial and co-pay support	76%	24%	**0.0001**
Information about side effects and self-management resources	92%	39%	**0.0001**

Statistical analyses used two-sided fisher's exact test

Conclusions:

- Patients who received 4R Care Sequences® had improved referrals and receipt of supportive and social care
- Our team continues to refine the 4R Oncology® model to support patients in completing referrals and utilizing self-management resources and further improve the metrics

The 4R Care Sequences® and associated tools are available at no cost to cancer programs and patients

Conclusions

- Digital Health may be the future of PC
- Customized music can improve pain and anxiety perioperatively
- Older adults may benefit from nurse led geriatric assessments
- The 4R model of care can improve care pathways and supportive care referrals