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Distress trajectories during cancer treatment: Analysis to inform nurse-led supportive care

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NCCN Distress Thermometer



NCCN Guidelines Version 2.2021
Distress Management

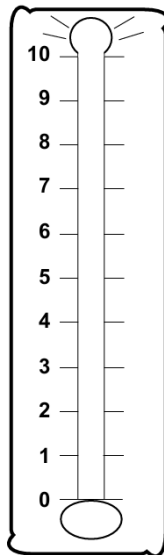
Distress Thermometer Score: 4/10

NCCN DISTRESS THERMOMETER

Distress is an unpleasant experience of a mental, physical, social, or spiritual nature. It can affect the way you think, feel, or act. Distress may make it harder to cope with having cancer, its symptoms, or its treatment.

Instructions: Please circle the number (0–10) that best describes how much distress you have been experiencing in the past week, including today.

Extreme distress



No distress

Note: All recommendations are category 2A unless otherwise indicated.

Physical Concerns

Sleep

Yes

Memory or concentration

Yes

Emotional Concerns

Worry or anxiety

Yes

Fear

Yes

- ☐ Grief or loss
- ☐ Fear
- ☐ Loneliness
- ☐ Anger
- ☐ Changes in appearance
- ☐ Feelings of worthlessness or being a burden

Social Concerns

- ☐ Relationship with spouse or partner
- ☐ Relationship with children
- ☐ Relationship with family members
- ☐ Relationship with friends or coworkers
- ☐ Communication with health care team
- ☐ Ability to have children
- ☐ Prejudice or discrimination

Spiritual or Religious Concerns

- ☐ Sense of meaning or purpose
- ☐ Changes in faith or beliefs
- ☐ Death, dying, or afterlife
- ☐ Conflict between beliefs and cancer treatments
- ☐ Relationship with the sacred
- ☐ Ritual or dietary needs

Other Concerns:

Available in 70 Languages



Background & Aims

**Psychological
distress is
common in
cancer patients**

**Linked to poorer QoL,
treatment adherence &
health outcomes**

- Routine distress screening is recommended in cancer care
- Limited large-scale evidence on how distress changes over time
- Patterns by age and treatment intent remain understudied

AIM

To understand distress trajectories and trends from a nationally collected dataset enabling timely, targeted psychosocial care.

Our locations

WA

1. **Bunbury** (South West Health Campus)
2. **Fiona Stanley Hospital** (Murdoch)
3. **Wembley**
4. **Joondalup** (Shenton House)
5. **Greenfields** (Mandurah)
6. **Nedlands** (Hollywood Private Hospital)
7. **Murdoch** (St John of God Murdoch Hospital)
8. **Spencer Park** (Albany)

SA treatment and consulting centres

1. **Elizabeth Vale** (Playford Health Hub)
2. **Kurralta Park** (Tennyson Centre)
3. **Bedford Park** (Flinders Private Hospital)
4. **South Terrace** (Radiation Oncology)
5. **South Terrace** (Medical Oncology & Haematology)
6. **Henley Beach** (Western Hospital)
7. **North Adelaide** (Calvary North Adelaide Hospital)
8. **Toorak Gardens** (Burnside Hospital)

Consulting (only) locations

- | | |
|---|---|
| 1. Gawler (Hyde & Partners Medical Centre) | |
| 2. Mount Gambier (Benson Radiology) | 4. Stirling (Stirling Hospital) |
| 3. Walleroo (Walleroo Hospital) | 5. Mount Barker (Summit Health Centre) |

VIC

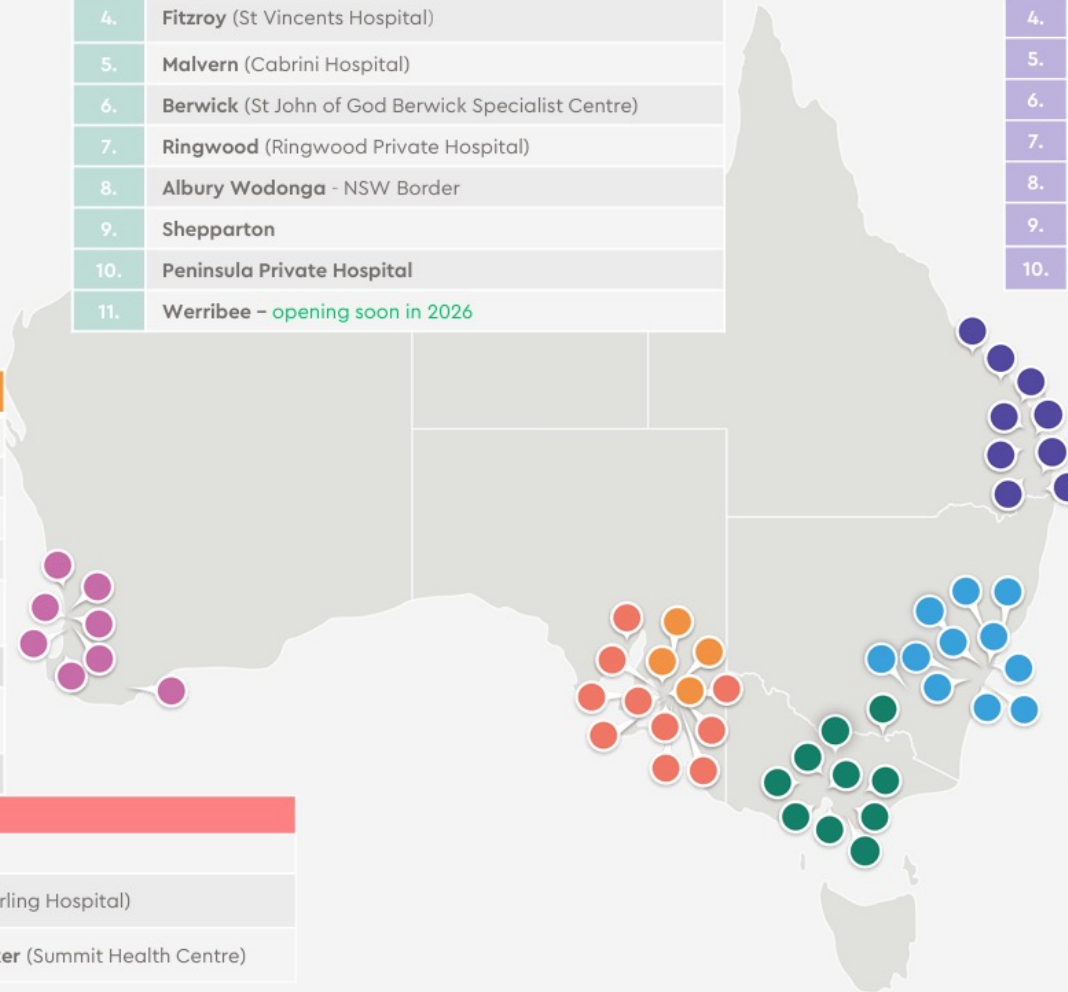
1. **Epping** (Epping Medical Centre)
2. **Footscray** (Western Private Hospital)
3. **Frankston** (Frankston Public Surgical Centre)
4. **Fitzroy** (St Vincents Hospital)
5. **Malvern** (Cabrini Hospital)
6. **Berwick** (St John of God Berwick Specialist Centre)
7. **Ringwood** (Ringwood Private Hospital)
8. **Albury Wodonga** - NSW Border
9. **Shepparton**
10. **Peninsula Private Hospital**
11. **Werribee** - opening soon in 2026

QLD

1. **Rockhampton** (Central Queensland)
2. **Bundaberg**
3. **Fraser Coast** (Urraween)
4. **Noosa** (Sunshine Coast)
5. **Buderim** (Sunshine Coast)
6. **Chermside**
7. **Wesley Medical Centre** (Auchenflower)
8. **Southport** (Gold Coast)
9. **Tugun** (John Flynn Private Hospital)
10. **Redcliffe** - opening soon in 2026

NSW

- 1 **Newcastle** (Lake Macquarie Private Hospital)
2. **Macquarie Park** (Macquarie University Hospital) - closing in 2026
- 3 **North Sydney** (Mater Hospital)
4. **Darlinghurst** (St. Vincent's Hospital Campus) - Public and private
- 5 **Hurstville** (Waratah Private Hospital)
- 6 **Frenchs Forest**
- 7 **St Leonards** (North Shore Health Hub)
- 8 **Kingswood**
- 9 **Maitland** (Hunter Valley)
- 10 **Bella Vista** (Norwest)
- 11 **Campbelltown**



Methods

Data sets

Routinely collected
Distress
Thermometer (DT)
scores

- **n = 31,364**

54 GenesisCare
Centres nationally

Time points

T1: registration -
pre the “first
appointment”
with GC

T2: Treatment
completion

Distress categories

Low (0–3)
Moderate (4–6)
High (7–10)

Clinically
meaningful
change =
≥2-point shift
(drop or rise)

Groups

Age:

<50

50–70

>70 years

Treatment intent:

Curative vs

Palliative

Wellbeing plan:

documented in
EMR yes/no

Analysis

Descriptive
statistics

Chi-square tests

Correlations

Multivariable
logistic regression

Sample Overview (N = 31,364)

67

Mean age (SD 12.8)

78.6%

Curative treatment intent

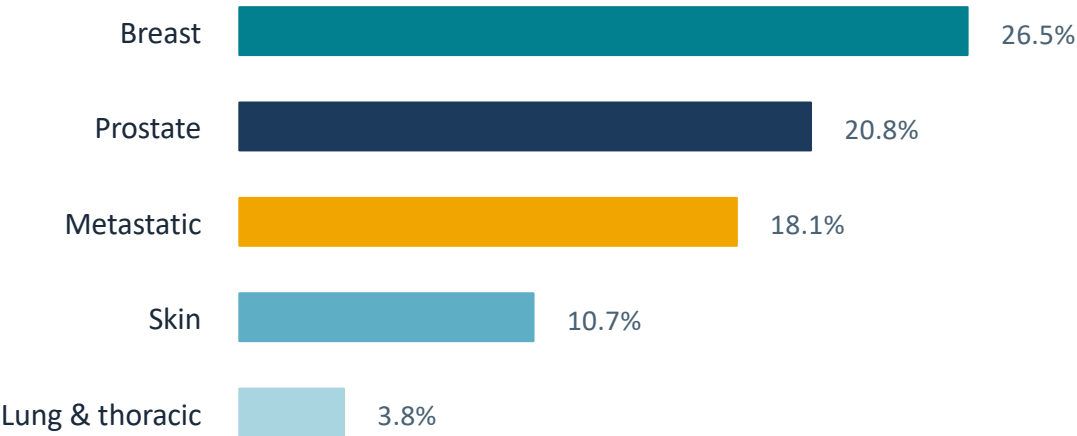
82.4%

Had wellbeing plan documented

54

Treatment centres (national)

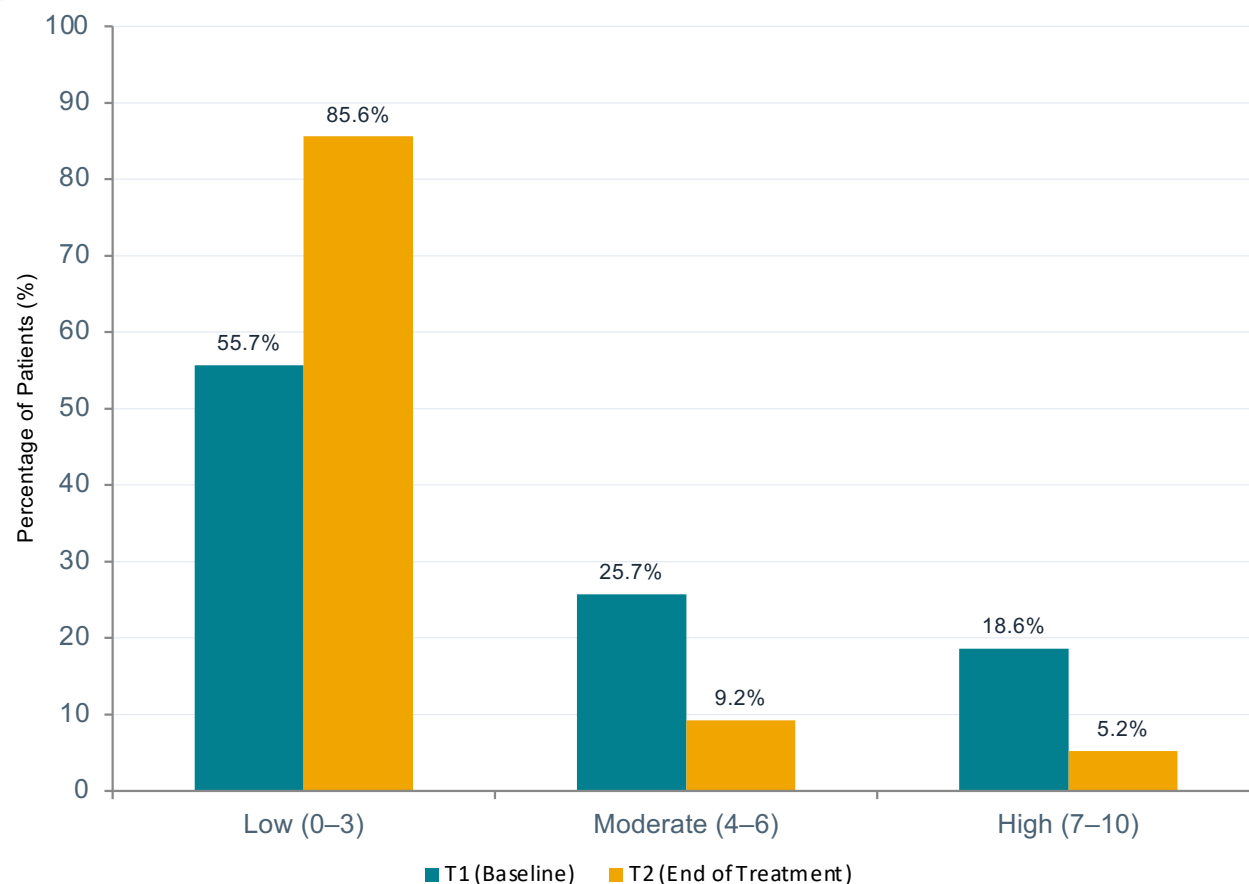
Top Diagnosis Groups



Patient Profile

Gender:	51.9% Male · 48.1% Female
Location:	58.3% Metro · 41.3% Regional
Marital Status:	65.7% Married
Age <50 yrs:	10.1% (3,183 patients)
Age 50–70 yrs:	45.8% (14,355 patients)
Age >70 yrs:	44.1% (13,825 patients)

Distress levels: Baseline vs. End of treatment



18.6%

High distress
at T1 - registration

5.2%

High distress
at T2 – end of treatment

↓ 64%

Reduction in
high distress



Clinically meaningful change in Distress

Defined as ≥ 2 -point change on the Distress Thermometer

45.9%

Clinically Improved

≥ 2 -point drop

n = 14,392

45.2%

Stable

± 1 point

n = 14,183

8.9%

Clinically Worsened

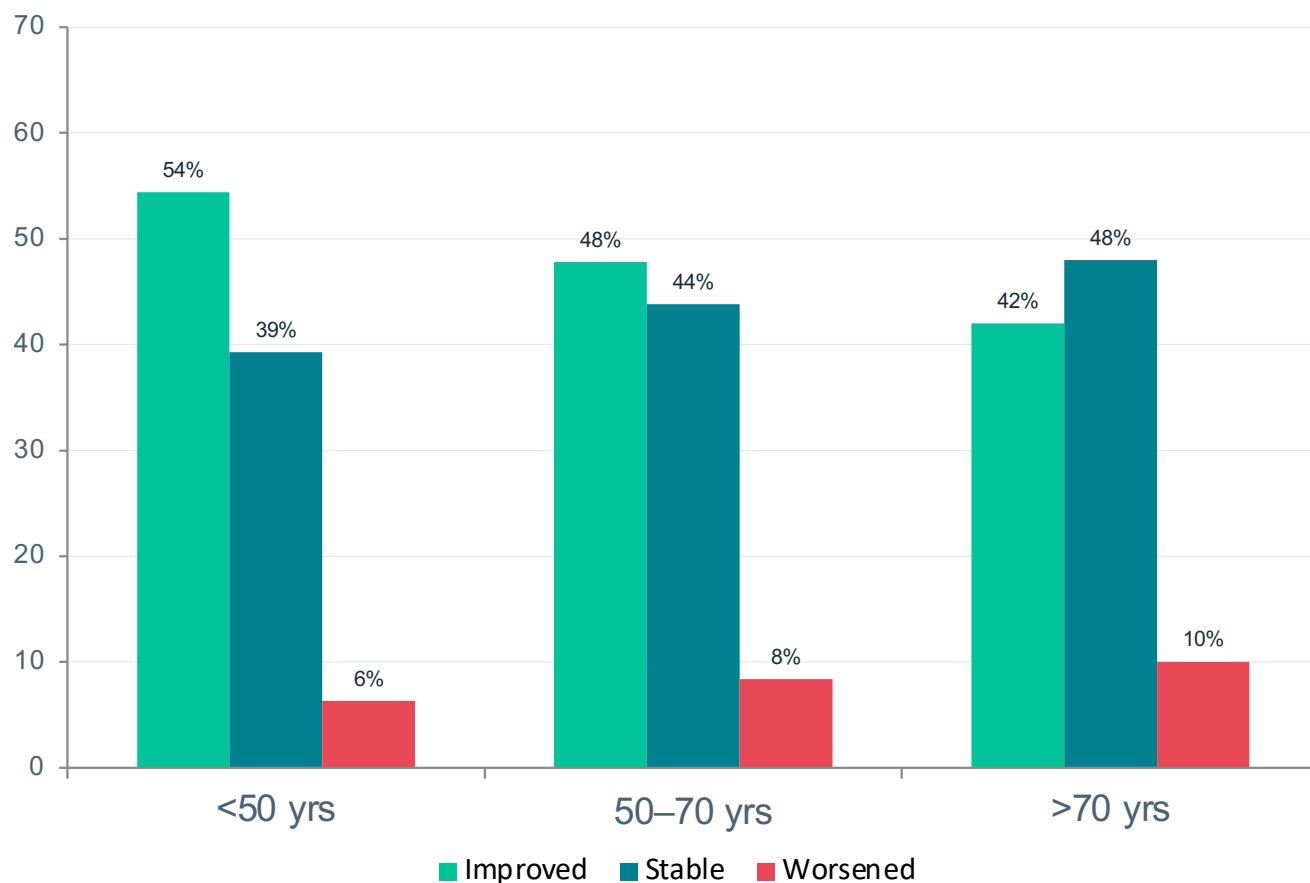
≥ 2 -point rise

n = 2,788

Of patients with stable distress (n = 14,183), 11.2% remained at moderate/high distress at T2 - indicating persistent need for psychosocial support even among 'stable' patients.



Distress trajectories by age group



Key Findings

- Younger patients (<50 yrs) most likely to improve (54.4%)
- Older patients (>70 yrs) least likely to improve (42.0%)
- Worsening most common in >70 yrs (10.0% vs 6.3%)
- High distress at T1 highest in <50 yrs (20.5%)



Are younger patients more likely to improve than older patients; even at the same baseline distress?

Key findings:

- **Older patients are less likely to achieve meaningful improvement**
- Each increase in age group → 11% lower odds of improvement
- (OR = 0.89; 95% CI:0.84-0.94; $p < 0.001$)
- Baseline distress strongly predicts improvement
- (OR = 2.46; 95%CI: 2.42-2.51; $p < 0.001$)

Clinical implications:

- Older patients may require additional psychological support
- Screening alone isn't sufficient
- Need for age-tailored interventions and proactive follow-up

Take-away from this result:

Even at the same starting point, older patients are less likely to emotionally recover



Wellbeing plan & distress outcomes

82.4%

of patients had a wellbeing plan documented

Wellbeing Plan	Improved ≥ 2	Stable ± 1	Worsened ≥ 2	Total
Yes (n=25,836)	46.3%	44.7%	8.9%	100%
No (n=5,527)	43.8%	47.5%	8.7%	100%

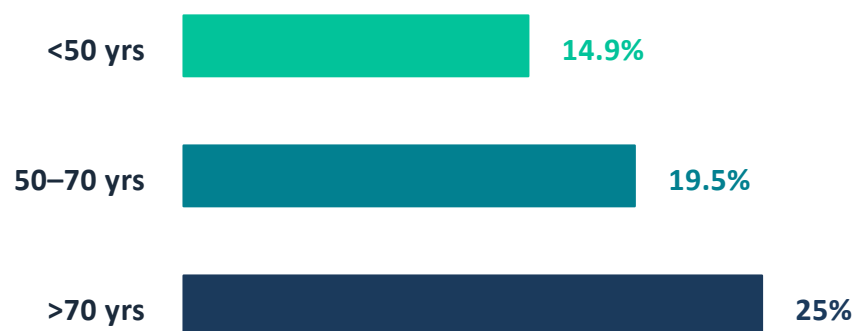
Higher baseline distress was weakly but significantly correlated with wellbeing plan discussion ($r = 0.032$, $p < .001$)

Higher the baseline distress the more likely to receive a wellbeing plan
Nurses are identifying distress appropriately
17.6% without a plan is an opportunity to improve care

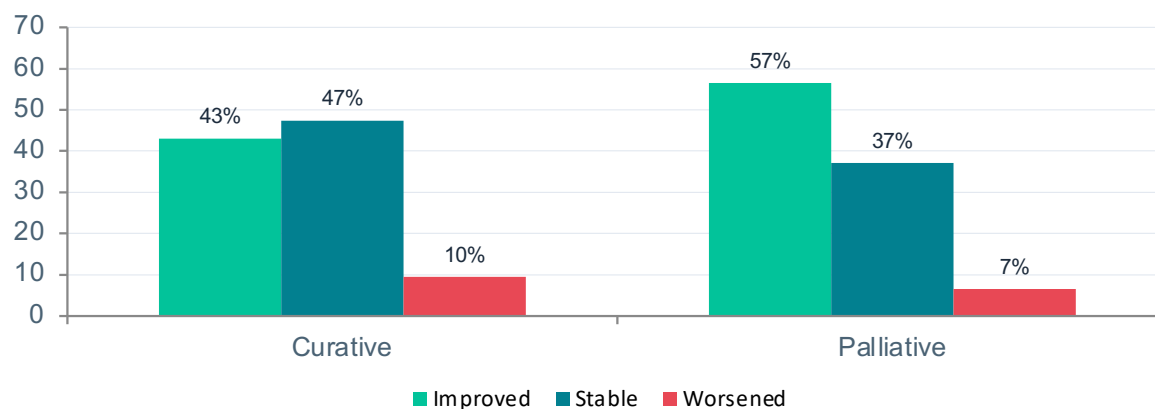
Patients with a documented wellbeing plan were more likely to achieve clinically meaningful improvement in distress - supporting nurse-led, structured psychosocial care.

Treatment intent, age & distress trajectories

Palliative treatment by age group



Distress trajectory by treatment intent



Clinical Implications

- Older patients (>70 yrs) are 25% more likely to receive palliative treatment
- Palliative patients show more improvement overall — but fewer have stable distress (37.1% vs 47.4%)
- Older adults + palliative intent = highest risk group for persistent or worsening distress
- Targeted nurse-led screening critical for this cohort

Conclusions



Distress trajectories show that distress improves for many patients



Older adults are less likely to recover, even at the same baseline distress



Older patients and palliative populations require close monitoring



A single screening point isn't sufficient – longitudinal tracking is critical



Wellbeing plans are associated with better outcomes



Nurses play a key role in early identification, follow-up and care coordination

Thank You

Chindhu Shunmuga Sundaram and the co-Authors of this project

Questions & Discussion

