

The PACT Study: results of a time series study investigating the impact, acceptability and cost of an integrated model for psychosocial screening, care and treatment of patients with urological and head and neck cancers

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Abstract

Background: The significant psychosocial morbidity experienced by cancer patients is often undetected and untreated. Despite international priority given to psychosocial care for cancer patients, implementation of psychosocial programs into routine cancer care is limited. We developed, implemented, and assessed the impact, acceptability, and cost of an integrated, patient-centered Psychosocial Assessment, Care and Treatment (PACT) model of care for cancer patients within a general hospital setting. **Methods:** A time series research design was implemented to test the PACT model of care, newly introduced in an Australian tertiary hospital. System-level impact on systematic distress screening and management was assessed through audit of the medical records of three cross-sectional samples of 141 patients, at baseline and at 12 and 24 months post-baseline. The impact of the model on patient experience and health care professionals' (HCPs) knowledge and confidence was assessed via surveys. The acceptability of the intervention was assessed through HCP interviews at 24 months. The cost of the intervention was assessed by PACT staff recording the time spent on care provision, training, and intervention administration, and associated costs were calculated using staff payment rates adjusted for superannuation and leave. **Results:** Across the 24 months of implementation, formal distress screening increased from 0% at baseline to 29% of patients at 12 months and 31% of patients at 24 months, with an associated decrease in informal screening as formal screening increased. There was no notable change in distress management (ie, development of care plans) across the time period. Baseline patient experience was already high (mean score = 46.85/55) and did not change significantly over the course of the study. In both general and specific areas of addressing patient psychosocial concerns, HCP knowledge and confidence was moderate and remained largely unchanged over the course of the study. HCPs perceived the PACT model as highly beneficial and instrumental in bringing about significant changes to staff's knowledge, practices and awareness of psychosocial issues. The estimated total labor

The PACT Study team also includes Catherine Adams, Debbie O'Brien, Gai Shylan, Ben Britton, Sandy Grant, Vicky Parker, Chris Wratten, Deanna Sue.

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Trial registration: The study is registered with the Australian New Zealand Clinical Trials Registry, registration number ACTRN12613000916741.

Ethics and dissemination: Ethics approval was obtained from the Human Research Ethics Committees of Hunter New England Local Health District (HNELHD) and the University of NSW. Results will be widely disseminated to the funding body and through peer-reviewed publications, HCP and consumer publications, oncology conferences, and meetings.

Authorship: AG and BK conceived of the study and were the grant holders. AP and DB provided organizational guidance on service model and implementation. AG and BK, along with the appointed clinical staff, developed the communication skills training, and HC oversaw the day-to-day study implementation according to the protocol. MH and RV provided guidance on data requirements for the economic analysis and undertook these analyses. JD provided guidance on sample size requirements and conducted the primary statistical analyses. VH conducted the qualitative analyses. All authors contributed to refinement of this article and approved the final manuscript.

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cost (including on-costs) was AUD\$119,239 (over the 2 years); with a declining cost over the lifetime of the intervention reflecting the higher initial set-up costs. **Conclusions:** Although the PACT model was associated with an increase in distress screening, staff workloads, high turnover, and administrative barriers may have restricted the translation into distress management. Future research exploring effective avenues to engage staff at a management level and ensure that staff view distress management as a valuable component of their role may assist to embed strategies into the general hospital culture and lead to more sustainable changes.

Keywords: Head and neck neoplasms, Intervention studies, Patient-reported outcomes, Psychological, Psychotherapy, stress, Time series study, Urologic neoplasms

Introduction

Internationally, distress has been recognized as the “Sixth Vital Sign” in cancer care and within related health care policies.^[1–5] In 2020, mood disturbance and cancer-related stress among oncology patients continue to be high^[6], and approximately 40% of patients with a cancer of any type experience significant distress.^[3] Yet, a large proportion of these patients fail to receive professional mental health care.^[7] Some cancer subgroups can experience greater needs, for example patients with head and neck (H&N) cancers have higher rates of depression and suicide than individuals with other cancers,^[7,8] and it is known that urological cancers can have specific short and long term psychological impacts,^[9] alongside the challenges of engaging males (eg, with testicular cancer) in psychosocial care.^[10]

Screening for distress has become a requirement for some health service accreditation bodies,^[6] and is considered to have the potential, when employed routinely, to actively de-stigmatise the use of psycho-oncology services.^[7] Research in oncology settings has certainly indicated patient and health care professional (HCP) receptivity to the implementation of routine distress screening in clinical practice. Evidence supports the need for health services to promote screening and ensuring pathways to psychosocial interventions. The screening process is perceived to be highly acceptable, helpful in facilitating communication about patient issues, increasing awareness of the assistance available, and enhancing clinician-patient rapport.^[11] Outpatients with H&N cancer in the Netherlands reported satisfaction with their nurse’s knowledge and attention to concerns when a distress screening and follow-up intervention was implemented,^[8] and evidence supports promoting screening and psychosocial interventions among patients with urological cancers.^[12] Furthermore, Riedl et al^[7] observed that oncology patients were more likely to engage in screening if the results of said screening were then incorporated into their individual care plan. Indeed, it has become well recognized that, on its own, distress screening is not effective in achieving truly patient-centred care; patients need their HCPs to be supported and upskilled to address their distress scores with them, then further assess, assist, and refer for evidence-based care where indicated.^[1,13–15] This has provided an important impetus to implementation of psychosocial care into routine services, particularly strategies to promote screening for distress and tailored interventions.^[16]

Nevertheless, there has been limited success in achieving the widespread implementation of these strategies,^[17] highlighting the need to improve our understanding of pathways to achieve the necessary sustainable changes in cancer care.^[18] Recent developments in “precision” medicine in cancer care,^[19] and recognition of the benefits of routine monitoring of patient-reported outcomes, provide further impetus for research assessing strategies for health system improvement to embrace these innovations. Relevant patient-reported outcomes include improved patient-provider communication, patient satisfaction,

health related quality of life, compliance with chemotherapy; earlier detection of relapse in lung cancer patients, reduced emergency department presentations, and improved cancer survival.^[20–25]

Evidence gathered to date suggests that uptake of, and adherence to, distress screening, as well as responsiveness to patient needs, is dependent upon the investment of resources into staffing, ongoing HCP training, support and education, and access to psychosocial services.^[5,26] Integrating screening into routine care and the general culture of clinical practice, as well as engaging all stakeholder groups involved as part of a comprehensive care program, is what will render it sustainable long-term.^[2,3]

Indeed, in their review of distress screening practices in oncology, Girgis et al^[2] identified as crucial to the successful implementation of such care models: the existence of local champions to manage the transition; preparatory staff training and education programs; active involvement and engagement of senior service leaders; having clinical staff engaged early, particularly to advise on referral pathways; a systematic process for guiding patient assessment and subsequent clinical decisions; and investment of system-level resources to support the staffing and intervention needs required. To ensure the effective provision of such services to patients throughout their ongoing cancer care and tailoring to local resources, “out-reach” strategies from specialist services are needed to support clinicians in diverse community settings.

The present study aimed to develop and implement an integrated, patient-centred model for psychosocial screening, care and treatment of patients with urological and H&N cancers, within the existing infrastructure of a tertiary referral hospital. This included an evaluation of its acceptability, impact and cost, to continue investigations into sustainable psychosocial care.

Materials and methods

A detailed study protocol has previously been published.^[27] The following is a brief overview of the study methods.

Study design

A time series research design was employed to evaluate the process, outcomes and costs involved in establishing the Psychosocial Assessment, Care and Treatment (PACT) model of care,^[27] a system-wide intervention (see Table 1). The project was approved by the Human Research Ethics Committee of Hunter New England Local Health District (HNELHD) and the University of New South Wales.

Study setting

The study commenced in 2013 and was undertaken at John Hunter Hospital/Royal Newcastle Centre, the largest tertiary

Table 1

Data collection timeline, participant recruitment, and samples (refer to protocol article^[27] for details regarding target samples in this table).

	Data collection	Recruitment/intervention data and feedback	Intervention delivery activities
Commencing at 0 mo (March 2013)	Baseline HCPs health professional knowledge and confidence survey	128 HCPs approached –4 unavailable (ie, on leave, no longer working in relevant department) - 50 completed surveys returned (response rate 50/124 = 40.32%)	Development and delivery of communication skills training to HCPs
	Patient cross-sectional sample #1: patient experience survey	141 patients approached - 12 declined the survey pack - 62 completed surveys returned (response rate 62/129 = 48.06%)	
	Baseline retrospective audit of medical and hospital records for patients receiving care for urological and H&N cancers (September 1, 2012–August 31, 2013 inclusive)	Target sample n = 141 - 58/62 patients who completed baseline survey consented to audit (93.55%) - supplemented by 83 HNELHD patient records, extracted to reach target sample - total sample for audit: 82 urological and 59 H&N cancer patients	
Commencing at 12 mo	Patient cross-sectional sample #2: patient experience survey	99 Patients approached - 3 declined the survey pack - 65 completed surveys returned (response rate 65/96 = 67.71%)	PACT intervention delivery throughout the study period
	Year 1 retrospective audit of medical and hospital records for patients receiving care for urological and H&N cancers (September 1, 2013–August 31, 2014 inclusive)	Target sample n = 141 - 64/65 patients who completed 12 mo survey consented (98.46%) - supplemented by 77 HNELHD patient records, extracted to reach target sample - total sample for audit: 92 urological and 49 H&N cancer patients	
	Direct intervention set-up and delivery costs - Service provision costs (assessment of PACT set-up and on-going costs)	The amount of time (h) spent by PACT staff in undertaking activities relating to intervention delivery was recorded, including direct patient consultations (face to face, phone), consultations with staff, provision of formal education, case conferencing, report writing, videoconferences, and project management.	
Commencing at 24 mo	Post-intervention health professional knowledge and confidence survey	104 HCPs approached - 1 unavailable - 34 Completed surveys returned (response rate 34/103 = 33.01%)	
	Patient cross-sectional sample #3: patient experience survey	88 Patients approached - 4 declined the survey pack - 54 completed surveys returned (response rate 54/84 = 64.29%)	
	Year 2 retrospective audit of medical and hospital records for patients receiving care for urological and H&N cancers (September 1, 2014–November 12, 2015 inclusive)	Target sample n = 141 - 54 patients who completed 24 mo surveys consented (100%) - supplemented by 87 HNELHD patient records, extracted to reach target sample - total sample for audit: 93 urological and 48 H&N cancer patients	
	Interviews with purposively sampled HCPs regarding acceptability of the PACT intervention	24 HCPs approached, n = 17 (70.83%) participated	

HCP = health care professional, PACT = Psychosocial Assessment, Care and Treatment.

referral teaching hospital in the HNELHD of New South Wales, Australia. The hospital provides acute surgical management to H&N cancer patients within a general H&N surgery unit, and similarly for patients with urological cancers. Both services provide ambulatory follow-up care, although some services are provided at a nearby specialist cancer facility.

The PACT intervention

In consultation with clinical leaders, we designed a system-level intervention, the PACT model, to optimize access to psycho-oncology services for patients attending the urology and H&N units. The PACT model initially included the following key components:

- 1) Systematic distress screening with all inpatients and outpatients of the two surgical units was facilitated via development of a chart audit for recording the patient’s distress thermometer (DT)^[28] score at each appointment. The chart audit triggered frontline staff to discuss the cause/s of distress with patients and provide information, basic counseling, or referral to the psycho-oncology service, as indicated by their level of distress. The issues identified and follow-up actions were included on a care plan, to facilitate tailored care and continuity of care across settings and providers.
- 2) A dedicated psycho-oncology clinical service was established, including a dedicated Clinical Nurse Consultant (CNC) and a Clinical Psychologist, who: trained frontline staff to undertake screening and provide basic psychosocial support, provided clinical assessment and specialized care for patients referred to the psycho-oncology service, monitored psychosocial care plans, and undertook case reviews with rural clinicians and supported linking patients to local rural specialized services.
- 3) Strategies to support staff within urban, regional and remote communities to implement this model included communication skills training,^[29,30] and structured case review for complex or challenging cases.
- 4) The Clinical Psychologist collaborated with a local clinician in the patient’s residential area (eg, rural clinical nurse providing post-discharge care of patients initially treated at the hospital) to provide outreach specialist assessment (case reviews) by videoconference.
- 5) An advisory group was formed and met regularly to oversee project implementation and evaluation comprising hospital cancer clinicians and unit managers, senior leaders, and the research team.

Data sources and measurement

Medical records access and selection (for primary outcomes). The primary outcome was evidence of system-level changes in distress screening and response practices over the course of the study. The proportions of patients a) who had completed a DT and accompanying Problem Checklist (PCL) at least once, and b) who had a psychosocial care plan developed, was determined through medical record audits at baseline, 12 and 24 months using a standardized data extraction form (see Table 2).

A sample size of 141 medical record audits was required at each time point to assess system-level changes in distress screening from 5% at baseline to 15% at 12 months and 40% at 24 months, assuming 80% power and 5% statistical significance.

At each time point, a list of medical record numbers was generated for all inpatients and outpatients with an ICD-10 diagnostic code for at least one H&N or urological cancer. A random number generator was used to select 141 medical record numbers for the medical record audit.

Patient Experience. Patients were included in this study if they were: aged ≥18 years, diagnosed with a urological cancer or H&N cancer, and receiving care at this facility during the study period. At each time period, the Research Officer liaised with hospital staff to identify potentially eligible patients scheduled to attend the urology or H&N clinics or wards. Patients were invited to complete the Patient Experience Survey, a 35-item survey assessing patient perceptions of their care, as previously described.^[27] A patient experience score was aggregated based on the sum of responses, with a higher score reflecting a more positive outcome.

Health professional knowledge and confidence survey (secondary outcome). Staff were invited to participate in this study if they: were a medical, nursing or allied health staff member, and provided care for patients who were receiving inpatient or outpatient urological or H&N cancer services. Managers of the care facilities generated a list of staff who routinely provided care to urological or H&N patients of their respective wards/clinics. The Research Officer sent a study Information Pack to these eligible HCPs via internal mail.

At baseline and 24 months, HCPs completed a 65-item survey to assess their knowledge, skills and confidence in responding to their patients’ psychosocial concerns, as described previously. This included 12 specific items pertaining to general knowledge and confidence in responding to patient psychosocial concerns, 9 items pertaining to a presented case study, and 32 items assessing clinician beliefs about psychosocial care. The survey items were drawn from surveys previously used with HCP studies, and adapted as required for the H&N and urological cancer patient populations, as described in detail in the published protocol paper.^[27] A knowledge/confidence score was aggregated based

Table 2

Audit term/activity definitions

Term/activity	Definition and notation in patient records
Assessment of distress with DT and/or PCL DT score ≥4	This is “formal” screening, where a DT and/or PCL was used to assess patient distress. Notation of the DT score, indicating if further exploration is warranted.
Other assessment of distress	This is informal screening, which included a notation of assessment of patient distress by other, informal means, which can range from observations to active, purposeful, enquiry.
Subsequent/follow-up assessment of distress	Notation of repeated distress assessment, by formal or informal means.
Referral to psychosocial service	Evidence of a referral of the patient to the existing consultation-liaison psychiatry service, Social Work, or to the PACT Psycho-Oncology Service (once established).
Psychosocial care plan developed	Notation of intended action to address identified patient psychosocial issues, including in the formal care plan, informal plan, or in-patient file notes.
Review or reevaluation of plans/recommendations	Notation that a care provider has reviewed or reevaluated previously devised plans/recommendations, either in the formal plan or not.
Communication with primary provider	Notation of written or phone communication with a patient’s GP, Cancer Care Coordinator or other relevant clinician (eg, surgeon, oncologist) about the patient’s psychosocial issues/needs.
Referral made for subsequent care	Notation of a patient referral for further psychosocial care beyond that particular admission or clinic visit.

DT = distress thermometer, PACT = Psychosocial Assessment, Care and Treatment, PCL = problem checklist.

on the sum of responses, with a higher score reflecting a more positive outcome.

Health professional receptivity and acceptability interviews (process measure). At the end of the study, the Research Officer interviewed allied health, nursing and medical staff about the acceptability of the PACT model, as well as the model's effectiveness and impact on improving care. The staff from this range of disciplines was purposefully sampled to include HCPs involved in different stages of the PACT pathway, including screening, referrals and care delivery, and from the main John Hunter Hospital site as well as outreach locations. Interviews of approximately 20 minutes duration were conducted face-to-face or by telephone, using a semi-structured interview schedule. The interview guide has been described previously.^[27]

Costs of the intervention. The cost of the intervention itself was calculated by PACT staff maintaining records of the time spent on direct consultations with patients (face to face and by phone), consultations with staff, provision of formal education, case conferencing, report writing, video conferences, project management, and other. The time spent was recorded and associated costs were calculated using staff payment rates adjusted for superannuation and leave.

Statistical methods

The primary outcomes of system level changes over the three-time points were analyzed using Cochran-Armitage test for a general trend. Fisher's exact test was used to compare between specific time points (baseline vs 12 months; 12 months vs 24 months; baseline vs 24 months). For patient experience surveys, a linear regression was used to model scores over the three time points to determine whether there was a significant improvement during the study period. For the health professional knowledge and confidence surveys, a 2-sample *t* test was used to determine whether there was a difference in the knowledge/confidence scores between the 2 time points (0 and 24 months). SAS Enterprise guide version 7.15 was used for statistical analysis, with *P* < .05 considered statistically significant.

HCP interviews were audio-recorded, transcribed verbatim, and analyzed qualitatively, using an inductive thematic analysis approach, as previously described.^[27]

Results

Training to support staff in their PACT intervention delivery was undertaken by 212 nursing and allied health staff, including 33 who attended 2- to 3-hour communication skills workshops (3 sessions: communicating effectively through attentive listening, conveying empathy and avoiding blocking; distress screening; managing anxious and angry patients and carers; and completing the PACT Psychosocial Care Plan), and 179 who attended brief 30- to 50-minute training presentations covering common psychosocial issues in cancer care.

Primary outcome: medical record audits

Across the 3 time-points (baseline, 12 and 24 months) 423 audits of medical records were undertaken (141 at each time point): 267 of urological cancer patients, and 156 of H&N cancer patients. Since a random number generator was used to select the *n* = 141 for the medical record audit, there is no reason to expect that this sub-sample was not representative of the source population.

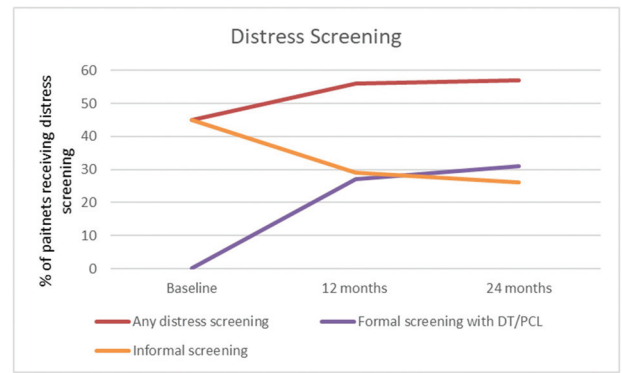


Figure 1. Overview of medical record audit documentation of distress screening at baseline, 12 and 24 months.

Figures 1–3 provide general overviews of the documentation extracted from the medical record audits at each time point, in relation to distress screening activities (Fig. 1), care planning activities (Fig. 2) and actions taken in response to screening (Fig. 3). Overall, the figures show a pattern of increased distress screening over the 24-month period, with informal screening decreasing (*P* = .0077) as formal screening increased (*P* < .0001). The psychosocial care planning activities and actions taken in response to screening show an overall reduction from baseline to 12 months (*P* = .027), with a slight but not significant increase at 24 months (*P* = .3467), although the level of activity at 24 months remained lower than at baseline (*P* = .2662). There was no general trend of formal planning over the study period (*P* = .1897). Figures 4 and 5 provide a more detailed analysis of these data.

As presented in Figure 5, at least 1 occurrence of informal distress screening (eg, simple observation of signs of distress) was noted in 45 of the baseline audits, 29 of the 12-month audits, and 26 of the 24-month audits.

Secondary outcomes

Patient experience of care. At baseline, 62 patients (43 urological cancer, 19 H&N cancer; 49 males, 13 females; mean age 68 years) completed a patient experience survey. This survey was also completed by 65 patients at 12 months (50 urological cancer, 15 H&N cancer; 50 males, 15 females; mean age 69 years), and 54 patients at 24 months (48 urological cancer, 6 H&N cancer; *n* = 46 male, 8 female; mean age 73 years).

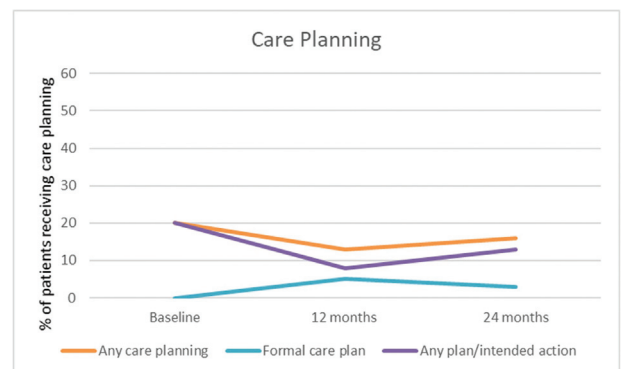


Figure 2. Overview of medical record audit documentation of psychosocial care planning activities at baseline, 12 and 24 months.

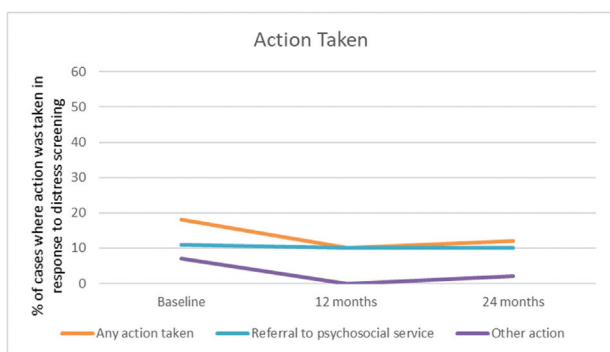


Figure 3. Overview of medical record audit documentation of actions taken in response to distress screening at baseline, 12 and 24 months.

The mean patient experience score was already high at baseline (mean score = 46.85/55; SD = 7.31) and did not change significantly at 12 months (mean score = 46.13, SD = 8.12; $P = .61$), or at 24 months (mean score = 45.99, SD = 8.65; $P = .57$), or between 12 and 24 months ($P = .93$).

Health professional knowledge and confidence. Of the 50 HCPs who returned a completed baseline survey, only 17 completed the survey again at 24 months, constituting 50% of 24-month survey respondents. As detailed in Table 3, most of the respondents were female nurses, with at least 11 years of experience caring for cancer patients.

In both general and specific areas of addressing patient psychosocial concerns, HCP knowledge and confidence was moderate (a higher score indicates better outcome) and remained largely unchanged (and not statistically significant) between baseline and 24 months, as shown in Table 3.

Health care professional interviews. Seventeen HNELHD health service staff (14 females, 3 males) participated in the end-of-study interviews to provide their views on the PACT intervention. These included staff based at the major hospital as well as at other outreach sites involved in patients' care pathways, and represented the specialties of nursing, nursing management and clinical consultation, cancer care coordination, social work, medicine, and palliative care.

The majority of interviewees perceived the PACT model as highly beneficial and instrumental in bringing about significant changes to staff's knowledge, practices and awareness of psychosocial issues. It was also perceived as producing improved coordination of care via enhanced networking and inter-service communication, increasing capacity for timely intervention and referral by staff, and leading to greater job satisfaction.

HCPs felt that distress screening created a context or "permission" for dialogue about psychosocial issues, but were concerned about the purpose, utility, and applicability of a screening tool which demanded knowledge of the referral pathways and escalation processes in place from staff already overburdened by paperwork.

HCPs perceived triaging for psychosocial concerns by staff involved in their day-to-day care as having high patient acceptability. Care plans were perceived as invaluable for ensuring continuity of care, including in community settings (after discharge) and across different sites/networks. Paperwork burden, however, was identified as posing a risk to the plans being completed consistently or properly.

Clinical case reviews were considered particularly valuable for patients in rural or poorly serviced areas. HCPs reported that the case reviews additionally supported their learning and professional development, but also perceived that there would be difficulties in having all required parties involved in case discussions, due both to time constraints and questions about the value of participation by some HCPs.

Overall Costs of the Intervention. Tasks undertaken by the PACT staff included direct consultations with patients (face to face and by phone), consultations with staff, provision of formal education, case conferencing, report writing, video conferences, project management and other. Over the full 2014 year, the total number of hours involved was 935; over 7 months of recorded activity in 2015, there were 385 hours; and over four months of 2013, there were 241 hours of activity. The estimated total labor cost (including on-costs) was AUD\$119,239 (over the 2 years of data). The annualized ongoing cost was between AUD\$44,107 (in 2015) and AUD\$71,443 (in 2014). A declining cost over the lifetime of the intervention, as represented by these figures, is reasonable as there are set-up costs associated with the production of the care plan that are unlikely to be repeated in each year.

Discussion

The aim of this article was to evaluate the implementation of an integrated, patient-centred model for psychosocial screening, care and treatment of patients with urological and H&N cancers. Over the 24 months of the trial, there was improvement in some areas related to psychosocial care, whereas some elements of care were evident even at baseline (with little room for improvement), and others showed little notable change over time.

We identified a trend to improvement in the proportion of patients for whom formal distress screening was undertaken (primary outcome). Specifically, there was an increase in the utilization of the DT and accompanying PC, and a reduction in the use of informal or non-specific measures. While this is encouraging, it is noteworthy that recording of actions taken following any form of distress assessment reduced over the duration of the study. In addition, there was only a modest change in care planning over the trial, with a reduction in some forms of documentation over time. An explanation for this finding may be that the training and support provided through the intervention improved the capacity of staff to manage distress without relying on specialist referral. If this was the case, we would expect to see more detailed documentation of other actions or interventions that were undertaken. Another possible explanation is that actions were taken but not documented. Perhaps more plausibly, distress screening may also have inadvertently become a replacement for other steps that would be taken, with the formality of distress screening inadvertently seen as an intervention in its own right (rather than a screening), replacing other steps such as discussion with the patient within the consultation. This is potentially an important cautionary message regarding the unintended consequences of implementation of distress screening, even when concerted efforts are made to link it with intervention options.

It should also be noted that previous research has found that even when staff do comply with recommended actions following distress screening, it may not lead to an increase in patients receiving more specialized mental health care. A study by Funk et al.^[31] found that only approximately half of patients whose

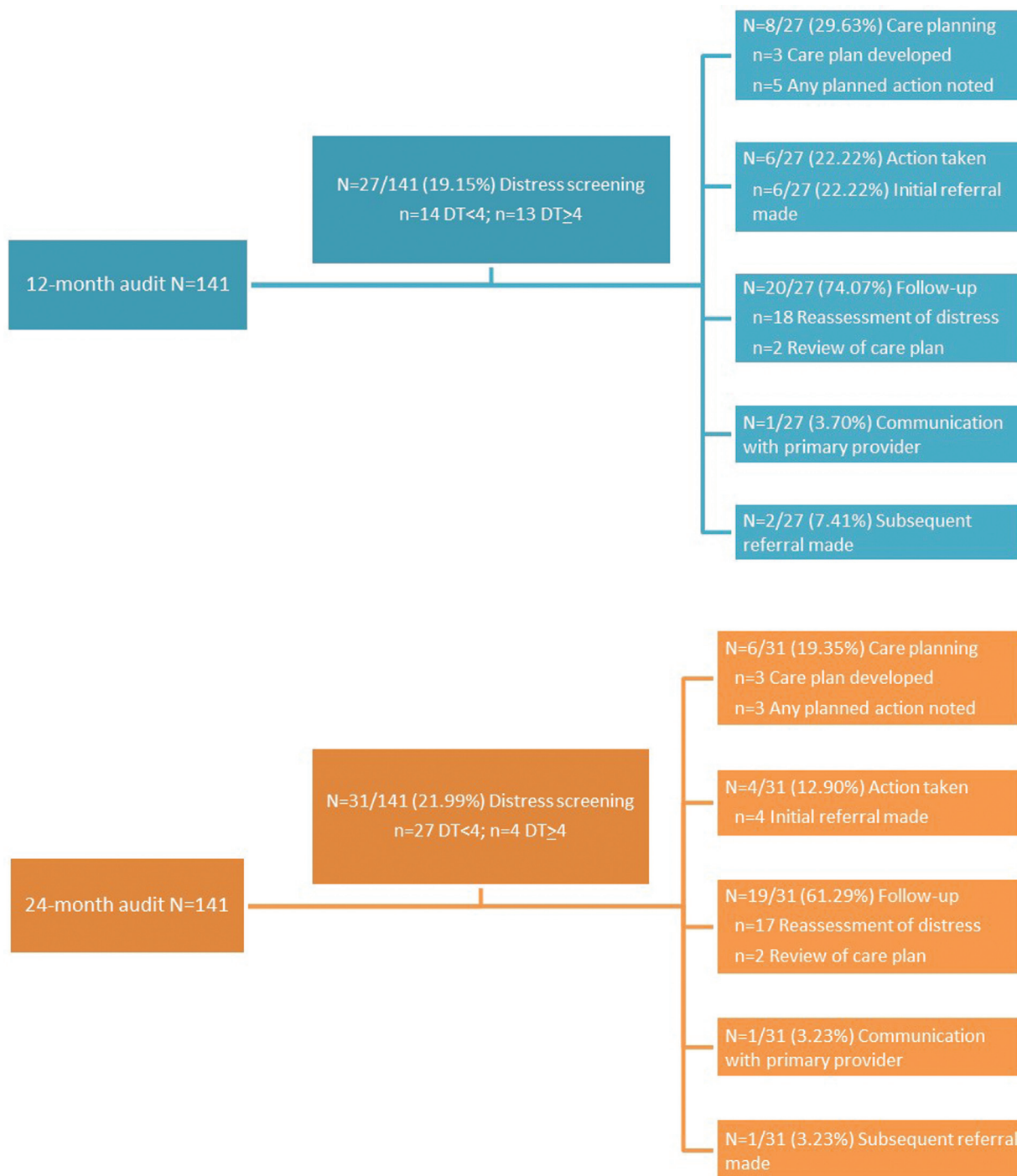


Figure 4. Diagram of medical record audit documentation of formal distress screening (via DT and/or PCL) and follow-up actions for DT scores ≥4, at 12 and 24 months.

screening indicated significant distress attended an initial assessment with a supportive care staff member, and of those, only 19% completed at least one follow-up appointment. Similarly, Shimizu et al^[32] reported that only 25% of cancer patients with high distress accepted a referral to specialist care. Ensuring that patient preferences for care are understood and identifying other potential barriers to accepting care (eg, stigma, the added stress/inconvenience of additional appointments) is essential to maximize the uptake of a management plan recommended by staff.^[31] The majority of patients in the services

in this study were male, and this may have influenced clinician approach to engagement, and patient uptake and utilization of care.^[10]

Significant implementation challenges were encountered during the study period. Sustainability was a key difficulty, as staff turnover was high, and many staff who were trained at baseline did not remain in their positions for the duration of the study. The program also necessitated the introduction of new tools and data collection methods for staff who already had multiple demands on their time. These challenges largely reflect

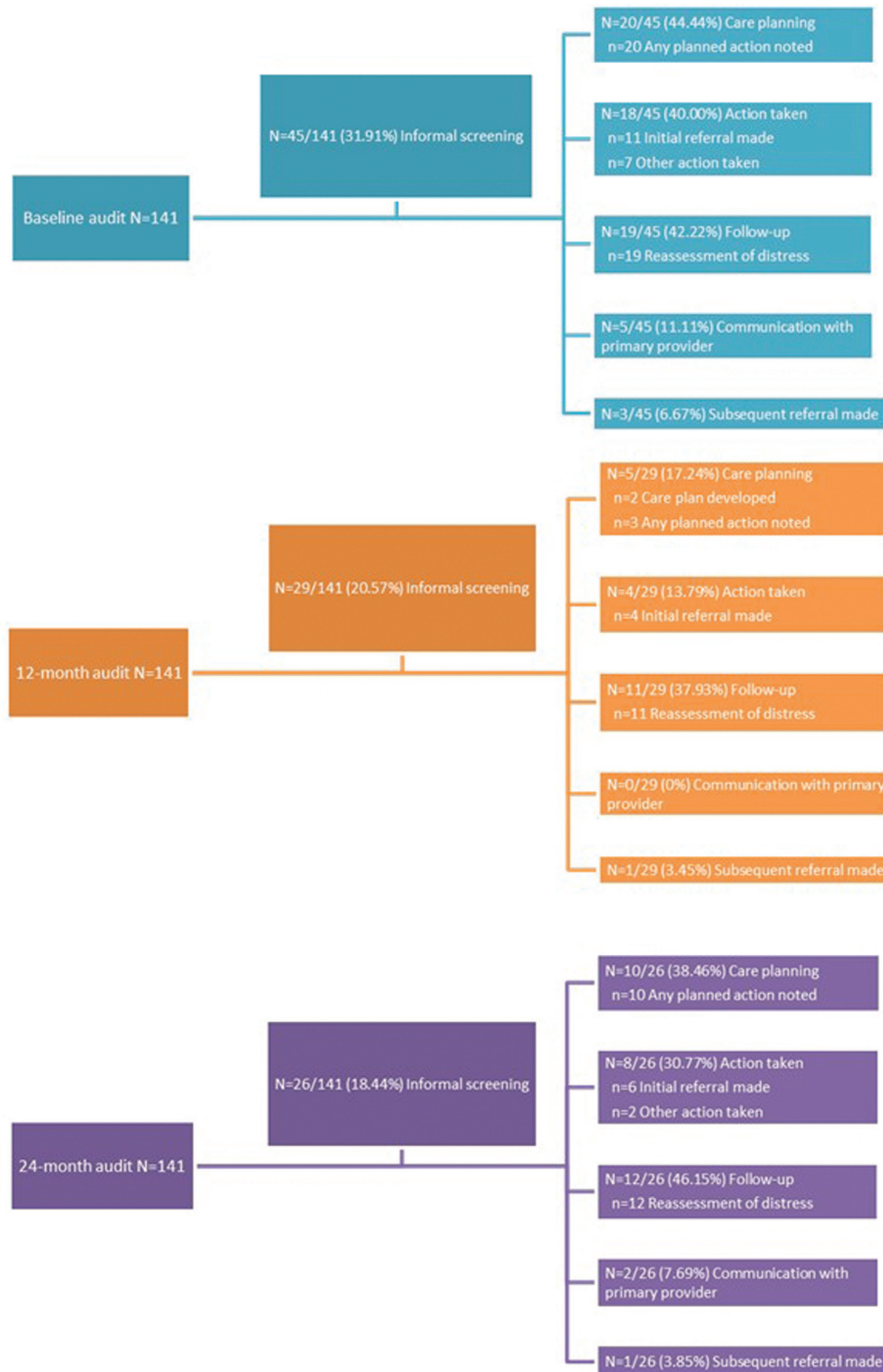


Figure 5. Diagram of medical record audit documentation of informal distress screening and follow-up actions, at baseline, 12 and 24 months.

the findings of Knies et al.,^[33] who implemented a similar training program and reported staff turnover and competing staff demands among the top three barriers to distress screening. Riblet et al.^[34] suggest that protected time, engaged leadership, and a culture that values distress screening implementation are key components of a successful distress screening program, with

lack of staff time consistently shown to be a key barrier to implementation.^[35-37] Strategies to promote and support stability of staff in such settings, better understand drivers of staff turnover or to mitigate its impact on systemic clinical priorities (eg, such as staff confidence and engagement in practices such as distress screening). Further research is needed to

Table 3
Characteristics of HCP sample

Time period	N	Sex	Mean age	Specialty	Experience caring for patients with cancer, y	Time spent caring for patients with cancer (mode)	HCP survey responses; mean/possible total (SD)			Overall knowledge/confidence
							General knowledge/confidence	Case study	Clinician beliefs	
Baseline	50	F = 45, M = 4, unspecified=1	40.32	Nursing = 34 Allied health = 16	11.38	>30 h per wk	36.20/60 (9.40)	25.22/45 (8.34)	70.74/160 (14.82)	61.42/105 (16.91)
24 mo	34	F = 28, M = 6	40.09	Nursing = 27 Allied health = 7	11.21	>30 h per wk	36.33/60 (7.92)	25.73 (7.91)	71.60/160 (13.74)	62.12/105 (14.64)

HCP = health care professional, SD = standard deviation.

determine which facilitators and barriers apply to different stages of the distress screening and referral process.^[33]

This study demonstrates a number of “real-world” challenges to the integration of cancer-specific psychosocial care strategies in hospital units that have a generalist focus. While these units are the base for surgical care of H&N and urological cancer patients, this sits within a range of other tasks and patient populations—general trauma patients and non-malignant surgical conditions. This presents potential barriers to engagement of staff and clinical settings that are not identified as “cancer specialist” roles or teams, highlighting the importance of identity among clinicians of their role in cancer care in adoption of these strategies.

In this environment, the designated cancer care coordinators were key champions but “on the ground” staff were managing multiple and diverse clinical roles. This illustrates a common challenge for provision of psychosocial cancer care and cancer-related distress screening in the generalist hospital and health services for those patients who are not attending specialist cancer centers at the diagnostic phase, or in cancer survivorship care which may be in primary care or general services. Nevertheless, the focus on psychosocial care in cancer and achievements in distress screening, have direct relevance to all elements of our health services and to diverse patient groups and settings.

There were positive findings in relation to clinicians’ perception of the program, including the opportunity for skill development, that may not be reflected in formal documentation, but which may have been better captured by additional qualitative evaluations. These could include interviews to explore the patients’ experience of care, or an observational study of the ward or clinic environment. However, it has been noted that to transform workplace culture and achieve systemic change, it is necessary for staff to implement distress screening programs consistently and comprehensively over time.^[38]

This study has several limitations. We were not able to account for other health initiatives which may have been introduced into hospitals in the study area during the study period, which could have affected the impact of this intervention. The intervention was implemented over a 24-month period, during which time changes in health professional personnel were substantial. Although staff turnover is challenging to many areas in health care, the consequence for our study is that some of the health professionals who completed a survey at 24 months may have been only minimally exposed to the intervention, thereby diluting perceptions of its impact. Although system level implementation was the goal, the findings highlight the importance of a sustained commitment and engagement at all levels of clinical service from direct patient care to leadership. Furthermore, the study was an effort to embed system level evaluation of service change, and

faced the challenges of reliance on routine data collection, information technology and data systems to collate data, and the real-world challenges of the demands on clinical time and priorities given to service level data collection. However, the study also has considerable strengths. It was developed specifically to address existing gaps in psychosocial care, and proposed a model of care which was integrated, evidence-based, embedded in routine practice, and responsive to individual patients’ needs. It promotes an active role for frontline staff, as well as improved coordination and continuity of care, particularly for patients in rural and remote areas. Finally, the translational capacity of the program was enhanced through the support of a very strong collaborative team, a strong methodology for health services research (including cost analyses, which are often overlooked in interventional research), and strong support for the integration of psychosocial care into routine care.

Conflicts of interest statement

The authors declare no conflicts of interest.

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