Trajectories of Suffering in the Last Year of Life Among Patients With a Solid Metastatic Cancer

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ABSTRACT

Background: Reducing suffering at the end of life is important. Doing so requires a comprehensive understanding of the course of suffering for patients with cancer during their last year of life. This study describes trajectories of psychological, spiritual, physical, and functional suffering in the last year of life among patients with a solid metastatic cancer.

Patients and Methods: We conducted a prospective cohort study of 600 patients with a solid metastatic cancer between July 2016 and December 2019 in Singapore. We assessed patients' psychological, spiritual, physical, and functional suffering every 3 months until death. Data from the last year of life of 345 decedents were analyzed. We used group-based multitrajectory modeling to delineate trajectories of suffering during the last year of a patient's life. **Results:** We identified 5 trajectories representing suffering: (1) persistently low (47% of the sample); (2) slowly increasing (14%); (3) predominantly spiritual (21%); (4) rapidly increasing (12%); and (5) persistently high (6%). Compared with patients with primary or less education, those with secondary (high school) (odds ratio [OR], 3.49; 95% CI, 1.05–11.59) education were more likely to have rapidly increasing versus persistently low suffering. In multivariable models adjusting for potential confounders, compared with patients with persistently low suffering, those with rapidly increasing suffering had more hospital admissions ($\beta=0.24$; 95% CI, 0.00–0.47) and hospital days ($\beta=0.40$; 95% CI, 0.04–0.75) during the last year of life. Those with persistently high suffering had more hospital days ($\beta=0.70$; 95% CI, 0.23–1.17). **Conclusions:** The course of suffering during the last year of life among patients with cancer is variable and related to patients' hospitalizations. Understanding this variation can facilitate clinical decisions to minimize suffering and reduce health-care costs at the end of life.

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Background

Approximately 9.5 million patients with cancer die each year.¹ By 2040, this number is projected to increase to more than 16 million.^{1–4} Alleviating suffering at the end of life is a core component of cancer and palliative care services. The Lancet Commission on Palliative Care and Pain Relief and the 2014 World Health Assembly resolution have also emphasized the urgency to reduce suffering at the end of life.^{5,6} Doing so requires a comprehensive understanding of the course of suffering for patients with cancer during their last year of life.

Suffering is conceptualized to have multiple dimensions, including psychological, spiritual, physical, and functional.^{7–11} However, existing studies focus only on a single dimension of patients' suffering, such as functional decline (functional suffering) or physical symptoms (physical suffering), and their trajectories (ie, patterns of change) during the last year of life.^{12–17} An inclusive description of trajectories of suffering, concurrently spanning different dimensions for patients with cancer, namely psychological, spiritual, physical, and functional, is lacking. Heterogeneity in the course of suffering during the last year of life has also not been examined.

We therefore aimed to delineate the trajectories of psychological, spiritual, physical, and functional suffering during the last year of life in patients with a solid metastatic cancer, and to assess patient sociodemographics that predict membership of delineated trajectories. Studies show variation in health and suffering by education.^{18–23} Studies also report that older patients with cancer experience more functional suffering^{24–26} and those with no religious affiliation are likely to have greater spiritual suffering.²⁷ We thus hypothesized that patients with low education will be more likely to have trajectories with greater suffering across all the considered dimensions; older patients will be more likely have trajectories representing greater functional suffering; and those with no religious affiliation will have trajectories with greater spiritual suffering.

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To understand whether the trajectories of suffering differ in other meaningful ways, we also assessed whether healthcare utilization (hospitalizations and use of palliative/hospice care services) during the last year of life and place of death vary across the delineated trajectories. Previous studies have reported that repeated hospitalizations are associated with worse physical symptoms, functional status, and psychological distress.^{28–31} Studies also show that patients with a higher symptom burden are also more likely to be referred to a palliative/hospice care service and to die in the hospital or hospice compared with home.^{32–34} We thus hypothesized that patients who have trajectories indicative of greater suffering will also have more hospitalizations, be more likely to have received palliative or hospice care, and to die in hospice.

Patients and Methods

Study Design, Setting, and Participants

We used data from Cost of Medical Care of Patients with Advanced Serious Illness in Singapore (COMPASS). This is a longitudinal study of 600 patients with a solid metastatic cancer followed-up every 3 months until death. A detailed description of it has been published elsewhere.³⁵

Between July 2016 and March 2018, we recruited patients from outpatient clinics at medical oncology departments of 2 major public hospitals in Singapore. Because the overall goal was the longitudinal assessment of end-of-life outcomes, we recruited patients with stage IV solid malignancy. Eligible patients were aged ≥ 21 years (cutoff age for independent consent), Singapore citizens or permanent residents, and cognitively able to consent and self-report (determined through medical records or Abbreviated Mental Test³⁵ administered to participants aged ≥ 60 years), and had ECOG^{36,37} performance status ≤ 2 (to allow a period of follow-up before end of study). The study was approved by the SingHealth Centralised Institutional Review Board (2015/2781).

Study Variables

Outcome

We assessed 4 dimensions of suffering: psychological, spiritual, physical, and functional. We used the 14-item Hospital Anxiety and Depression Scale to assess psychological suffering.^{35,38–40} A higher total score (range, 0–42) represented greater psychological suffering. To assess spiritual suffering, we used the 12-item Functional Assessment of Chronic Illness Therapy–Spiritual Well-Being scale.^{41,42} Total score (range, 0–48) was reversed such that a higher score represented greater spiritual suffering. Items from the Functional Assessment of Chronic Illness Therapy–Palliative Care scale were used to measure patients' physical symptoms (pain, breathlessness, constipation, weight loss, vomiting, swelling in body parts, dryness of mouth and throat, lack

of energy, nausea, and other symptoms). The total score ranged from 0 to 40, a higher score indicated greater physical suffering.^{35,43} Functional suffering was assessed as limitation in activities of daily living using the Older American Resources and Services Multidimensional Functional Assessment Questionnaire.^{35,44} This is a 7-item scale, assessing patient's ability (as "completely unable to do" or "do with some help" [score of 1], or "do without help" [score of 0]) to eat, dress/undress, take care of own appearance, walk, get in/out of bed, take a bath, and use the bathroom. Item scores were summed (range, 0–7), with a higher score indicating greater functional suffering.

Patient Sociodemographics

Sociodemographics included age at death (less than median age of 62 years/above the median age), highest education (primary or lower/secondary/above secondary), and religion (Christianity/Islam/other religions, including Buddhism, Taoism, Hinduism, and Sikhism/free thinker or no religious affiliation).

Healthcare Utilization

Number of hospital admissions and length of hospital stay were assessed using billing records. Billing records from the last year of life were determined based on date of admission and date of death. Use of palliative/hospice care since diagnosis was assessed from survey self-report.

Place of Death

Place of death (home, hospital, hospice/care home) was determined from medical records and caregiver self-reports.

Statistical Analysis

We analyzed data of patients who died between September 2016 and December 2019 and who had answered at least 1 survey during their last year of life. Time axis was represented as time prior to death (in months, 0–12 months).

Group-based multitrajectory modeling was used to assess the heterogeneity in patterns of change in the 4 considered dimensions of suffering over time. Group-based trajectory modeling (GBTM) is a statistical method that identifies latent groups of patients sharing similar trajectories over time for a particular outcome of interest.^{45,46} Group-based multitrajectory modeling, an extension of GBTM, allowed us to model the trajectories of the 4 dimensions of suffering jointly.⁴⁷

We modeled psychological, spiritual, and physical suffering scores assuming a censored normal distribution and identity link, and functional suffering score using a Poisson distribution and link. Because the number of trajectories and the apt polynomial function (ie, intercept, linear, quadratic, cubic, quartic, quintic) of the trajectory for each suffering dimension were not known a priori, we systematically

tested a series of model specifications, varying the number of trajectories and the polynomial function of the trajectory for each suffering dimension, to select the model with the best fit. We considered Bayesian information criterion (BIC), value of trajectory membership probability (at least 5%), and value of average posterior probability (threshold, 0.7) to choose optimal number of trajectories, aiming for parsimony in the number of trajectories.⁴⁵ For determining the best-fitting polynomial functional of the trajectory for each suffering dimension within a specified number of trajectories, we first specified a quintic (order of 5) polynomial function, and then moved down sequentially by an order of 1 if the specified function was not significant.

We assessed sociodemographic predictors (age, education, and religion) of membership of delineated trajectories. We assessed the association of trajectories (independent variable) with number of hospital admissions and length of hospital stay during the last year of life using negative binomial regressions; with having ever used palliative/hospice care using logistic regression; and with place of death (home/hospice or care home/hospital) using a multinomial logistic regression. Models controlled for patients' age at death, gender, education, and religion.

As a sensitivity analysis, we conducted group-based multitrajectory modeling with the analytical sample restricted to patients with complete information (ie, no missing survey after recruitment and in the 12 months before death) on all 4 suffering outcomes. We determined the proportion of patients classified into similar trajectories in the main and sensitivity analyses.

Results

Among the 600 patients who participated in COMPASS, 354 (59.0%) died during the study period (supplemental eFigure 1, available with this article at JNCCN.org). Among them, 345 (97%) patients answered at least 1 survey during their last year of life, thus forming the analysis cohort for this study. The distribution of missing data are presented in supplemental eTable 1.

Details of patient demographics, healthcare utilization, and place of death are provided in Table 1. To determine the appropriate number of trajectories and shape for each trajectory therein, we fitted 40 models (with no covariates). From these, we selected a model with 5 trajectories (BIC, $-10,574.38$; average posterior probabilities of trajectory membership, 0.88–0.97). We named these distinct trajectories as: (1) persistently low suffering, (2) slowly increasing suffering, (3) predominantly spiritual suffering, (4) rapidly increasing suffering, and (5) persistently high suffering (Figure 1).

Among all the trajectories, patients with the persistently low suffering trajectory (47%) reported the lowest level of psychological and physical suffering, which

Table 1. Patient Characteristics

Characteristic	n (%)
Total, N	345
Demographic characteristics	
Age at death (range, 27–90), median [SD], y	62 [10.6]
Highest educational attainment	
Primary or lower	147 (42.6)
Secondary	113 (32.8)
Above secondary	85 (24.6)
Religion	
Christianity	75 (21.7)
Islam	60 (17.4)
Others ^a	170 (49.3)
No religious affiliation	40 (11.6)
Cancer type	
Gastrointestinal	103 (29.9)
Genitourinary/Gynecologic	62 (18.0)
Respiratory	98 (28.4)
Breast and others	82 (23.8)
Suffering dimensions at the beginning of the last year of life, mean [SD]	
Psychological suffering (range, 0–39)	6.6 [6.0]
Spiritual suffering (range, 0–43)	11.2 [8.3]
Physical suffering (range, 0–29)	7.0 [6.2]
Functional suffering (range, 0–5)	0.4 [0.7]
Healthcare utilization during last year of life ^b	
Number of hospital admissions (range, 0–14; median, 3), mean [SD]	3.2 [2.3]
Hospital LoS, d (range, 0–122d; median, 18), mean [SD]	23.3 [21.7]
Had >1 ED visit	170 (51.0)
Place of death ^c	
Hospital	167 (62.3)
Home	67 (25.0)
Hospice/Care home	34 (12.6)
Ever used palliative/hospice care service	103 (29.9)

Abbreviations: ED, emergency department; LoS, length of stay.

^aIncluding Buddhism/Taoism/Hinduism/Sikhism.

^bUsing subsample of participants who died before October 2019 (n=333).

^cUsing subsample of participants with available information on place of death (n=268).

increased only slightly through the last year of life. Patients' spiritual suffering also remained low throughout, and their functional suffering increased slightly in the last 2 months of life.

Patients with slowly increasing suffering (14%) had relatively low levels of physical, psychological, spiritual, and functional suffering early in the last year of life, but these slowly increased over the year. Deterioration in functional suffering was more marked in the latter half of the last year of life. They were more likely to have ever used palliative/

Figure 1. Trajectories of psychological, spiritual, physical, and functional suffering during the last year of life (N=345).

hospice care than patients with persistently low suffering (Table 2).

Patients with predominantly spiritual suffering (21%) experienced low functional but high spiritual suffering throughout the last year of life. Their physical and psychological suffering increased slowly through the year. Compared with having persistently low suffering, age ≤ 62 years at death was associated with a higher likelihood of having this trajectory, and being affiliated with any religion versus having no religious affiliation was linked with a lower likelihood (Tables 2 and 3).

Rapidly increasing suffering (12%) denoted a rapid increase in physical, psychological, and spiritual suffering through the last year of life, along with a rapid increase in functional suffering in the last 3 months. Having secondary (high school) education increased the likelihood of patients having this trajectory compared with persistently low suffering. Patients with this trajectory were likely to have more hospital admissions, a longer hospital stay, and to have ever used palliative/hospice care versus those with persistently low suffering (Tables 2 and 3).

The trajectory with the least proportion of patients—persistently high suffering (6%)—comprised those with relatively high psychological and spiritual suffering early

in the last year of life, which persisted throughout the year. Their physical and functional suffering also increased rapidly through the year. Patients with this trajectory also experienced longer hospital stay, were more likely to have ever used palliative/hospice care, and were more likely to die in hospice versus those with persistently low suffering (Tables 3 and 4).

Sensitivity Analysis (n=207)

The 5-group model had the BIC closet to zero ($-6,945.29$) and the average posterior probability of trajectory membership ranged between 0.89 and 1.0 (supplemental eFigure 2). A total of 77% of patients belonged to similar trajectory groups in the main and complete case analyses.

Discussion

We describe, for the first time, that suffering during the last year of life of patients with a solid metastatic cancer has variable trajectories. Understanding this variation and its relationship to patient demographics, hospitalizations, and place of death is important for efforts to reduce suffering at the end of life among patients with cancer.

Table 2. Predictors of Membership of the Trajectories (N=345)

	Slowly Increasing Suffering ^a		Predominantly Spiritual Suffering ^a		Rapidly Increasing Suffering ^a		Persistently High Suffering ^a	
	Coefficient (SE)	95% CI	Coefficient (SE)	95% CI	Coefficient (SE)	95% CI	Coefficient (SE)	95% CI
Aged ≤62 y at death (median)	0.60 (0.42)	−0.22 to 1.42	1.57 ^b (0.51)	0.58 to 2.56	0.46 (0.53)	−0.58 to 1.51	1.07 ^c (0.65)	−0.20 to 2.34
Highest educational attainment (ref: primary or lower)								
Secondary	0.51 (0.46)	−0.38 to 1.41	−0.04 (0.55)	−1.11 to 1.03	1.25 ^b (0.61)	0.05 to 2.45	1.00 (0.78)	−0.52 to 2.53
Above secondary	0.12 (0.52)	−0.89 to 1.14	−1.14 ^c (0.66)	−2.44 to 0.16	1.20 ^c (0.67)	−0.11 to 2.50	0.61 (0.88)	−1.12 to 2.34
Religion (ref: no religious affiliation)								
Christianity	−0.29 (0.80)	−1.85 to 1.27	−1.89 ^b (0.82)	−3.49 to −0.29	1.84 (1.69)	−1.47 to 5.16	−1.43 (1.05)	−3.49 to 0.63
Islam	0.18 (0.78)	−1.34 to 1.71	−1.76 ^b (0.77)	−3.26 to −0.25	1.59 (1.70)	−1.73 to 4.92	−0.95 (0.93)	−2.78 to 0.87
Other religions ^d	−0.40 (0.81)	−1.98 to 1.18	−3.84 ^b (1.01)	−5.81 to −1.86	1.12 (1.71)	−2.24 to 4.48	−1.97 ^c (1.09)	−4.11 to 0.16

^aReference trajectory: persistently low suffering.^bStatistically significant at the 5% level.^cStatistically significant at the 10% level.^dIncluding Buddhism/Taoism/Hinduism/Sikhism.

Notably, half of our patient sample, with persistently low suffering, reported little or no suffering early in their last year of life. This is consistent with the description of the average trajectory for patients with cancer in the literature.^{13,14} Given that our study was conducted in Singapore, which is a high-income country with a high performing health system and ranking 12th (in a list of 80 countries) on the 2015 Quality of Death Index,⁴⁸ it is likely that the proportion of patients with cancer experiencing persistently low suffering in the last year of life would be lower in many countries with fewer healthcare resources. In Singapore, palliative care services are provided in acute care hospitals (outpatient and inpatient care), subacute

care settings (community hospitals), and hospices (home care, day care, and inpatient care). Patients are referred to these services by their treating physician based on eligibility. Care is provided by multidisciplinary teams, mostly consisting of medical social workers, physicians, nurses, and trained volunteers.^{49–53}

For the remaining half of the patients who were likely to experience suffering in ≥1 dimension early in the last year of life, systematic and frequent monitoring of suffering should be conducted. Given that increase in suffering in 1 dimension does not mirror increase in another, assessment should encompass all dimensions of suffering. For example, patients with predominantly spiritual suffering

Table 3. Association of the Delineated Trajectories With Healthcare Utilization During the Last Year of Life (N=333)

Trajectory	Number of Hospital Admissions ^a (Range, 0–14; Median, 3)			Length of Hospital Stay ^a (Range, 0–122; Median, 18)			Had >1 Emergency Department Visit ^b			Ever Used Palliative/Hospice Care Service ^b		
	Coefficient (SE)	95% CI		Coefficient (SE)	95% CI		Coefficient (SE)	95% CI		Coefficient (SE)	95% CI	
Slowly increasing suffering ^c	0.01 (0.12)	-0.22 to 0.23		0.2 (0.16)	-0.12 to 0.52		0.10 (0.34)	-0.56 to 0.77		1.78 ^d (0.37)	1.05 to 2.51	
Predominantly spiritual suffering ^c	-0.09 (0.11)	-0.30 to 0.13		-0.09 (0.15)	-0.38 to 0.20		-0.62 ^a (0.32)	-1.24 to 0.01		0.39 (0.38)	-0.36 to 1.14	
Rapidly increasing suffering ^c	0.24 ^d (0.12)	0 to 0.47		0.40 ^d (0.18)	0.04 to 0.75		0.53 (0.38)	-0.21 to 1.27		2.02 ^d (0.40)	1.24 to 2.79	
Persistently high suffering ^c	-0.04 (0.17)	-0.38 to 0.30		0.70 ^d (0.24)	0.23 to 1.17		0.48 (0.51)	-0.52 to 1.48		2.65 ^d (0.55)	1.58 to 3.73	

All estimates were adjusted for age at death, sex, highest education, and religion. Subsample of participants who died before October 2019 (n=333).

^aNegative binomial regression.^bLogistic regression.^cRef: persistently low suffering.^dStatistically significant at the 5% level.^eStatistically significant at the 10% level.

Table 4. Association of the Delineated Trajectories With Place of Death (N=268)

	Home ^a (n=67)		Hospice/Care Home ^a (n=34)	
	Coefficient (SE)	95% CI	Coefficient (SE)	95% CI
Slowly increasing suffering ^b	0.26 (0.43)	−0.59 to 1.11	−0.53 (0.82)	−2.13 to 1.07
Predominantly spiritual suffering ^b	0.13 (0.4)	−0.66 to 0.92	0.46 (0.51)	−0.55 to 1.47
Rapidly increasing suffering ^b	0.30 (0.56)	−0.79 to 1.39	0.91 (0.77)	−0.60 to 2.42
Persistently high suffering ^b	−1.23 (1.08)	−3.35 to 0.89	1.27 ^c (0.69)	−0.08 to 2.61

Multinomial logistic regression, adjusting for age at death, gender, highest education, and religion. Subsample of participants with available information on place of death (n=268).

^aRef: hospital (n=167).

^bRef: persistently low suffering.

^cStatistically significant at the 10% level.

who experienced high spiritual suffering but no functional suffering may benefit from support to alleviate spiritual suffering. This group was more likely to comprise patients with no religious affiliation and younger adults (consistent with hypothesis), which explains the high spiritual suffering and low level of functional suffering.^{24–26}

Patients with higher education (indicative of a high socioeconomic status [SES]) were more likely to have the trajectory that denoted high suffering across all dimensions—rapidly increasing suffering. Approximately 31% of health expenditure in Singapore is out-of-pocket.⁵⁴ As a result, patients with high SES may be able to afford and choose to manage their cancer more aggressively than those with low SES, and may inadvertently experience greater suffering. Some previous studies also observe that patients with high SES report greater suffering.^{55,56}

Consistent with the hypothesis, we found that patients having trajectories that denoted the highest extent of suffering across all dimensions (rapidly increasing suffering and persistently high suffering constituting 18% of the sample) had the highest number of hospital admissions and longest hospital stay. The direction of relationship between hospitalizations and suffering is not immediately clear and requires further investigation. Past studies have reported that hospitalizations influence activities of daily living (functional suffering) and physical and psychological suffering during the last year of life, rather than the other way around.^{28,57,58} If confirmed, efforts to reduce hospitalizations during the last year of life can have beneficial effects in terms of reducing patients' suffering.

Last, patients having trajectories with greater psychological, spiritual, and physical suffering than persistently low suffering were more likely to have been referred to a palliative/hospice care service because of their greater levels of suffering.

Our results have clinical implications. We recommend that that healthcare providers systematically and frequently monitor patients with advanced cancer at risk for dying within 1 year to assess their suffering. Monitoring of suffering should be comprehensive across its psycho-

logical, spiritual, physical, and functional dimensions. Patients vulnerable to experiencing greater levels of suffering (younger patients, those with above secondary education, those with no religious affiliation, and those with frequent hospital admissions) warrant closer attention and more frequent monitoring. Hospitalized patients with cancer likely to die within a year and those experiencing suffering in ≥ 1 dimensions should receive a timely referral to palliative care services. Multidisciplinary palliative care teams offer symptom management, psychological and spiritual support, advance care planning, and nursing care.⁵⁹ Evidence suggests that referrals to such care can reduce patients' physical, psychological, and spiritual suffering and prevent acute hospital admissions.^{60–64}

The main strength of our study is that our results are based on prospective longitudinal data with multiple assessments conducted exclusively with patients. In contrast, some previous studies have either used cross-sectional data¹⁴ or relied on both patient and caregiver reports, even though literature suggests that caregivers' reports may not reflect patients' perception of their condition accurately.^{65,66}

Our study has limitations. First, assessments of suffering were conducted every 3 months (maximum, 5 months). More frequent assessments would have enabled us to describe fluctuations in trajectory with greater precision by increasing the sample size at single-month time points during the last year of life. Second, we were unable to extract data regarding hospitalizations and place of death for participants who died between October and December 2019, reducing the sample size for assessing the association of these variables with the delineated trajectories. Nonetheless, we did find meaningful associations. Third, 14% of the patient data during their last year of life was missing, including 49% of the data in the last month. It is possible that the missing data were not at random and that missing observations represented a higher degree of suffering. However, our analytic method uses full-information maximum likelihood to handle missing data. This method includes data from all patients regardless of whether they

had missing information, and the mean and variance of the missing observations for a variable, given the recorded observations of the variables.^{67–69} It is less biased and more efficient than other ways of handling missing data.^{67,70,71} Results from our sensitivity analysis (complete case analysis) also agree with the main analysis. Fourth, differential reporting of suffering between patients from higher and lower levels of education may have been possible.⁷² Fifth, the scale for assessment of functional suffering in our sample has primarily been validated for use among older patients with cancer. Last, our outcome regarding use of palliative/hospice care was self-reported, which may be subject to recall issues. The exact time of referral to these services was also not known.

Future research should further clarify the relationship between suffering and acute hospital admissions, identify whether patients with certain cancer types or clinical characteristics experience trajectories with greater suffering, and confirm the generalizability of our results in different settings and cultural contexts. Additionally, future studies should assess the influence of psychosocial history, past trauma, and current social environment on trajectories of suffering during the last year of life.

Conclusions

Our results show 5 trajectories of suffering based on varying levels of psychological, spiritual, physical, and functional suffering during the last year of life of patients with advanced cancer. We show that these trajectories are associated with patients' hospitalizations, palliative/hospice care use, and their education (indicative of SES), lending further validity to their presence. Understanding this variation can facilitate clinical decisions to timely refer patients to palliative care to reduce their suffering and healthcare costs at the end of life.

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Trajectories of Suffering in the Last Year of Life Among Patients With a Solid Metastatic Cancer

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eFigure 1: COMPASS Participant Flow Diagram

eFigure 2: Trajectories During the Last Year of Life Among Those With Complete Information Prior to Death

eTable 1: Missing Information Prior to Date of Death

eFigure 1. Cost of Medical Care of Patients with Advanced Serious Illness in Singapore (COMPASS) participant flow diagram.

eFigure 2. Trajectories of psychological, spiritual, physical, and functional suffering during the last year of life among those with complete information prior to death (n=207).

eTable 1. Missing Information Prior to Date of Death ^a	
Months From Date of Death	n (%)
≤1	72 (49.0)
2	32 (29.6)
3	18 (16.5)
4	11 (8.7)
5	4 (4.3)
6	13 (12.4)
7	2 (2.0)
8	4 (4.9)
9	5 (5.6)
10	3 (3.8)
11	2 (2.7)
12	1 (1.47)
Total	167 (14.1)

^an=345; number of observations=1,178.