Appendix

Contents

Table 1: Delphi Surveys Domain 1 - General Opioid Prescribing Principles in Palliative and End-of-Life Care: Statements and Responses

Statement	**Round**	**Agreement level; n (%)**						
		Strongly disagree *(or "No")*	Disagree	Neutral	Agree	Strongly agree *(or "Yes" or selected)*	**No. of panellists**	**Consensus (Yes/No)**
Statements on prescription opioid use and safety in patients receiving palliative care:								
Opioids are essential medications for symptom management	1	0 (0)	0 (0)	3 (13)	3 (13)	17 (74)	23	Yes
Everyone has the right to adequate pain management	1	0 (0)	0 (0)	0 (0)	4 (17)	19 (82)	23	Yes
Clinicians can choose not to prescribe opioids for any of their patients	1	6 (26)	2 (9)	3 (13)	6 (26)	6 (26)	23	No
Opioids should only be prescribed by palliative care specialists[A]	1	19 (83)	3 (13)	1 (4)	0 (0)	0 (0)	23	Yes (Disagreement)
Opioid safety does not need to be addressed for patients with prognoses of days to weeks	1	12 (52)	11 (48)	0 (0)	0 (0)	0 (0)	23	Yes (Disagreement)
Opioid safety requires interdisciplinary collaboration (i.e., doctors, nurses, pharmacists)	1	0 (0)	0 (0)	0 (0)	6 (26)	17 (74)	23	Yes
Palliative care physicians should mentor non-palliative care physicians on opioid use for individuals with life-threatening illnesses	1	0 (0)	0 (0)	2 (9)	10 (43)	11 (48)	23	Yes
Opioid prescribing should be part of the practices of all clinicians who care for palliative care patients.	2	1 (5)	0 (0)	0 (0)	3 (14)	18 (82)	22	Yes
Statements around opioid use disorder in patients receiving palliative care and their caregivers:								
Does the importance of IDENTIFYING whether a PATIENT has an opioid use disorder depend on their DIAGNOSIS?	2	21 (95)				1 (5)	22	Yes (Disagreement)
Does the importance of IDENTIFYING whether a PATIENT has an opioid use disorder depend on their PROGNOSIS?	2	18 (82)				4 (18)	22	Yes (Disagreement)
Does the importance of MANAGING a PATIENT'S opioid use disorder (not	2	21 (100)				N/A	22	Yes (disagreement)

symptom management) depend on their DIAGNOSIS?								
Does the importance of MANAGING a PATIENT's opioid use disorder depend on their PROGNOSIS?	2	13 (59)				9 (41)	22	No
Does the importance of IDENTIFYING a CAREGIVER(S) opioid use disorder depend on the patient's PROGNOSIS?	2	20 (91)				2 (9)	22	Yes (disagreement)
Use of the term "pseudoaddiction" in palliative care	2	19 (86)				3 (14)	22	Yes (disagreement)

[A:] The following definition was provided for the panellists: "Palliative care specialists are healthcare professionals who only provide palliative care to patients.

Table 2: Delphi Surveys Domain 2 - Palliative care programmes and opioid safety: Statements and Responses

Statement	**Round**	**Agreement level; n (%)**					**No. of panellists**	**Consensus (Yes/No)**
		Strongly disagree *(or "No")*	Disagree	Neutral	Agree	Strongly agree *(or "Yes" or Selected)*		
Palliative care training programmes should provide mandatory education on the following topics:								
Opioid prescribing (i.e., opioid choice, dosing, adverse effects)	1	0 (0)	0 (0)	0 (0)	1 (4)	22 (96)	23	Yes
Pseudo-addiction, which is "an iatrogenic syndrome where a patient displays aberrant behavior developing as a result of inadequate pain management"[A]	1	2 (9)	2 (9)	1 (4)	5 (22)	13 (57)	23	No
Concept known as "pseudoaddiction"[A]	2	4 (18)	3 (14)	6 (27)	6 (27)	3 (14)	22	No
Chemical coping with opioids, which is "the use of opioids to cope with emotional distress and is characterized by inappropriate and/or excessive opioid use"[B]	1	0 (0)	0 (0)	0 (0)	4 (17)	19 (83)	23	Yes
Opioid use disorders identification, assessment and treatment	1	0 (0)	0 (0)	0 (0)	1 (4)	22 (96)	23	Yes
Urine drug tests (i.e., result interpretation)	1	0 (0)	0 (0)	0 (0)	7 (30)	16 (70)	23	Yes
Opioid overdose identification, assessment and treatment	1	0 (0)	0 (0)	1 (4)	2 (9)	20 (87)	23	Yes
Naloxone administration and monitoring	1	0 (0)	0 (0)	0 (0)	5 (22)	18 (78)	23	Yes
Motivational interviewing to help manage opioid use disorders	1	0 (0)	0 (0)	2 (9)	4 (17)	17 (74)	23	Yes
Chronic pain management	1	0 (0)	0 (0)	1 (4)	7 (30)	15 (65)	23	Yes
Healthcare institutions that provide palliative care (inpatients and/or outpatients) should implement and encourage use of the following supportive measures that promote opioid safety:								
Opioid prescription monitoring programmes	1	0 (0)	1 (4)	2 (9)	6 (26)	14 (61)	23	Yes
Opioid stewardship programmes "…coordinate interventions designed to improve, monitor and evaluate the use of opioids in order to support and protect human health."[C]	1	0 (0)	0 (0)	1 (4)	7 (30)	15 (65)	23	Yes
Quality improvement programmes to reduce opioid-related adverse events	1	0 (0)	0 (0)	0 (0)	6 (26)	17 (74)	23	Yes
Data collection on emergency department visits related to aberrant opioid medication taking behaviors in patients receiving palliative care	1	0 (0)	0 (0)	1 (4)	9 (39)	13 (57)	23	Yes
Data collection on emergency department visits related to opioid use disorders in patients receiving palliative care	1	0 (0)	0 (0)	0 (0)	8 (35)	15 (65)	23	Yes

Data collection on in-patient aberrant opioid medication taking behaviors in patients receiving palliative care	1	0 (0)	0 (0)	2 (9)	8 (35)	13 (56)	23	Yes
Data collection on in-patient admissions related to opioid use disorders in patients receiving palliative care	1	0 (0)	0 (0)	0 (0)	7 (30)	16 (70)	23	Yes
Data collection on opioid overdoses of patients receiving palliative care	1	0 (0)	0 (0)	0 (0)	5 (22)	18 (78)	23	Yes
Access to pharmacologic opioid use disorder treatments (i.e., methadone, buprenorphine-naloxone)	1	0 (0)	1 (4)	0 (0)	4 (17)	18 (78)	23	Yes
Secure medication drop boxes for disposal of unused opioids should be established in hospitals	1	0 (0)	0 (0)	2 (9)	6 (26)	15 (65)	23	Yes
Recommend the use of medication lock boxes for storage of opioids at home	1	0 (0)	0 (0)	0 (0)	8 (35)	15 (65)	23	Yes
Patient experiences with symptom management	2	0 (0)	0 (0)	2 (10)	19 (90)	0 (0)	22	Yes
Palliative care clinical services (in-patients and out-patients) should include access to the following medical specialties to jointly manage patients who are high-risk of aberrant opioid medication taking behaviors, opioid use disorders and overdose:								
Addiction medicine	1	0 (0)	0 (0)	0 (0)	6 (26)	17 (74)	23	Yes
Psychiatry	1	0 (0)	0 (0)	2 (9)	6 (26)	15 (65)	23	Yes
Pain medicine	1	0 (0)	1 (4)	1 (4)	8 (35)	13 (57)	23	Yes

[A]: The following reference was provided to the panellists: Kwon J, Tanco 8, Hui D, Reddy A and Bruera E. Chemical coping versus pseudoaddiction in patients with cancer pain. Palliative and Supportive Care (2014), 12, 413–417.

[B]: The following reference was provided to the panellists: Kwon J, Hui and Bruera E. A Pilot Study To Define Chemical Coping in Cancer Patients Using the Delphi Method. Journal of Palliative Medicine. (2015), 18(8), 703-706.

[C]: The following reference was provided to the panellists: https://www.ismp-canada.org/opioid_stewardship/

Table 3: Delphi Surveys Domain 3 – Patient and Caregiver Assessments: Statements and Responses

Statement	Round	Agreement level; n (%)					No. of panellists	Consensus (Yes/No)
		Strongly disagree *(or "No")*	Disagree	Neutral	Agree	Strongly agree *(or "Yes" or selected)*		
Prior to prescribing opioids for pain or dyspnoea management, each patient receiving palliative care should receive an assessment that includes the following:								
Type of pain (i.e., nociceptive and/or neuropathic pain)	1	0 (0)	0 (0)	0 (0)	1 (4)	22 (96)	23	Yes
Etiology of pain or dyspnoea	1	0 (0)	0 (0)	0 (0)	2 (9)	21 (91)	23	Yes
History of opioid use and efficacy	1	0 (0)	0 (0)	0 (0)	1 (4)	22 (96)	23	Yes
Patient's functional status	1	0 (0)	0 (0)	0 (0)	2 (9)	21 (91)	23	Yes
Dependence on caregivers for medication administration	1	0 (0)	0 (0)	0 (0)	4 (17)	19 (83)	23	Yes
Housing instability (i.e., homelessness)	1	0 (0)	0 (0)	0 (0)	5 (22)	18 (78)	23	Yes
Young children that reside or visit patient's home	1	0 (0)	0 (0)	1 (4)	5 (22)	17 (74)	23	Yes
History of psychiatric condition	1	0 (0)	0 (0)	0 (0)	6 (26)	17 (74)	23	Yes
History of substance use	1	0 (0)	0 (0)	0 (0)	3 (13)	20 (87)	23	Yes
Active substance use	1	0 (0)	0 (0)	0 (0)	1 (4)	22 (96)	23	Yes
Financial support and stability	1	0 (0)	0 (0)	2 (9)	9 (39)	12 (52)	23	Yes
Renal impairment	1	0 (0)	0 (0)	1 (4)	3 (13)	19 (83)	23	Yes
Liver impairment	1	0 (0)	0 (0)	1 (4)	3 (13)	19 (83)	23	Yes
Cognitive impairment	1	0 (0)	0 (0)	0 (0)	2 (9)	21 (91)	23	Yes
Caregiver history of substance use	1	0 (0)	0 (0)	1 (4)	7 (30)	15 (65)	23	Yes
Urine drug tests should be done for all palliative care outpatients receiving opioids at their first visit and subsequent follow-up visits.	1	1 (4)	6 (26)	5 (21)	7 (30)	4 (17)	23	No
If a person is receiving palliative care in an OUTPATIENT CLINIC, urine drug tests should be done for:								
All patients	2					11 (50)	22	No
Patients who are at risk						10 (45)		
No patients						1 (5)		
What frequency should urine drugs be performed in the OUTPATIENT CLINIC setting:[c]								
Randomly	2					2 (10)	20	No
Initial consultation and then randomly						10 (50)		
Every 1 to 3 months						0 (0)		
Every time an opioid prescription is written						0 (0)		
As needed based on clinician's discretion						8 (40)		
If a person is receiving palliative care at HOME, urine drug tests should be done for:								
All patients	2					7 (32)	22	No
Patients who are at risk						14 (64)		
No patients						1 (5)		

What frequency should urine drugs be performed in the HOME setting:								
Randomly	2					4 (44)	9	No
Initial consultation and then randomly						5 (56)		
Every 1 to 3 months						0 (0)		
Every time an opioid prescription is written						0 (0)		
As needed based on clinician's discretion						12 (57)		
If a person is receiving palliative care in a PALLIATIVE CARE UNIT (e.g., hospice), urine drug tests should be done for:								
All patients	2					3 (14)	22	No
Patients who are at risk						16 (73)		
No patients						3 (14)		
What frequency should urine drugs be performed in a PALLIATIVE CARE UNIT:								
Randomly	2					4 (21)	19	No
Initial consultation and then randomly						4 (21)		
Every 1 to 3 months						0 (0)		
Every time an opioid prescription is written						0 (0)		
As needed based on clinician's discretion						11 (58)		
Are there additional biochemical investigations that you recommend should be done for palliative care outpatients?	1	13 (57)	N/A	N/A	N/A	10 (43)	23	No
Rate your level of agreement that each of these actions represent/constitute as aberrant opioid medication taking behaviors in individuals with life-threatening illnesses:								
Receiving twelve or more opioid prescriptions in a year	1	8 (35)	10 (43)	4 (17)	1 (4)	0 (0)	23	No
	2	11 (50)	10 (45)	1 (5)	0 (0)	0 (0)	22	Yes (disagreement)
Frequent requests for early refills of opioid prescriptions (i.e., 3 or more requests in a 6-month period)	1	0 (0)	3 (13)	7 (30)	9 (39)	4 (17)	23	No
	2	0 (0)	3 (14)	3 (14)	13 (59)	3 (14)	22	No
Filling opioid prescriptions at multiple (2 or more) pharmacies	1	2 (9)	3 (13)	3 (13)	11 (47)	4 (17)	23	No
	2	2 (9)	2 (9)	5 (23)	11 (50)	2 (9)	22	No
Increasing frequency of hospital visits that result in increases in opioid doses	1	3 (13)	6 (26)	8 (35)	3 (13)	3 (13)	23	No
	2	1 (5)	11 (50)	6 (27)	4 (18)	0 (0)	22	No
High number of outpatient psychiatric visits (2 or more in a year)	1	8 (35)	5 (21)	4 (17)	6 (26)	0 (0)	23	No
	2	4 (18)	11 (50)	4 (18)	3 (14)	0 (0)	22	No
Increasing doses of opioids	1	4 (17)	5 (22)	11 (48)	3 (13)	0 (0)	23	No
	2	1 (5)	13 (59)	5 (23)	3 (14)	0 (0)	22	No
Reports of lost or stolen prescriptions	1	0 (0)	0 (0)	1 (4)	9 (39)	13 (57)	23	Yes
	2	0 (0)	0 (0)	0 (0)	13 (59)	9(41)	22	Yes
Observable intoxication or withdrawal in clinical setting	1	0 (0)	1 (4)	0 (0)	9 (39)	13 (57)	23	Yes
Insistence on initiation of opioids, higher doses and/or quantities of opioids	1	0 (0)	3 (13)	6 (26)	11 (48)	3 (13)	23	No
	2	0 (0)	2 (9)	1 (5)	15 (68)	4 (18)	22	Yes
	1	4 (17)	11 (48)	7 (30)	1 (4)	0 (0)	23	No

Failure to respond to opioids for pain or dyspnoea management	2	3 (14)	12 (55)	5 (23)	2 (9)	0 (0)	22	No
Observed or reported opioid hoarding	1	0 (0)	2 (9)	3 (13)	13 (57)	5 (22)	23	No
	2	0 (0)	0 (0)	3 (14)	16 (73)	3 (14)	22	Yes
Self-titration of opioids doses without clinical approval	1	0 (0)	1 (4)	3 (13)	13 (57)	6 (26)	23	Yes
Observations or reports of prescription forgery	1	0 (0)	0 (0)	0 (0)	0 (0)	23 (100)	23	Yes
Resisting changes to opioids despite adverse effects	1	1 (4)	0 (0)	0 (0)	16 (70)	6 (26)	23	Yes
Reported theft or “borrowing” of opioids	1	0 (0)	0 (0)	0 (0)	9 (39)	14 (61)	23	Yes
Route altercation of prescribed opioids	1	0 (0)	0 (0)	0 (0)	2 (9)	21 (91)	23	Yes
The following items should be used to identify patients with life threatening illnesses who are at high risk of aberrant opioid medication taking behaviors:								
Young age (18 to 24 years old)	1					13 (57)	23	No
Older age (65 years or older)						1 (4)		Yes (disagreement)
Alcoholism using validated tools (i.e., CAGE, Alcohol Use Disorders Identification Test)						23 (100)		Yes
Alcohol family history						14 (61)		No
History of tobacco use						9 (39)		No
Current tobacco use						13 (57)		No
History of cannabis use						0 (0)		Yes (disagreement)
Current cannabis use						0 (0)		Yes (disagreement)
History of non-medical drug use (i.e., cocaine)						22 (96)		Yes
Current non-medical drug use						23 (100)		Yes
History of injection drug use						22 (96)		Yes
Current injection drug use						23 (100)		Yes
Depression						12 (52)		No
Anxiety						12 (52)		No
Personality disorders						15 (65)		No
Somatization						10 (43)		No
Post-traumatic stress						21 (91)		Yes
Sexual abuse history						20 (87)		Yes
Physical abuse history						15 (65)		No
Criminal record(s) related to substance use disorders						23 (100)		Yes
Premorbid chronic pain						8 (35)		No
Unstable housing						13 (57)		No
Financial instability						7 (30)		No
Morphine equivalent daily dose ≥ 90mg	2	6 (27)	5 (23)	7 (32)	4 (18)	0 (0)	22	No

Past history of use of prescription medications not as prescribed	2	0 (0)	0 (0)	1(5)	15 (68)	6(27)	22	Yes
Family history of problematic substance use	2	0 (0)	0 (0)	2 (9)	18 (82)	2(9)	22	Yes
Cannabis use (past or current)	2	1 (5)	5 (23)	4 (18)	10 (45)	2 (9)	22	No
How do you identify patients with life threatening illnesses who have opioid use disorders?								
Clinical assessment (e.g. History)	1					23 (100)	23	Yes
Diagnostic and Statistical Manual Mental Disorders, fifth edition, opioid use disorder criteria						12 (52)		No
Screening tools						15 (65)		No
Opioid overdose is clinically defined as loss of consciousness and respiratory depression. The following items should be used to identify patients with life threatening illnesses who are at high risk of opioid overdose:								
Older age (65 years older and greater)	1					13 (57)	23	No
Renal impairment						18 (78)		No
Liver impairment						14 (61)		No
Benzodiazepine use (i.e. lorazepam)						22 (96)		Yes
Muscle relaxant use (i.e. cyclobenzaprine)						16 (70)		No
Sleep medication/hypnotic use (i.e. zopiclone)						17 (74)		No
Alcohol use						22 (96)		Yes
Methadone use for management of pain[A]						15 (65)		No
Methadone use for management of opioid use disorder						12 (52)		No
Opioid naïve patients						16 (70)		No
Untreated psychiatric conditions (i.e. schizophrenia)						14 (61)		No
History of obstructive sleep apnea						17 (74)		No
History of previous opioid overdose						22 (96)		Yes
Receiving opioid prescriptions two or more physicians						20 (87)		Yes
Filling opioid prescriptions at two or more pharmacies						16 (70)		No
History of substance use disorder						19 (83)		Yes
Active substance use disorder						22 (96)		Yes
Urine drug tests	2	0 (0)	1 (5)	3 (10)	11 (52)	7 (33)	22	Yes
Screening tools	1	17 (77)				6 (26)	23	No
Opioid Risk Tool	2	0 (0)	4 (19)	2 (10)	11 (52)	4 (19)	21	No
CAGE Alcoholism Screen	2	1 (5)	3 (15)	4 (20)	11 (55)	1 (5)	20	No
CAGE-AID Drug Screen	2	0 (0)	4 (20)	7 (35)	8 (40)	1 (5)	20	No
Screener and Opioid Assessment for Patients with Pain (SOAPP)	2	0 (0)	7 (35)	6 (30)	6 (30)	1 (5)	20	No
Diagnostic Statistical Manual fifth edition, opioid use disorder criteria	2	1 (5)	3 (16)	5 (26)	7 (37)	3 (16)	19	No

Morphine Equivalent Daily Dose 90mg and greater	2	3 (15)	3 (15)	2 (10)	9 (45)	3 (15)	20	No
Is there a difference in risk factors for problematic opioid use between patients with life-threatening illnesses and those with chronic non-cancer pain?	2	17 (77)				5 (23)	22	No
The following SCREENING TOOLS [should] be used to IDENTIFY PATIENTS with life threatening illnesses who are at HIGH RISK of either ABERRANT OPIOID MEDICATION TAKING BEHAVIORS or OPIOID USE DISORDER:[D]								
Alcohol Use Disorders Identification Test (AUDIT)	2	0 (0)	2 (10)	11 (55)	3 (15)	4 (20)	20	No
CAGE alcoholism screen	2	0 (0)	3 (14)	1 (5)	14 (67)	3 (14)	21	Yes
CAGE-AID drug screen	2	0 (0)	3 (14)	8 (38)	7 (33)	3 (14)	21	No
Drug Abuse Screening Tool (DAST)	2	0 (0)	4 (19)	10 (48)	4 (19)	3 (14)	21	No
Opioid Risk Tool (ORT)	2	0 (0)	2(9)	2 (9)	12 (55)	6 (27)	22	Yes
Rapid Opioid Dependence Screen (RODS)	2	0 (0)	3 (15)	14 (70)	1 (5)	2 (10)	20	No
Screener and Opioid Assessment for Patients with Pain (SOAPP)	2	0 (0)	6 (30)	9 (45)	3 (15)	2 (10)	20	No
SOAPP-Revised (R)	2	0 (0)	5 (24)	7 (33)	7 (33)	2 (10)	21	No
SOAPP-Short Form (SF)	2	0 (0)	3 (15)	11 (55)	5 (25)	1 (5)	20	No
Urine drug tests	2	0 (0)	1 (5)	3 (15)	7 (35)	9 (45)	20	Yes
When should the previously mentioned tools be used?								
Before starting opioid treatment	2					18(82)	22	Yes
While on opioid therapy						1(5)		No
Only when the physician is concerned						3(14)		No
None of the above						0 (0)		No
The following investigations should be performed for ALL palliative care patients seen in OUTPATIENT CLINIC setting who will be prescribed opioids:								
Sleep studies	2	8 (36)	6 (27)	6 (27)	2 (9)	0 (0)	22	No
Electrocardiogram	2	8 (36)	2 (9)	9 (41)	3 (14)	0 (0)	22	No
Liver function tests (e.g., INR)	2	6 (27)	4 (18)	6 (27)	5 (23)	1 (5)	22	No
Liver enzymes (e.g., AST)	2	4 (18)	4 (18)	7 (32)	6 (27)	1 (5)	22	No
Renal function	2	2 (9)	2 (9)	4 (18)	12 (55)	2 (9)	22	No
Blood alcohol levels	2	5 (23)	5 (23)	9 (41)	2 (9)	1 (5)	22	No
Urine drug tests that include ethyl glucuronide to improve detection of alcohol use	2	4 (18)	5 (23)	5 (23)	6 (27)	2 (9)	22	No
Albumin	2	3 (14)	3 (14)	13 (59)	3 (14)	0 (0)	22	No
Calcium	2	3 (14)	3 (14)	12 (55)	4 (18)	0 (0)	22	No
The following investigations should be performed for ALL palliative care patients seen in INPATIENT setting who will be prescribed opioids:								
Sleep studies	2	9 (41)	3 (14)	8 (36)	2 (9)	0 (0)	22	No
Electrocardiogram	2	8 (36)	3 (14)	7 (32)	4 (18)	0 (0)	22	No
Liver function tests (e.g., INR)	2	8 (36)	3 (14)	5 (23)	5 (23)	1 (5)	22	No
Liver enzymes (e.g., AST)	2	7 (32)	3 (14)	4 (18)	7 (32)	1(5)	22	No
Renal function	2	4(18)	0 (0)	6 (27)	9 (41)	3 (14)	22	No
Blood alcohol levels	2	8 (36)	4 (18)	6 (27)	3 (14)	1 (5)	22	No

Urine drug tests that include ethyl glucuronide to improve detection of alcohol use	2	7 (32)	3 (14)	6 (27)	5 (23)	1 (5)	22	No
Albumin	2	5 (23)	2 (9)	11 (50)	4 (18)	0 (0)	22	No
Calcium	2	4 (18)	2 (9)	11 (50)	5 S(23)	0 (0)	22	No
Caregivers of palliative care patients who are receiving opioids for symptom management should be screened for:								
Potential or active aberrant opioid medication taking behaviors	1	0 (0)	0 (0)	10 (43)	7 (30)	6 (26)	23	No
Opioid use disorders	1	0 (0)	0 (0)	12 (52)	6 (26)	5 (21)	23	No
Risk of opioid overdose	1	0 (0)	1 (4)	12 (52)	8 (34)	2 (9)	23	No
"CAREGIVER(S)" of patients on opioid therapy should be assessed for aberrant opioid medication taking behaviors, opioid use disorder and opioid overdose?	2	0 (0)	0 (0)	3 (14)	13 (62)	5 (24)	21	Yes
Taking a comprehensive substance use history is recommended for assessing caregiver(s) for aberrant opioid medication taking behaviors, opioid use disorder and opioid disorder	2	0 (0)	0 (0)	4 (19)	12(57)	5 (24)	21	Yes

[A]: The following reference was provided to the panellists: Baumblatt, J. A. G., Wiedeman, C., Dunn, J. R., Schaffner, W., Paulozzi, L. J., & Jones, T. F. (2014). High-risk use by patients prescribed opioids for pain and its role in overdose deaths. *JAMA internal medicine*, *174*(5), 796-801.

Table 4: Delphi Surveys Domain 4: Opioid Prescribing Practices: Statements and Responses

Statement	Round	Agreement level; n (%)					No. of panellists	Consensus (Yes/No)
		Strongly disagree *(or "No")*	Disagree	Neutral	Agree	Strongly agree *(or "Yes" or selected)*		
Clinicians should not prescribe opioid doses more than 90mg morphine equivalent daily dose[A]	1	12 (52)	5 (21)	4 (17)	2 (9)	0 (0)	23	No
	2	13 (62)	7 (33)	0 (0)	1 (5)	0 (0)	21	Yes (Disagreement)
Clinicians should provide a maximum of one-month supply of opioids with each prescription	1	0 (0)	1 (4)	1 (4)	14 (61)	7 (30)	23	Yes
All patients should complete written opioid treatment agreements describing their responsibilities with respect to the use of prescribed opioids	1	1 (4)	4 (17)	4 (17)	5 (21)	9 (39)	23	No
	2	1 (5)	4 (19)	1 (5)	11 (52)	4 (19)	21	No
Each patient should have only one opioid prescriber	1	1 (4)	1 (4)	1 (4)	8 (35)	12 (52)	23	Yes
Each patient should have only one pharmacy	1	1 (5)	3 (14)	1 (5)	6 (27)	11 (50)	22	No
	2	0 (0)	1 (5)	4 (19)	13 (62)	3 (14)	21	No
Physicians should preferentially prescribe tamper or abuse resistant medications	1	2 (9)	9 (39)	6 (26)	5 (22)	1 (4)	23	No
	2	1 (5)	11 (52)	5 (24)	4 (19)	0 (0)	21	No
Physicians should have access to electronic medication bottle technology to monitor patients' compliance with prescribed opioid use	1	0 (0)	2 (9)	11 (48)	5 (22)	5 (22)	23	No
	2	0 (0)	2 (10)	11 (52)	8 (38)	0 (0)	21	No
Physicians should have access to regional prescription monitoring programmes to track previously dispensed prescriptions	1	0 (0)	0 (0)	1 (4)	2 (9)	20 (87)	23	Yes
If the primary prescriber of opioids is absent, detailed pain management plans and documentation should be provided to the covering clinician	1	0 (0)	0 (0)	0 (0)	6 (26)	17 (74)	23	Yes
Patients who are at high risk aberrant opioid-related behaviors, opioid use disorders and/or overdose should receive daily to weekly dispensing of opioids	1	0 (0)	0 (0)	4 (17)	6 (26)	13 (57)	23	Yes
Patients with symptom management concerns and active aberrant opioid-related behaviors, opioid use disorders and/or history of overdose be jointly managed with an addictions medicine specialist	1	0 (0)	0 (0)	5 (22)	12 (52)	6 (26)	23	No
	2	0 (0)	1 (5)	3 (14)	14 (67)	3 (14)	21	Yes
Patients with symptom management concerns and active aberrant opioid-related behaviors, opioid use disorders and/or history of overdose should be jointly managed with a psychiatrist	1	0 (0)	2 (9)	13 (57)	6 (26)	2 (9)	23	No
	2	1 (5)	2 (10)	11 (52)	6 (29)	1 (5)	21	No

Access to addiction medicine in all health facilities that provide palliative care services	2	3 (14)				18 (86)	21	Yes
Access to addiction medicine should be available in health facilities as:								
Telemedicine service	2					3 (14)	21	No
Inpatient consultation service						4 (19)		No
Outpatient clinic						6 (29)		No
Inpatient unit						12 (57)		No

[A]: The following reference was provided to the panellists: Busse, J. W., Craigie, S., Juurlink, D. N., Buckley, D. N., Wang, L., Couban, R. J., ... & Guyatt, G. H. Guideline for opioid therapy and chronic noncancer pain. CMAJ (2017), *189* (18), E659-E666.

Table 5: Delphi Surveys Domain 5: Opioid Monitoring Practices: Statements and Responses

Statement	**Round**	**Agreement level; n (%)**						
		Strongly disagree *(or "No")*	Disagree	Neutral	Agree	Strongly agree *(or "Yes" or selected)*	**No. of panellists**	**Consensus (Yes/No)**
After initiating opioids or dose adjustment for symptom management, the following measures should be assessed and documented to monitor opioid use and safety in palliative care patients:								
Analgesic benefit using a validated scale (i.e., Edmonton Symptom Assessment System)	1	0 (0)	1 (4)	3 (13)	6 (26)	13 (57)	23	Yes
Activity level	1	0 (0)	0 (0)	1 (4(	4 (17)	18 (78)	23	Yes
Adverse effects	1	0 (0)	0 (0)	1 (4)	2 (9)	20 (87)	23	Yes
Aberrant drug-related behaviors (i.e. requests for early refills; prescription forgery)	1	0 (0)	0 (0)	0 (0)	3 (13)	20 (87)	23	Yes
Adherence to clinician instructions for opioid use for symptom management	1	0 (0)	0 (0)	0 (0)	6 (26)	17 (74)	23	Yes
Involvement of patient's support network to ensure compliance with the opioid prescription regimen	1	0 (0)	0 (0)	2 (9)	11 (48)	10 (43)	23	Yes
Palliative care patients receiving palliative care who are at high-risk or have active aberrant opioid medication taking behaviors should be assessed more frequently than low-risk individuals.	1	0 (0)	0 (0)	0 (0)	2 (9)	21 (91)	23	Yes
Palliative care patients who are at high-risk or have active opioid use disorders should be assessed more frequently than low-risk individuals.	1	0 (0)	0 (0)	0 (0)	4 (17)	19 (83)	23	Yes
Palliative care patients who are at high-risk of opioid overdose should be assessed more frequently than low-risk individuals.	1	0 (0)	0 (0)	0 (0)	4 (17)	19 (83)	23	Yes
Clinicians should perform regular pill counts to ensure compliance with instructions for opioid use and detect under- or over-use.	1	1 (4)	4 (17)	4 (17)	11 (48)	3 (13)	23	No
Pill counts can be used to ensure compliance with opioid use instructions and detect under- or over-use. Which of the following people should receive pill counts?								
All patients on opioid therapy	2					4 (19)	21	No
People with observed aberrant opioid medication taking behaviors						4 (19)		No
People with active opioid use disorders						1 (5)		No
People with history of opioid use disorders						0 (0)		No
People who have previously overdosed on opioids						0 (0)		No

People who are suspected of diverting their opioids						3 (14)		No
People observed to be diverting their opioids						6 (29)		No
Other						3 (14)		No
How often should pill counts be performed?								
Randomly	2					8 (38)	21	No
With each opioid prescription						4 (19)		No
Clinician discretion						7 (33)		No
Scheduled basis						0 (0)		No
Other						2 (10)		No
Who should perform pill counts for INPATIENTS receiving palliative care in institutions (e.g. acute care, hospice)?								
Physicians	2					2 (10)	21	No
Nurses						10 (48)		No
Caregiver(s)						0 (0)		No
Pharmacist						14 (67)		No
Other						2 (10)		No
Who should perform pill counts for OUTPATIENTS in the community (e.g. clinics, home)?								
Physicians	2					10 (48)	21	No
Nurses						17 (81)		Yes
Caregiver(s)						2 (10)		No
Pharmacist						13 (62)		No
Other						2 (10)		No
How often should we monitor palliative care patients who are at high-risk or have active aberrant opioid medication taking behaviors, opioid use disorder or opioid overdose?								
Every week	2					5 (24)	21	No
Every 2 weeks						3 (14)		No
Every month						0 (0)		No
Based on clinician discretion						13 (62)		No
None of the above						0 (0)		No

Table 6: Delphi Surveys Domain 6: Patient and Caregiver Education: Statements and Responses

Statement	Round	Agreement level; n(%)					No. of panellists	Consensus (Yes/No)
		Strongly disagree *(or "No")*	Disagree	Neutral	Agree	Strongly agree *(or "Yes" or selected)*		
Patient Education								
All palliative care patients receiving opioid prescriptions should be educated on the following topics:								
Signs and symptoms of substance use disorders	1	0 (0)	3 (14)	0 (0)	6 (27)	13 (59)	22	Yes
The difference between physical dependence and opioid use disorders	1	0 (0)	0 (0)	3 (14)	7 (32)	12 (55)	22	Yes
Pseudo-addiction, which is "an iatrogenic syndrome where a patient displays aberrant behavior developing as a result of inadequate pain management"	1	4 (18)	4 (18)	4 (18)	4 (18)	6 (27)	22	No
Chemical coping with opioids, which is "the use of opioids to cope with emotional distress and is characterized by inappropriate and/or excessive opioid use"	1	0 (0)	2 (9)	2 (9)	10 (45)	8 (36)	22	Yes
Indications for opioid use	1	0 (0)	0 (0)	0 (0)	5 (23)	17 (77)	22	Yes
Opioid adverse effects	1	0 (0)	0 (0)	0 (0)	3 (14)	19 (86)	22	Yes
Opioid overdose signs and symptoms	1	0 (0)	0 (0)	0 (0)	5 (23)	17 (77)	22	Yes
Naloxone administration	1	0 (0)	3 (14)	4 (18)	5 (23)	10 (45)	22	No
Safe storage of opioids	1	0 (0)	0 (0)	0 (0)	1 (5)	21 (95)	22	Yes
Safe disposal of opioids	1	0 (0)	0 (0)	0 (0)	4 (18)	18 (82)	22	Yes
Opioid withdrawal symptoms	1	0 (0)	1 (5)	1 (5)	5 (23)	15 (68)	22	Yes
Driving/operating machinery	1	0 (0)	0 (0)	0 (0)	4 (18)	18 (82)	22	Yes
Opioid safety education for patients receiving opioid prescriptions should be provided by:								
Formal education session	1					11 (50)	22	No
Consultation with pharmacist						16 (73)		No
Written pamphlet						19 (86)		Yes
Discussion with opioid prescriber						22 (100)		Yes
Patients should receive instructions (written and verbal) to store opioids in locked containers in a secure location.	1	0 (0)	0 (0)	1 (5)	8 (36)	13 (59)	22	Yes
Patients should receive instructions (written and verbal) to return unused medications to pharmacies.	1	1 (5)	1 (5)	1 (5)	3 (14)	16 (73)	22	Yes
All caregivers of patients receiving opioid prescriptions should be educated on the following topics:								
Signs and symptoms of substance use disorders	1	0 (0)	1 (5)	4 (18)	5 (23)	12 (55)	22	No

The difference between physical dependence and opioid use disorders	1	0 (0)	1 (5)	2 (9)	7 (32)	12 (55)	22	Yes
Pseudo-addiction, which is "an iatrogenic syndrome where a patient displays aberrant behavior developing as a result of inadequate pain management"[A]	1	3 (14)	5 (23)	5 (23)	2 (9)	7 (32)	22	No
Chemical coping with opioids, which is "the use of opioids to cope with emotional distress and is characterized by inappropriate and/or excessive opioid use"[B]	1	0 (0)	3 (14)	2 (9)	10 (45)	7 (32)	22	No
Indications for opioid use	1	0 (0)	0 (0)	1 (5)	8 (36)	13 (59)	22	Yes
Opioid adverse effects	1	0 (0)	0 (0)	0 (0)	4 (18)	18 (82)	22	Yes
Opioid overdose signs and symptoms	1	0 (0)	0 (0)	1 (5)	4 (18)	17 (77)	22	Yes
Naloxone administration	1	0 (0)	2 (9)	4 (18)	4 (18)	12 (55)	22	No
Safe storage of opioids	1	0 (0)	0 (0)	0 (0)	3 (14)	19 (86)	22	Yes
Safe disposal of opioids	1	0 (0)	0 (0)	1 (5)	8 (36)	13 (59)	22	Yes
Caregivers should receive instructions (written and verbal) to store opioids in locked containers in a secure location.	1	0 (0)	0 (0)	1 (5)	8 (36)	13 (59)	22	Yes
Caregivers should receive instructions (written and verbal) to return unused medications to pharmacies.	1	1 (5)	1 (5)	1 (5)	6 (27)	13 (59)	22	Yes

[A]: The following reference was provided to the panellists: Kwon J, Tanco 8, Hui D, Reddy A and Bruera E. Chemical coping versus pseudoaddiction in patients with cancer pain. Palliative and Supportive Care (2014), 12, 413–417.

[B]: The following reference was provided to the panellists: Kwon J, Hui and Bruera E. A Pilot Study To Define Chemical Coping in Cancer Patients Using the Delphi Method. Journal of Palliative Medicine. (2015), 18(8), 703-706.

Table 7: Text-Entry Questions and their corresponding questions, number of panellists and actual responses

Domain	Round	Text-Entry Question	Corresponding question ***Required response***	No. of panellists	Responses (No. of panellists)
1	2	**How do you define "pseudoaddiction"?**	After reviewing the Delphi Round 1 comments, do you agree that the term "pseudoaddiction" be used in palliative care? *Yes*	2	• Signs of apparent maladaptive opioid use but which is actually undertreatment of pain. • Patient self escalates medications and asks for early refills due to inadequate relief with prescribed doses.
1	2	**Do you suggest an alternative term to "pseudoaddiction"?**	After reviewing the Delphi Round 1 comments, do you agree that the term "pseudoaddiction" be used in palliative care? *No*	15	• Pain relief seeking behavior (n=1) • Undertreated pain (n=3) • Inadequate analgesia (n=3) • Problematic or high risk use of opioids (n=2) • Apparent problematic (or aberrant) use that resolves or improves with improved pain management (n=1) *5 panellists recommended the use of a description, rather than an alternative term.*
3	1	**How frequently should urine drug tests be done for palliative care outpatients?**	Urine drug tests should be done for all palliative care outpatients receiving opioids at their first visit and subsequent follow up visits *Agree* or *Strongly agree*	11	• Random (n=4) • Every time a prescription is written (n=1) • At least once (n=1) • Physician discretion based on clinical situation (n=2) • Regularly: first visit (n=1), every 3 months (n=2), every 1 to 3 months (n=1), every 6 months to 1 year for low-risk patients (n=1)
3	1	**Please specify.**	Are there additional biochemical investigations that you recommend should be done for palliative care outpatients? *Yes*	9	• Sleep studies (n=1) • Electrocardiogram (n=2) • Liver function tests (n=3) • Renal function (n=3) • Alcohol use screens (n=1) • Blood alcohol concentration (n=1) • Urine drug tests (n=3) • Albumin level (n=1) • Calcium level (n=1)
3	1	**List the screening tools that you use to identify patients with life-threatening illnesses who are at high risk of aberrant opioid**	N/A	23	• Clinical judgement (n=1) • Prescription monitoring programmes (n=2) • Urine drug test (n=3) • Previous admissions to hospital to identify any concerns that were raised (n=1) • Collateral history from family (n=1) • CAGE (n=3)

		medication taking behaviors			• CAGE-AID (n=3) • Family CAGE (n=1) • SOAPP (n=3) • SOAPP-R (n=1) • ORT (n=14) • AUDIT (n=2) • Drug Abuse Screening Tool • Rapid Opioid Dependence Screen • DSM-5 criteria for OUD and other substances • Patient history (n=1) • Past adherence to treatments (n=1) • History of smoking (n=1) • Previous or current history of substance use disorders (n=2) • History of psychiatric illnesses (n=1) • History of incarceration (n=1) • Family history of substance use (n=1)
3	2	**Please specify why.**	Based on the Delphi Round 1 questionnaire responses, the following items were recommended to be used to IDENTIFY patients with life threatening illnesses who are at high risk of aberrant opioid medication taking behaviors: *See Table 4.* Do you agree with the above recommendations? *No.*	4	• Recommend assessing for tobacco use • Change assessment for psychiatric disorders and pre-morbid chronic pain to “strongly recommend” • Some categories overlap [depending on] severity • Do not feel that assessment for criminal record should be a strong recommendation • “…feel age is a strong predictor of risk: addiction is a pediatric illness that extends into adulthood. 90% of all addiction will occur under age of 35 years and 85% under the age of 18 years. I’m not sure why age over 65 years [is] a predictor of aberrancy unless they experiences a substance use disorder in [their] youth].”
3	1	**Please list the screening tools that you use to identify patients with life-threatening illnesses who have opioid use disorders**	How do you identify patients with life-threatening illnesses who have opioid use disorders? *Screening tools*	14	• Urine drug tests (n=2) • Renal function (n=1) • CAGE (n=3) • CAGE-Adapted to Include Drugs (AID) (n=2) • Screener and Opioid Assessment for Patients with Pain (SOAPP) (n=3) • SOAPP-Revised (R) (n=2) • Opioid Risk Tool (ORT) (n=6) • Alcohol Use Disorders Identification Test (AUDIT) (n=1) • Prescription monitoring programmeme (n=1) • Diagnostic Statistical Manual criteria (n=1) • Family history of substance use disorders (n=1)

3	2	**Please specify why.**	Based on the Delphi Round 1 questionnaire responses, the following items were recommended to be used to IDENTIFY patients with life threatening illnesses who are at high risk of opioid overdose. *See Table 5.* Do you agree with the above recommendations? *No.*	3	• "Needs more up to date options/information" • Methadone use for opioid use disorder management should be a strong recommendation • "…with pharmacies are you referring to simultaneous refills? It is often a flag but, if [the patients had to get it filled] at hospital then at a community, then less of a risk if no other risks. If using 2 community pharmacies, more of a concern especially if other risks." • "I believe that ALL Hypnotics-Sedatives should be listed as a category ([benzodiazepine], Gabapentin, Zoplicone) in the high risk category. Renal and liver insufficiency change the effectiveness, tolerance and clearance of many medications regardless of how long they have been used contributing to sedation and confusion. Methadone is more likely to be diverted in the [chronic non-cancer pain] population when they have an unrecognized active addiction putting the patient at risk for sedation when they are admitted to hospital. The biggest risk of overdose is concurrent Hypnotic-sedative use and alcohol use. All other mentioned risks are important but I do not feel they should be in the high risk category. Clinicians need to focus in on how they dispense and provide oversight when those factors are present."
3	1	**How should we screen caregivers who are at risk or actively conducting aberrant opioid medication taking behaviors?**	Rate your level of agreement at caregivers of palliative care patients should be screened for potential or active aberrant opioid medication taking behaviors. *Agree* or *Strongly agree*	12	• Conversation with caregivers about opioid-related risks (n=2) • Conversations with family physicians • Comprehensive history taking with caregiver involvement (n=6) • Make sure caregivers attend appointments with patients • Collateral history from other caregivers and patient (n=1) • Screening tools if willing (n=1) • Opioid risk tool (n=1)
3	1	**How should we screen caregivers who are at risk of opioid overdose?**	Rate your level of agreement at caregivers of palliative care patients should be screened for opioid overdose. *Agree* or *Strongly agree*	10	• Know your patients and caregivers well (n=2) • Comprehensive history, including history of overdose, past or current history of substance use disorders (n=3) • Screen for presence of current or past substance use disorder (n=1)

					• Home care involvement (n=1) • Not certain (n=1)
3	2	**What questions would you ask caregiver(s) when taking this comprehensive history?**	Taking a comprehensive substance use history is recommended for assessing caregiver(s) for aberrant opioid medication taking behaviors, opioid use disorder and opioid overdose. Rate your level of agreement with this statement. *Agree* or *Strongly agree*	0	0
4	2	**Please specify why.**	Based on the Delphi Round 1 questionnaire responses, the following opioid prescribing practices for patients receiving care in outpatient palliative care clinics or home palliative care visits were recommended: *See Table 6.* Do you agree with the above recommendations? *No.*	3	• Not sure about the maximum one month supply. Low risk stable patients could receive longer prescriptions • "High risk" for aberrant opioid behaviors defines a wide range of individuals. Some of these individuals may be able to handle monthly prescriptions. • Groups practice together and need to have shared prescribing responsibilities. They can't see stable patients once a month, and don't need to.
5	1	**How often should pill counts be performed?**	Clinicians should perform regular pill counts to ensure compliance with instructions for opioid use and detect under- or over- use. *Agree* or *Strongly agree*	14	• Random (n=3) • Depends on patient (n=1), situation (n=2) • Regularly: Every visit (n=3), weekly (n=1), every two weeks (n=1), monthly (n=1), before new prescriptions (n=1)
6	2	**Please specify.**	Based on the Delphi Round 1 questionnaire responses, the following strategies were recommended for opioid safety education for patients receiving opioid prescription: *See Table 3, Items 114-118.* Do you agree with the above recommendations? *No.*	0	0