Supplementary file appendices for: 'Does ethnicity affect pain management for people with advanced disease? A mixed methods cross-national systematic review of 'very high' Human Development Index English-speaking countries'

Supplementary Table 1. Cross-tabulation of significant differences in receiving pain medication as part of standard care by race/ethnicity (N=18). Measured by: (a) standardised tools; (b) study designed measures

First author Year Country WoE ¹	Patient population	Measurement tool or design ³	Statistical Analysis	Analysis	results by racial and ethnic g	groups ²	(P-Value) Significance*	Written summary	Significant results Y/N/M ⁴
(a) Standardise	d tool for pain n	nanagement measu	rement						
1. Anderson 2000 USA High	Cancer patients (108)	PMI	Descriptive comparative: percentage difference		American ntive PMI 31%	Hispanic % Negative PMI 28%	(P value not reported)	No significant difference between African American and Hispanic patients in negative PMI.	N
2. Anderson 2002 USA High	Cancer patients (31)	PMI	Descriptive comparative: Percentage difference		American ative PMI 36%	Hispanic % Negative PMI 35%	(P value not reported)	No significant difference between African American and Hispanic patients in negative PMI.	N
3. Fisch 2012 USA Medium	Cancer patients (2026)	PMI Dichotomous variable of based on PMI score.	Univariable and multivariable logistic regression	Undertreatment Initial Undertreatment Follow-up	White and non-Hispanic No. (%) 411 (29) Univariate OR, (CI) 0.38* (0.24-0.61) Multivariate OR, (CI) 0.51* (0.37- 0.70) No. (%) 371 (30) Univariate OR, (CI) 0.41* (0.25-0.68)	Minority No. (%) 221 (51) Univariate 1.00 REF Multivariate 1.00 REF No. (%) 180 (51) Univariate 1.00 REF	(P=0.10)* (P=0.002)* (P=0.018)*	White and Non-Hispanic patients were significantly less likely to experience undertreatment for pain compared to Minority patients at initial and follow-up stage.	Y
					Multivariate OR, (CI) 0.50* (0.35-0.70)	<i>Multivariate</i> 1.00 REF	(P=0.001)*		

4. Hwang 2004	Prostate cancer	MEDD	Descriptive statistics:			Caucas	ian Afric	can American		No significant differences between the proportion of	N
USA Medium	hospital patients (89)	Proportions of patients using opioids and	Percentage difference	% Using	opioids	N 44 ((%) 88)	N (%) 33 (89)	(P=0.87)	Caucasian and African American patients using opioids, and the number of	
		number of opioids used		Number of	opioids	Median (ran 2 (0		edian (range) 2 (0-4)	(P=0.49)	opioids used.	
5. Mosher 2010 USA <i>Medium</i>	Cancer patients (87)	PMI Score of 0 or above indicating	Univariate analyses of variance	African American	Spanish Speaking Latina	English Speaking Latina	<u>Caucasian</u>	Multi- variate F	Not significant at P <0 .05 level	No significant differences in adequate pain management between the different groups.	N
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		adequate management		Score (SD)	Score (SD)	Score (SD)	Score (SD)		(P value not stated)		
				- 0.53 (0.52)	- 0.78 (0.42)	- 0.80 (0.42)	- 0.56 (0.51)	1.66			
6. Monroe 2010 USA <i>Lower</i>	Nursing home dementia patients (55)	EDU	Descriptive comparative: Mean difference		African Americ Mean (SD, SE		Ме	Caucasian ean (SD, SEM)	Not Significant at P<0.01 level	There was no significant difference) between African Americans and Caucasians on the Equivalent Dose Unit (EDU)	N
				g	Ei 1.12 (11.81, 2.9	DU 95)	9.8	EDU (17.67, 2.73)	(P values not reported)	scale.	
	dy designed mea	sure of pain manag	gement								
7. Lamba 2020 USA	Patients with Brain Metastases	Receiving non- opioids and opioids	Descriptive percentage comparison		<u>White</u>	<u>African</u> <u>American</u>	<u>Hispanic</u>	<u>Asian</u>		There were significant differences in prevalence of opioids and non-opioids across	Y
High	(17,957)		and Multivariate logistic	Prevalence Non-opioid	No. (%) 615 (5)	No. (%) 93 (5)	No. (%) 40 (3)	No. (%) 81 (7)	P=0.001*	the different ethnic groups. The regression analysis revealed Asian patients were	
			regression	Prevalence Opioid	6237 (46)	1091 (53)	601 (51)	464 (38)	P<0.001*	less likely to receive opioids.	
					OR, (CI), P	OR, (CI), P	OR, (CI), P	OR, (CI), P			
				Regression Non-opioid	REF	0.89 (0.66- 1.20) P=0.44	0.69 (0.46- 1.05) P=0.08	0.97 (0.70- 1.34) P=0.86			
				Regression Opioid	REF	0.96 (0.85- 1.08) P=0.48	1.09 (0.94- 1.26) P=0.24	0.86 (0.75- 0.99) P=0.04*	Asian (P=0.04)*		

8. Cea 2016 USA <i>Medium</i>	Hospice discharge and home hospice patients (3,918)	Receiving opioid analgesics	Multivariate logistic regression	Non- Hispanic White REF	Non-Hispanic Black AOR (CI)	Hispanic AOR (CI) 0.62*	Other AOR (CI) 0.96	*Significant at P<0.05 level (P value not reported)	Compared to Non-Hispanic White patients, Hispanic patients were significantly less likely to receive opioid analgesics.	Υ
				N/A	(0.59-1.14)	(0.40-0.97)	(0.48-1.92)			
9. Check 2016 USA <i>Medium</i>	Breast cancer patients (883)	Use of opioid analgesic	Modified Poisson regression	<i>Unadjusted</i> Adjusted	White Risk (95% CI) 0.61 (0.57-0.64) 0.45 (0.36-0.56)	Black Risk (95% CI) 0.60 (0.36-0.56) 0.47 (0.38-0.57)	White vs Black Risk Ratio (95% CI) 0.98 (0.84-1.14) 0.97 (0.84- 1.13)	(P values not reported)	There were no significant differences in opioid use between White and Black patients.	N
10. Fischer 2007 USA Medium	Cancer patients in veterans' hospital (217)	Treatment of pain, if present	Logistic regression	W	REF OF	American R (95% CI) 191-2.48)	Hispanic White OR (95% CI) 0.51 (0.14-1.86)	(No P Value reported)	There were no significant differences between White, African American and Hispanic White patients for treatment of pain.	N
11. Gerlach 2021 USA <i>Medium</i>	Medicare Hospice beneficiary (554,022)	Receiving opioids	Multivariate logistic regression	Non- Hispanic White	Non-Hispanic Black AOR (CI) 0.75* (0.72,0.77)	Hispanic AOR (CI) 0.74* (0.70,0.78)	Other AOR (CI) 0.84* (0.80,0.87)	*Significant at P<0.001 level (P Values not reported)	Compared to white Medicare hospice beneficiaries, non-Hispanic black beneficiaries Were significantly less likely to receive opioids	Y
12. Gurney 2021 New Zealand <i>Medium</i>	Lung cancer patients (20,081)	Accessing opioid and non-opioid analgesics	Logistic regression	Any pain medication Non-opioid Mild opioid	78, 0.89 (0	.85-1.19)	non-Māori Adj. %, Adj OR (CI) 89, REF 78, REF 41, REF	(No P Value reported)	There were no significant differences in using opioid and non-opioid medication between patients from Māori and non-Māori ethnic groups.	N

				Strong opioid	78,	1.08 (0.96-1.2	3)	76, REF			
13. Pinheiro 2019 USA <i>Medium</i>	Breast cancer patients (23,091)	Proportions of patients using opioids	Modified Poisson model	% Using opioid	US-born N (%) 14,097 (69%)	Non-Hispanic Foreign- born N (%) 797 (62%)	<u>US-born</u> <i>N (%)</i> 709 (75%)	Hispanic Foreign born N (%) 287 (60%)	(P < 0.0001)*	Compared to US-born non- Hispanic women, foreign-born women, and US born Hispanic women used significantly fewer opioids, even when adjusting for demographic, tumour and treatment.	Y
				Opioid Risk ratio	REF N/A	RR, (CI), P 0.91 (0.87-0.95) P<0.001*	RR, (CI), P 1.06 (1.02-1.10) P<0.01*	RR, (CI), P 0.86 (0.80-0.92) P<0.001*	(P<0.001*) (P<0.01*) (P<0.001*)		
14. Reynolds 2008 USA <i>Medium</i>	Nursing home residents with pain (1,133)	Proportion with documented pain medication	Descriptive comparative: Percentage difference	Pain med (no acetamino		<u>White</u> No (%) 862 (52.6)		Minority No (%) 262 (50.0)	(P=0.558)	There were no significant differences between white and minority patients' pain treatment use.	N
					eduled ication	862 (33.6)		262 (34.5)	(P=0.507)		
15. Halpern 2019 USA <i>Lower</i>	Breast and colorectal cancer patients (8,438)	Receiving pain management from Medicaid data	Modified Poisson regression model	Breast cancer patients REF Non- Hispanic White	Non-His	Black (alue) R 0.56	Hispanic R (P Value) 0.41 P<0.0001)*	All other race RR (P Value) 0.58 (P=0.0079)*	(P=0.0005)* (P<0.0001)* (P=0.0079)*	Compared with Non-Hispanic White breast cancer patients, patients from Non-Hispanic Black patients, Hispanic patients and patients from all other race groups had a decreased likelihood of receiving pain medication.	М
				Colorectal cancer patients REF Non- Hispanic White	Non-His ! RR (P V	Black (alue) R 0.62	Hispanic R (P Value) 1.63 Not stated)	RR (P Value) 0.85 (Not stated)	Not significant at (P>0.05)	There were no significant differences in receiving pain medication by racial groups for colorectal cancer patients.	

16. Rolnick 2007 USA Lower	Ovarian cancer patients (421)	Receiving high intensity pain medication	Multivariate logistic regression	Receiving h	igh intensity pair medication		1.419 (0.8	White OR, (CI) .812- 2.482)	Results not significant at P<0.05 P=0.219	No statistically significant difference was found by race.	N
17. Saphire 2020 USA <i>Lower</i>	Lung cancer decedents (16,246)	Receiving pain medication	Multivariate logistic regression	Pain medication	Black No Hispan RR, (P Value	ic		Asian, Other R, (P Value), CI		Compared to Non-Hispanic White decedents, Non-Hispanic Black, Hispanic and Asian/Other decedents were significantly less likely to receive pain medication.	Y
				REF White Non- Hispanic	0.7 (P=0.001 0.69-0.9)* (P<0.00	•	0.57 (P<0.001)* 0.49-0.65	(P=0.001)* (P<0.001)* (P<0.001)*		
18. Wieder 2014 USA Lower	Patients with cancer pain (360)	Use of long acting opioids	Descriptive statistics: comparison, and logistic regression	_	frican Hispani erican No. No 84 49	. No.	Asian No. 3	Not specified No. 1	(P=0.027)*	Hispanic and Asian patients were prescribed long acting opiates at a lower rate than expected by the distribution of use in the entire sample, but ethnicity was not a predictor in the regression analysis.	М
				No		5 25 ace: Asian or Hispanic DR, (P Value)		5 e: Caucasian OR (P Value)			
				Logistic regre		06 (P=0.158)		07 (P=0.987)	P-level not stated		

Supplementary Table 1.Footnotes

- 1. Gough's Weigh of Evidence Framework (WoE). Category D total score.
- 2. Racial and ethnic groups as described within the original research papers.
- 3. Pain management tools. **PMI** = Pain Management Index. **EDU** = Equivalent Dose Units. **MEDD** = Morphine Equivalent Daily Dose
- 4. Did the study have significant results for ethnicity and pain level difference? Y = Yes. N = No. M = Mixed.

^{* =} Significant result. Significance levels set within each individual study.

Structural levels of healthcare	Grouped Themes 1 - Patient and family perspectives	Grouped Themes 2- Barriers to pain management	Grouped Themes 3 - Service level and structural issues
Personal concerns and individual needs	Fears and concerns		
	Self-determination		
Healthcare service and health care providers	Unmet pain management needs	Information and misconceptions Racial/ethnic interactions and dynamics within healthcare	
		Doctor-patient communication	Pain outcomes following treatment
Wider society, research and broader healthcare services issues		Racial and ethnic stereotyping	Differences in the utilisation of standard pain management care Research based studies

	Journal searches
Search used for Medline, AMED, Psychinfo and EMBASE	1. "advanced disease".ab,kf,ti.
Limits: English language only	2. metastatic.ab,kf,ti.
Year 2000 to current (24th Aug 2021)	3. "progressive disease".ab,kf,ti.
	4. palliative.ab,kf,ti.
	5. "terminal*".ab,kf,ti.
	6. hospice.ab,kf,ti.
	7. "life limiting".ab,kf,ti.
	8. "end stage".ab,kf,ti.
	9. "progressive neurological disease".ab,kf,ti.
	10. "futil*".ab,kf,ti.
	11. "end of life".ab,kf,ti.
	12. hospices.mp. or exp Hospices/
	13. hospice care.mp. or exp Hospice Care/
	14. palliative care.mp. or exp Palliative Care/
	15. terminal care.mp. or exp Terminal Care/
	16. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15
	17. pain.ab,kf,ti.
	18. "analgesi*".ab,kf,ti.
	19. opioid.ab,kf,ti.
	20. morphine.ab,kf,ti.
	21. codeine.ab,kf,ti.
	22. fentanyl.ab,kf,ti.
	23. hydrocodone.ab,kf,ti.
	24. hydromorphone.ab,kf,ti.
	25. tramadol.ab,kf,ti.
	26. oxycodone.ab,kf,ti.
	27. meperidine.ab,kf,ti.
	28. TENS.ab,kf,ti.
	29. "Transcutaneous Electric Nerve Stimulation".ab,kf,ti.
	30. lidocaine.ab,kf,ti.
	31. prilocaine.ab,kf,ti.

32. "Non-steroidal anti-inflammatory drug* ".ab,kf,ti.
33. "nsaid*".ab,kf,ti.
34. pregabalin.ab,kf,ti.
35. gabapentin.ab,kf,ti.
36. ketamine.ab,kf,ti.
37. Physiotherapy.ab,kf,ti.
38. diphosphonates.ab,kf,ti.
39. "biphosphonates".ab,kf,ti.
40. acetaminophen.ab,kf,ti.
41. Corticosteroids.ab,kf,ti.
42. exp Analgesia/ or analgesia.mp.
43. opioid.mp. or exp Analgesics, Opioid/
44. exp Pain/an, co, di, dg, de, dt, ph, pp, pc, px, st [Analysis, Complications,
Diagnosis, Diagnostic Imaging, Drug Effects, Drug Therapy, Physiology,
Physiopathology, Prevention & Control, Psychology, Standards]
45. 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30
or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44
46. ethnicity.ab,kf,ti.
47. ethnic.ab,kf,ti.
48. race.ab,kf,ti.
49. racial.ab,kf,ti.
50. multicultural.ab,kf,ti.
51. BAME.ab,kf,ti.
52. "black asian minority ethnic".ab,kf,ti.
53. "person of color".ab,kf,ti.
54. "person of colour".ab,kf,ti.
55. "aborigin*".ab,kf,ti.
56. ethnocultural.ab,kf,ti.
57. heritage.ab,kf,ti.
58. exp Culture/
59. ethnic groups.mp. or exp Ethnic Groups/
60. continental population groups.mp. or exp Continental Population Groups/
61. 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59
or 60
62. 16 and 45 and 61

CINAHL

Limits: English language. 2000 to 24th Aug 2021

AB "advanced disease" OR AB metastatic OR AB "progressive disease" OR AB terminal OR AB hospice OR AB "life limiting" OR AB "end stage" OR AB "progressive neurological disease" OR AB "futile treatment" OR AB "end of life" OR palliative AND

AB pain OR AB analgesi* OR AB opioid epidemic OR AB morphine OR AB codeine OR AB fentanyl OR AB hydrocodone OR AB hydromorphone OR AB tramadol OR AB oxycodone OR AB meperidine OR AB TENS OR AB "Transcutaneous Electric Nerve Stimulation" OR AB lidocaine OR AB prilocaine OR AB (non-steroidal anti-inflammatory drugs or nsaids) OR AB corticosteroids OR AB pregabalin OR AB gabapentin OR AB ketamine OR AB physiotherapy OR AB disphosphonates OR AB biphosphonates OR AB acetaminophen

AB ethnicity OR AB ethnic* OR AB race OR AB racial OR AB multicultural OR AB bame OR AB "black asian minority ethnic" OR AB "person of color" OR AB "person of colour" OR AB aborig* OR AB ethnocultural OR AB heritage

Grey literature

ETHoS

No full Boolean search available. Instead the following terms were used, and the titles of duplicates or those before the year 2000 were not downloaded.

Palliative and ethnicity

Palliative and race

Palliative and BIPOC

Palliative and BAME

Palliative and heritage

palliative AND "person of colour"

palliative AND "person of color"

Hospice and ethnicity

Hospice and race

Hospice and BIPOC

Hospice and BAME

Hospice and heritage

Hospice AND "person of colour"

riospice / ii ta personi or colour

Hospice AND "person of color"

"advanced disease" and ethnicity

"advanced disease" and race

"advanced disease" and BIPOC

"advanced disease" and BAME

	"advanced disease" and heritage "advanced disease" AND "person of colour" "advanced disease" AND "person of color" Pain and ethnicity Pain and race Pain and BIPOC Pain and BAME Pain and heritage Pain AND "person of colour" Pain AND "person of color"
Journals Palliative medicine BMJ Supportive and Palliative Care European Journal of Palliative Care BMC Palliative Care Ethnicity and Healthcare Ethnic and racial studies	Search of titles last 5 years up to 24 th August 2021
Grey literature and websites Marie Curie online Macmillan online NICE evidence search OpenGrey	Search of pages all or last 5 years up to 24 th August 2021 as relevant

PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE	1		
Title	1	Identify the report as a systematic review.	p.1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	p.1
INTRODUCTION	1		
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	p.4-5
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	p.5
METHODS	,		
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	p.8
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	p.9
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Supplementary appendices
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	p.10
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	p.10
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	p.10
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	p.10
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	p.11
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	p.10
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	p.11-12
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	p.11-12
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Tabulate p.11- 12 N/A Visualise
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the	p.11-12
	.00	2000 and the desired access to optimiotize receive and provide a rational for the oriology, it most analysis was performed, describe the	P.11 12

13e De 13f De 13f De 13f De 14 De 15 De 16 De 17 De 18 De 18 De 18 De 19 De 19	model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used. Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression). Describe any sensitivity analyses conducted to assess robustness of the synthesized results. Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases). Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome. Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram. Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded. Cite each included study and present its characteristics.	N/A p.11 p.11 p.11
13f Dec	Describe any sensitivity analyses conducted to assess robustness of the synthesized results. Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases). Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome. Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram. Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	p.11 p.11 p.11
Reporting bias assessment Certainty assessment RESULTS Study selection 16a Dein 1 16b Cit Study characteristics Risk of bias in studies Results of 19 Fo	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases). Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome. Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram. Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	p.11 p.11
assessment 15 De Certainty assessment 15 De RESULTS Study selection 16a De in the in t	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome. Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram. Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	p.11
assessment RESULTS Study selection 16a Dein 1 16b Cit Study characteristics 17 Cit Risk of bias in studies 18 Presented in the present of th	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram. Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	
Study selection 16a De in 1 16b Cit Study characteristics Risk of bias in studies Results of 19 Fo	in the review, ideally using a flow diagram. Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	p.13
Study 17 Cit Characteristics Risk of bias in studies Results of 19 Fo	in the review, ideally using a flow diagram. Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	p.13
Study characteristics Risk of bias in studies Results of 19 Fo		1
characteristics Risk of bias in studies Results of 19 Fo	Cite each included study and present its characteristics.	p.13
studies 19 Fo		Table 2.
	Present assessments of risk of bias for each included study.	Table 2.
	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Table 2 for overall summary. Supplementary Table 1 for Primary outcome measure
Results of syntheses 20a Fo	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Primary outcome measure p.13- 15
	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	N/A
20c Pre	Present results of all investigations of possible causes of heterogeneity among study results.	N/A
20d Pro	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	p.21
Reporting biases 21 Pro	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	N/A Discussion on p.27
Certainty of 22 Pro	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	p.15 and p.21

Section and Topic	Item #	Checklist item	Location where item is reported
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	p.21-26
	23b	Discuss any limitations of the evidence included in the review.	p.26-27
	23c	Discuss any limitations of the review processes used.	p.26-27
	23d	Discuss implications of the results for practice, policy, and future research.	p.28-28
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	p.1
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	p.5
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	p.5
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	p.31
Competing interests	26	Declare any competing interests of review authors.	p.31
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	p.31

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71
For more information, visit: http://www.prisma-statement.org/