

Supplementary Table 1: All n-grams without filtering

Seed Phrase: "Ceiling of Treatment"	Alternative Seed Phrase: "DNAR"	Alternative Seed Phrase: "End of Life"
not for cpr	not_for_resus	'eol_medications'
ward based	not_for_cpr	'end_of_life_care'
ward based ceiling of care	dnacpr	'comfort_care'
escalation of care	ceiling_of_care	'eol_meds'
not for itu	dnar_and	'eolc'
not for escalation	dnar	'not_for_cpr'
escalation and	ward_based_ceiling_of_care	'palliative_medications'
not for intubation	not_for_itu	'eol_care'
ward based care only	ward_based	'prn_eol'
active ward	dnacpr_and	'eolc_medications'
not for resus	not_for_escalation	'active_ward'
ceilings of care	ceilings_of_care	'palliative_meds'
not for resuscitation	not_for_resuscitation	'ward_based_ceiling_of_care'
ceiling of care	dnar_l1	'ward_based'
based management	ceiling_of_treatment	'anticipatory_medications'
not for icu	escalation_of_care	'eol_prn'
not for niv	community_dnar	'not_for_itu'
dnar and	community_dnacpr	'anticipatory_meds'
ceiling of treatment	not_for_intubation	'palliation'
resuscitation as	dnr	'palliative_input'
cpr or	eol	'ward_based_care_only'
resuscitation	and_dnar	'ward_base'
palliation	dnar_in	'palliative_referral'
ward base	ward_based_care_only	'end_of_life_care_and'
dnar not	active_ward	'dnar_and'
escalation beyond	dnar_not	'ceiling_of_care'
dnacpr	escalation_and	'not_for_resus'

dnacpr and	dnacpr_in	'eol'
dnar	dnar_in_place	'actively_dying'
brainstem testing	ward_base	'palliation_and'
withdrawal of intensive	comfort_care	'not_for_escalation'
withdrawal of treatment	dna_cpr	'hospice_transfer'
family discussion	nfr	'prn_eolc'
family discussions	dnr_in	'hospice_bed'
futility	eol_care	'based_management'
organ donation	care_dnar	'palliative_care_input_and'
brainstem death	dnar_decision	'home_for_end_of_life_care'
itu consultant	not_for_niv	'plan_eol'
neurological prognosis	ceilings_of_treatment	'dnar_not'
stem testing	dnar_signed	'not_for_intubation'
discussions with the family	dnr_form	'palliative_review'
unsurvivable	dnar_with	'care_input'
candidate for itu	dnar_l2	'palliative_care_input'
resuscitation	currently_for_full	'ongoing_palliative'
resuscitation	dnacpr_l1	'palliative_care_team_review'
candidate for intubation	dnacpr_level	'palliative_care_team_input'
dnacpr status	and_dnacpr	'to_hospice'
ceilings of treatment	dnar_status	'nh_placement'
escalation plans	resus_dnar	'track_funding'
cpr status	level_care	'escalation_of_care'
escalation level	dnar_as	'life_care'
eolc	community_dnr	'on_eol'
eol care	dnacpr_status	'end_of_life_care_at'
comfort care	cpr_status	'eol_medication'
end of life care and	previous_dnar	'hospice_placement'
palliative medications	eolc	'refer_to_palliative_care'
palliative input	palliative_input	'palliative_approach'

hospice placement	re_dnar	'prn_palliative'
eol medications	end_of_life_care	'transfer_to_st_christopher'
eol meds	palliation	'hospice_referral'
plan eol	eol_meds	'palliative_and'
terminal care	eol_medications	'ceilings_of_treatment'
palliation and	actively_dying	'end_of_life_care_medications'
1 hour prn for agitation	nh_resident	'dnr_not'
controlled drug 2 5	in_nh	'nfr'
secretions liverpool care pathway	background_dementia	'dnacpr'
to 5 mg subcutaneous	home_resident	'eolc_prn'
1 to 2 mg	dementia_bedbound	'ceilings_of_care'
liverpool care pathway verified	bg_dementia	'escalation_plans'
lactulose solution	dnar_level	'ceiling_of_treatment'
5 mg subcutaneous every	family_updated	'continue_palliative'
midazolam injection	resuscitation	'seen_by_palliative_team'
morphine sulphate injection controlled	dnar_from	'eol_pathway'
every 1 hour prn	dols_in	'not_for_resuscitation'
sulphate injection	advanced_dementia	'a_nursing_home_placement'
prn for agitation	nfr_and	'end_of_life_care_i'
control of upper respiratory tract	dnar_but	'and_end_of_life_care'
drug 2 5 to	dnar_cpr	'prn_medications'
escalation to	not_for_icu	'palliative_management'
or intubation	based_care	'keep_comfortable'
dnar ward	and_escalation	'care_meds'
currently for full	dementia_dnar	'hospice_admission'
plan dnar	alzheimers_dementia	'place_of_care'
with icu	alzheimers	'st_christopher_s'
not for hdu	palliative_management	'care_funding'
beyond ward	palliation_and	'and_palliation'

maximal ward	palliative_approach	'best_supportive_care_and'
ceiling of rx	dnr_level	'a_palliative'
in event of cardiac arrest	3_dnar	'that_palliative'
not for inotropes	escalation_level	'terminal_care'
escalation or	1_dnar	'preferred_place_of_care_is'
ceiling of care	dnacpr_with	'discharge_to_a_nursing'
withdrawal of care	with_dnar	'end_of_life_care_in'
limit of care	discussed_dnacpr	'community_palliative_care'
limits of care	about_resuscitation	'chaplancy_support'
palliative treatments only	has_dnar	'chaplancy_referral'
end of life care	peace_document	'consider_hospice'
liverpool care pathway	nfr_not	'to_discuss_with_family'
not for intubation	based_management	'injectable_medications'
not suitable for intubation	dnr_not	'anticipatory_medication'