

Compassionate primary care training and practice in the digital technology sphere: A scoping review

Search Strategy

Databases Searched:

1. [MEDLINE](#)
2. [EMBASE](#)
3. [CINAHL](#)
4. [Cochrane Database of Systematic Reviews](#)
5. [Joanna Briggs Institute](#)
6. [ERIC](#)
7. [Web of Science](#)

Records Identified via Database Searching:

MEDLINE	[955]
EMBASE	[2,389]
CINAHL	[1,012]
Cochrane Database of Systematic Reviews	[798]
Joanna Briggs Institute	[197]
ERIC	[29]
Web of Science	[974]

Search Date: March 14, 2025

MEDLINE

Ovid MEDLINE(R) ALL <1946 to February 28, 2025>

Line # Terms # of Results

1	*Empathy/	12,956
2	Attitude of Health Personnel/	137,685
3	Respect/	1,205
4	*Patient-Centered Care/	14,366
5	*Professional-Patient Relations/	12,594
6	*Nurse-Patient Relations/	18,389
7	*Physician-Patient Relations/	37,966
8	(care adj3 (compassion* or empath*)).mp.	3,601
9	(behavio#r* adj3 (caring or care or compassionate or compassion or empathy or empathetic)).mp.	3,644
10	(patient adj3 (centered or interaction* or communication*)).mp.	71,634
11	(relation* adj3 (patient-provider or therapeutic)).mp.	8,356
12	(compassion or compassionate or empathy or empathetic).ti,kw,ab.	38,622
13	(build* adj3 rapport).mp.	1,081
14	(communication* adj3 (verbal or nonverbal)).mp.	8,484
15	(skill* adj3 interpersonal).mp.	4,524
16	("patient interaction" adj3 (recognition or recogniz* or consider* or understand* or acknowledg* or emotion* or trust* or dignity or Humane or Humanity or humanism or humanistic or humanitarian)).mp.	39
17	(alliance* adj2 therapeutic).mp.	4,215
18	(suffer* adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).mp.	3,789
19	(distress* adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).mp.	4,228
20	(pain adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).mp.	21,666
21	(responsibility or responsible or obligation or "social role" or motivation or motivated or inspired or inspiration or "human right*").mp.	934,749
22	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 or 16 or 17 or 18 or 19 or 20 or 21	1,257,287
23	Family Practice/	67,884
24	General Practice/	16,531
25	Primary Health Care/	97,657
26	Physicians, Family/	17,584
27	General Practitioners/	11,805
28	Physicians, Primary Care/	4,714

29	Family Nursing/	1,600
30	Family Nurse Practitioners/	87
31	Primary Care Nursing/	613
32	(family adj3 (care or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*)).mp.	128,548
33	(primary adj3 (care or healthcare or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*)).mp.	237,468
34	23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33	353,405
35	Internship and Residency/	64,670
36	Health Educators/	509
37	Clinical Clerkship/	5,996
38	Education, Continuing/	9,426
39	Education, Medical/	62,814
40	Education, Nursing/	35,460
41	Mentoring/	4,856
42	Preceptorship/	5,834
43	Nurses/	48,322
44	Students, Nursing/	33,234
45	Nurse Practitioners/	19,417
46	Advanced Practice Nursing/	2,380
47	curriculum/	92,570
48	teaching/	52,935
49	inservice training/	20,834
50	(medical adj3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)).mp.	127,663
51	(general adj3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)).mp.	82,551
52	(nurs* adj3 (trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner* or practical)).mp.	105,603
53	health educator*.mp.	3,036
54	(preceptor* or trainer or mentor* or educator*).mp.	88,410
55	(curriculum or curricula or course* or workshop* or teach* or train* or learn* or taught*).mp.	2,452,473
56	35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55	2,748,808
57	Digital Health/	725
58	Medical Records Systems, Computerized/	19,170
59	Electronic Health Records/	30,774
60	Medical Records/	66,489
61	Health Records, Personal/	1,791
62	Patient Portals/	915

63 Medical Order Entry Systems/ 2,544
 64 telemedicine/43,424
 65 telehealth/ 43,424
 66 ("health information system*" or "hospital information system*" or HIS).mp.
 297,275
 67 (portal adj3 ("patient messag*" or secure)).mp. 171
 68 (messag* adj3 (patient or respond* or exchang* or interaction*)).mp. 1,731
 69 ("Electronic medical record*" or "electronic record" or "electronic health record" or
 EHR or EMR or "digital health record*" or "digital record*" or "computerized health
 record*" or "computerized record*").mp. 64,821
 70 (system* adj3 (documentation or charting or "chart* medical record*")).mp. 2,645
 71 ("digital technolog*" or computer or tablet or "electronic chart*" or "health
 information technolog*" or technolog*-based).mp. 908,351
 72 (tele-nurs* or tele-medicine or telenurs* or telemedicine or telehealth or "video
 consult*" or "remote care" or "virtual care" or "electronic consult system*").mp.
 66,064
 73 ("artificial intelligence" or AI or GenAI or "Generative AI" or "generative artificial
 intelligence").mp. 133,660
 74 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or
 72 or 73 1,493,955
 75 22 and 34 and 56 and 74 [with primary care] 2,091
 76 limit 75 to ed=20150101-20260101955

EMBASE

Embase <1974 to 2025 Week 09>

Line # Terms # of Results

1 *Empathy/ 13573
 2 Health Personnel Attitude/ 91835
 3 Respect/ 2762
 4 *Person-Centered Care/ 1035
 5 exp *Professional-Patient Relationship/ 56698
 6 (care adj3 (compassion* or empath*)).mp. 4423
 7 (behavio#r* adj3 (caring or care or compassionate or compassion or
 empathy or empathetic)).mp. 4609
 8 (patient adj3 (centered or interaction* or communication*)).mp. 76046
 9 (relation* adj3 (patient-provider or therapeutic)).mp. 11386
 10 (compassion or compassionate or empathy or empathetic).ti,kw,ab. 48556
 11 (build* adj3 rapport).mp. 1499
 12 (communication* adj3 (verbal or nonverbal)).mp. 30695
 13 (skill* adj3 interpersonal).mp. 5200
 14 ("patient interaction" adj3 (recognition or recogniz* or consider* or understand* or
 acknowledg* or emotion* or trust* or dignity or Humane or Humanity or humanism
 or humanistic or humanitarian)).mp. 51
 15 (alliance* adj2 therapeutic).mp. 6083
 16 (suffer* adj3 (recogni* or recognition or consider* or respond* or alleviate* or
 aware* or respond* or empath* or sympath* or understand* or acknowledg* or
 attitude*)).mp. 5234
 17 (distress* adj3 (recogni* or recognition or consider* or respond* or alleviate* or
 aware* or respond* or empath* or sympath* or understand* or acknowledg* or
 attitude*)).mp. 5498
 18 (pain adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware*
 or respond* or empath* or sympath* or understand* or acknowledg* or
 attitude*)).mp. 30546
 19 (responsibility or responsible or obligation or "social role" or motivation or motivated
 or inspired or inspiration or "human right*").mp. 1179738
 20 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 or 16 or 17 or
 18 or 19 1505243
 21 General Practice/ 88261
 22 Primary Health Care/ 84545
 23 Primary Medical Care/ 145441
 24 General Practitioner/128125
 25 Family Nursing/ 1569
 26 Family Nurse Practitioner/ 205
 27 (family adj3 (care or "care practice" or medicine or practice or physician* or nurse*
 or doctor* or practitioner*)).mp. 90170

28 (primary adj3 (care or healthcare or "care practice" or medicine or practice or
physician* or nurse* or doctor* or practitioner*)).mp. 344347
29 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 532070
30 Residency education/ 35007
31 resident/ 74530
32 Health Educator/ 2598
33 Clinical Education/ 16273
34 Continuing Education/ 34272
35 Medical education/ 269292
36 Nursing education/ 92596
37 Mentoring/ 8146
38 Nurse/163942
39 Nursing Student/ 35423
40 Nurse Practitioner/ 30533
41 Advanced Practice Nurse/ 1318
42 curriculum/ 114207
43 curriculum development/ 6169
44 teaching round/ 1014
45 in service training/ 16209
46 (medical adj3 (resident* or trainee* or student* or professional* or residency or
clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)).mp.
186190
47 (general adj3 (resident* or trainee* or student* or professional* or residency or
clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)).mp.
184868
48 (nurs* adj3 (trainee* or student* or professional* or residency or clerkship or
educator* or mentor* or intern* or preceptor* or practitioner* or practical)).mp.
116091
49 health educator*.mp. 4820
50 (preceptor* or trainer or mentor* or educator*).mp. 105646
51 (curriculum or curricula or course* or workshop* or teach* or train* or learn* or
taught*).mp. 3691318
52 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 or
45 or 46 or 47 or 48 or 49 or 50 or 51 4265620
53 Digital Health/ 2565
54 digital health technology/ 735
55 Electronic medical record system/ 3211
56 exp Medical Record/ 366820
57 physician Order Entry System/ 369
58 point of care system/ 4799
59 bedside information system/ 26
60 telemedicine/51778
61 exp telehealth/ 103284

62 artificial intelligence/ or generative artificial intelligence/ or responsible artificial
intelligence/ 99187

63 ("health information system*" or "hospital information system*" or HIS).mp.
450278

64 (portal adj3 ("patient messag*" or secure)).mp. 392

65 (messag* adj3 (patient or respond* or exchang* or interaction*)).mp. 2504

66 ("Electronic medical record*" or "electronic record" or "electronic health record" or
EHR or EMR or "digital health record*" or "digital record*" or "computerized health
record*" or "computerized record*").mp. 186753

67 (system* adj3 (documentation or charting or "chart* medical record*")).mp. 4225

68 ("digital technolog*" or computer or tablet or "electronic chart*" or "health
information technolog*" or technolog*-based).mp. 1914062

69 (tele-nurs* or tele-medicine or telenurs* or telemedicine or telehealth or "video
consult*" or "remote care" or "virtual care" or "electronic consult system*").mp.
88546

70 ("artificial intelligence" or AI or GenAI or "Generative AI" or "generative artificial
intelligence").mp. 168573

71 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or
68 or 69 or 70 2903258

72 20 and 29 and 52 and 71 [with primary care] 4168

73 limit 72 to yr="2015-2026" 2389

Cumulative Index to Nursing and Allied Health Literature (CINAHL)

#	Query Results
1	(MH "Empathy") OR (MH "Compassion") OR (MH "Caring") 27,478
2	(MH "Attitude of Health Personnel+") 137,880
3	(MH "Respect") 4,619
4	(MH "Patient Centered Care") OR (MH "Family Centered Care") OR (MH "Patient Care") OR (MH "Quality Patient Care Scale") 90,471
5	(MH "Professional-Patient Relations") OR (MH "Nurse-Patient Relations") OR (MH "Physician-Patient Relations") 102,383
6	TI (care N3 (compassion* or empath*)) OR AB (care N3 (compassion* or empath*)) 3,376
7	TI (behavio#r* N3 (caring or care or compassionate or compassion or empathy or empathetic)) OR AB (behavio#r* N3 (caring or care or compassionate or compassion or empathy or empathetic)) 12,482
8	TI (patient N3 (centered or interaction* or communication*)) OR AB (patient N3 (centered or interaction* or communication*)) 37,961
9	TI (relation* N3 (patient-provider or therapeutic)) OR AB (relation* N3 (patient-provider or therapeutic)) 5,281
10	TI (compassion or compassionate or empathy or empathetic) OR AB (compassion or compassionate or empathy or empathetic) 23,064
11	TI (build* N3 rapport) OR AB (build* N3 rapport) 732
12	TI (communication* N3 (verbal or nonverbal)) OR AB (communication* N3 (verbal or nonverbal)) 2,564
13	TI (skill* N3 interpersonal) OR AB (skill* N3 interpersonal) 2,363
14	TI ("patient interaction" N3 (recognition or recogniz* or consider* or understand* or acknowledg* or emotion* or trust* or dignity or Humane or Humanity or humanism or humanistic or humanitarian)) OR AB ("patient interaction" N3 (recognition or recogniz* or consider* or understand* or acknowledg* or emotion* or trust* or dignity or Humane or Humanity or humanism or humanistic or humanitarian)) 29
15	TI (alliance* N2 therapeutic) OR AB (alliance* N2 therapeutic) 2,096
16	TI (suffer* N3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)) OR AB (suffer* N3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)) 1,903
17	TI (distress* N3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)) OR AB (distress* N3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)) 2,903
18	TI (pain N3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*))

- OR AB (pain N3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)) 11,350
- 19 TI (responsibility or responsible or obligation or "social role" or motivation or motivated or inspired or inspiration or "human right*") OR AB (responsibility or responsible or obligation or "social role" or motivation or motivated or inspired or inspiration or "human right*") 162,130
- 20 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 or 16 or 17 or 18 or 19 527,178
- 21 (MH "Family Practice") OR (MH "Family Nurses") 27,003
- 22 (MH "Primary Health Care") OR (MH "Primary Care Nurse Practitioners") 77,207
- 23 (MH "Physicians, Family") 24,566
- 24 (MH "Family Nurse Practitioners") 952
- 25 TI (family N3 (care or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*)) OR AB (family N3 (care or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*)) 48,713
- 26 TI (primary N3 (care or healthcare or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*)) OR AB (primary N3 (care or healthcare or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*)) 115,151
- 27 21 or 22 or 23 or 24 or 25 or 26 211,011
- 28 (MH "Internship and Residency") OR (MH "Interns and Residents") 30,970
- 29 (MH "Health Educators") OR (MH "Nurse Educators") OR (MH "Education, Health Sciences") OR (MH "Education, Allied Health") 6,759
- 30 (MH "Education, Clinical") OR (MH "Clinical Supervision") 16,850
- 31 (MH "Education, Continuing") OR (MH "Education, Nursing, Continuing") OR (MH "Education, Medical, Continuing") 36,118
- 32 (MH "Mentorship") 19,458
- 33 (MH "Preceptorship") 5,301
- 34 (MH "Nurses") 71,560
- 35 (MH "Students, Nursing+") 49,225
- 36 (MH "Nurse Practitioners") 20,390
- 37 (MH "Advanced Practice Registered Nursing") OR (MH "Advanced Practice Registered Nurses") 16,924
- 38 (MH "Curriculum") OR (MH "Curriculum Development") OR (MH "Course Content") 46,778
- 39 (MH "Teaching") OR (MH "Teaching Methods") 46,887
- 40 TI (medical N3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)) OR AB (medical N3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)) 40,270
- 41 TI (general N3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)) OR AB

- (general N3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)) 28,747
- 42 TI (nurs* N3 (trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner* or practical)) OR AB (nurs* N3 (trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner* or practical)) 100,640
- 43 TI (health educator*) OR AB (health educator*) 2,137
- 44 TI (preceptor* or trainer or mentor* or educator*) OR AB (preceptor* or trainer or mentor* or educator*) 61,321
- 45 TI (curriculum or curricula or course* or workshop* or teach* or train* or learn* or taught*) OR AB (curriculum or curricula or course* or workshop* or teach* or train* or learn* or taught*) 699,300
- 46 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 or 45 977,076
- 47 (MH "Digital Health") OR (MH "Digital Technology") 7,225
- 48 (MH "Patient Record Systems") OR (MH "Electronic Health Records") OR (MH "Medical Records") OR (MH "Record Review") OR (MH "Medication Systems") 134,830
- 49 (MH "Patient Portals") 419
- 50 (MH "Electronic Order Entry") OR (MH "Medical Orders") 6,274
- 51 (MH "Telemedicine") OR (MH "Telerehabilitation") OR (MH "Telehealth") OR (MH "Telepsychiatry") 35,463
- 52 (MH "Artificial Intelligence") OR (MH "Artificial Intelligence, Generative") 15,829
- 53 TI ("health information system*" or "hospital information system*" or HIS) OR AB ("health information system*" or "hospital information system*" or HIS) 59,384
- 54 TI (portal N3 ("patient messag*" or secure)) OR AB (portal N3 ("patient messag*" or secure)) 114
- 55 TI (messag* N3 (patient or respond* or exchang* or interaction*)) OR AB (messag* N3 (patient or respond* or exchang* or interaction*)) 1,760
- 56 TI ("Electronic medical record*" or "electronic record" or "electronic health record" or EHR or EMR or "digital health record*" or "digital record*" or "computerized health record*" or "computerized record*") OR AB ("Electronic medical record*" or "electronic record" or "electronic health record" or EHR or EMR or "digital health record*" or "digital record*" or "computerized health record*" or "computerized record*") 29,523
- 57 TI (system* N3 (documentation or charting or "chart* medical record*")) OR AB (system* N3 (documentation or charting or "chart* medical record*")) 1,405
- 58 TI ("digital technolog*" or computer or tablet or "electronic chart*" or "health information technolog*" or technolog*-based) OR AB ("digital technolog*" or computer or tablet or "electronic chart*" or "health information technolog*" or technolog*-based) 68,261
- 59 TI (tele-nurs* or tele-medicine or telenurs* or telemedicine or telehealth or "video consult*" or "remote care" or "virtual care" or "electronic consult system*") OR AB

(tele-nurs* or tele-medicine or telenurs* or telemedicine or telehealth or "video
consult*" or "remote care" or "virtual care" or "electronic consult system*") 18,677
60 TI ("artificial intelligence" or AI or GenAI or "Generative AI" or "generative artificial
intelligence") OR AB ("artificial intelligence" or AI or GenAI or "Generative AI" or
"generative artificial intelligence") 21,980
61 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
347,307
62 20 AND 27 AND 46 AND 61 1,639
63 "20 AND 27 AND 46 AND 61

Limiters - Publication Date: 20150101-20251231" 1,012

Cochrane Database of Systematic Reviews

EBM Reviews - Cochrane Database of Systematic Reviews <2005 to March 12, 2025>
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Line # Terms # of Results

1	Empathy.kw.	2
2	Attitude of Health Personnel.kw.	8
3	Respect.kw.	0
4	Patient-Centered Care.kw.	6
5	Professional-Patient Relations.kw.	5
6	Nurse-Patient Relations.kw.	0
7	Physician-Patient Relations.kw.	8
8	(care adj3 (compassion* or empath*)).af.	15
9	(behavio#r* adj3 (caring or care or compassionate or compassion or empathy or empathetic)).af.	261
10	(patient adj3 (centered or interaction* or communication*)).af.	553
11	(relation* adj3 (patient-provider or therapeutic)).af.	146
12	(compassion or compassionate or empathy or empathetic).af.	255
13	(build* adj3 rapport).af.	14
14	(communication* adj3 (verbal or nonverbal)).af.	110
15	(skill* adj3 interpersonal).af.	78
16	("patient interaction" adj3 (recognition or recogniz* or consider* or understand* or acknowledg* or emotion* or trust* or dignity or Humane or Humanity or humanism or humanistic or humanitarian)).af.	0
17	(alliance* adj2 therapeutic).af.	114
18	(suffer* adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).af.	64
19	(distress* adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).af.	92
20	(pain adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).af.	537
21	(responsibility or responsible or obligation or "social role" or motivation or motivated or inspired or inspiration or "human right*").af.	6,251
22	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 or 16 or 17 or 18 or 19 or 20 or 21	6,876
23	Family Practice.kw.	12
24	General Practice.kw.	7
25	Primary Health Care.kw.	44
26	Physicians, Family.kw.	0
27	General Practitioners.kw.	1
28	Physicians, Primary Care.kw.	2

29	Family Nursing.kw.	0
30	Family Nurse Practitioners.kw.	0
31	Primary Care Nursing.kw.	0
32	(family adj3 (care or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*).af.	2,110
33	(primary adj3 (care or healthcare or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*).af.	3,331
34	23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33	4,105
35	Internship and Residency.kw.	1
36	Health Educators.kw.	0
37	Clinical Clerkship.kw.	0
38	Education, Continuing.kw.	2
39	Education, Medical.kw.	6
40	Education, Nursing.kw.	0
41	Mentoring.kw.	1
42	Preceptorship.kw.	0
43	Nurses.kw.	25
44	Students, Nursing.kw.	0
45	Nurse Practitioners.kw.	3
46	Advanced Practice Nursing.kw.	0
47	curriculum.kw.	0
48	teaching.kw.	8
49	inservice training.kw.	2
50	(medical adj3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*).af.	1,533
51	(general adj3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*).af.	1,926
52	(nurs* adj3 (trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner* or practical).af.	1,002
53	health educator*.af.	57
54	(preceptor* or trainer or mentor* or educator*).af.	737
55	(curriculum or curricula or course* or workshop* or teach* or train* or learn* or taught*).af.	8,348
56	35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55	8,920
57	Digital Health.kw.	0
58	Medical Records Systems, Computerized.kw.	2
59	Electronic Health Records.kw.	2
60	Medical Records.kw.	9
61	Health Records, Personal.kw.	2
62	Patient Portals.kw.	0

63 Medical Order Entry Systems.kw. 1
 64 telemedicine.kw. 23
 65 telehealth.kw. 0
 66 ("health information system*" or "hospital information system*" or HIS).af. 2,752
 67 (portal adj3 ("patient messag*" or secure)).af. 7
 68 (messag* adj3 (patient or respond* or exchang* or interaction*)).af. 34
 69 ("Electronic medical record*" or "electronic record" or "electronic health record" or
 EHR or EMR or "digital health record*" or "digital record*" or "computerized health
 record*" or "computerized record*").af. 153
 70 (system* adj3 (documentation or charting or "chart* medical record*")).af. 20
 71 ("digital technolog*" or computer or tablet or "electronic chart*" or "health
 information technolog*" or technolog*-based).af. 8,343
 72 (tele-nurs* or tele-medicine or telenurs* or telemedicine or telehealth or "video
 consult*" or "remote care" or "virtual care" or "electronic consult system*").af.
 430
 73 ("artificial intelligence" or AI or GenAI or "Generative AI" or "generative artificial
 intelligence").af. 1,675
 74 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or
 72 or 73 9,213
 75 22 and 34 and 56 and 74 [with primary care] 2,008
 76 limit 75 to yr="2015-2026" 798

Joanna Briggs Institute

JBI EBP Database <Current to February 26, 2025>

Line # Terms # of Results

1	Empathy/	2	
2	Attitude of Health Personnel/	0	
3	Respect/	2	
4	Patient-Centered Care/	5	
5	Professional-Patient Relations/	0	
6	Nurse-Patient Relations/	0	
7	Physician-Patient Relations/	0	
8	(care adj3 (compassion* or empath*)).mp.	49	
9	(behavio#r* adj3 (caring or care or compassionate or compassion or empathy or empathetic)).mp.	93	
10	(patient adj3 (centered or interaction* or communication*)).mp.	539	
11	(relation* adj3 (patient-provider or therapeutic)).mp.	98	
12	(compassion or compassionate or empathy or empathetic).ti,kw,ab.	36	
13	(build* adj3 rapport).mp.	25	
14	(communication* adj3 (verbal or nonverbal)).mp.	108	
15	(skill* adj3 interpersonal).mp.	72	
16	("patient interaction" adj3 (recognition or recogniz* or consider* or understand* or acknowledg* or emotion* or trust* or dignity or Humane or Humanity or humanism or humanistic or humanitarian)).mp.	0	
17	(alliance* adj2 therapeutic).mp.	18	
18	(suffer* adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).mp.	26	
19	(distress* adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).mp.	61	
20	(pain adj3 (recogni* or recognition or consider* or respond* or alleviate* or aware* or respond* or empath* or sympath* or understand* or acknowledg* or attitude*)).mp.	176	
21	(responsibility or responsible or obligation or "social role" or motivation or motivated or inspired or inspiration or "human right*").mp.	1537	
22	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 or 16 or 17 or 18 or 19 or 20 or 21	2130	
23	Family Practice/	0	
24	General Practice/	3	
25	Primary Health Care/	12	
26	Physicians, Family/	0	
27	General Practitioners/	3	
28	Physicians, Primary Care/	0	

29	Family Nursing/	0
30	Family Nurse Practitioners/	0
31	Primary Care Nursing/	0
32	(family adj3 (care or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*)).mp.	620
33	(primary adj3 (care or healthcare or "care practice" or medicine or practice or physician* or nurse* or doctor* or practitioner*)).mp.	1147
34	23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33	1497
35	Internship and Residency/	0
36	Health Educators/	0
37	Clinical Clerkship/	0
38	Education, Continuing/	0
39	Education, Medical/	0
40	Education, Nursing/	0
41	Mentoring/	4
42	Preceptorship/	2
43	Nurses/	35
44	Students, Nursing/	0
45	Nurse Practitioners/	6
46	Advanced Practice Nursing/	5
47	curriculum/	3
48	teaching/	3
49	inservice training/	1
50	(medical adj3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)).mp.	5372
51	(general adj3 (resident* or trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner*)).mp.	433
52	(nurs* adj3 (trainee* or student* or professional* or residency or clerkship or educator* or mentor* or intern* or preceptor* or practitioner* or practical)).mp.	1048
53	health educator*.mp.	40
54	(preceptor* or trainer or mentor* or educator*).mp.	533
55	(curriculum or curricula or course* or workshop* or teach* or train* or learn* or taught*).mp.	3663
56	35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55	7256
57	Digital Health/	7
58	Medical Records Systems, Computerized/	0
59	Electronic Health Records/	1
60	Medical Records/	1
61	Health Records, Personal/	0
62	Patient Portals/	1

63 Medical Order Entry Systems/ 0
 64 telemedicine/34
 65 telehealth/ 35
 66 artificial intelligence/ 7
 67 ("health information system*" or "hospital information system*" or HIS).mp. 564
 68 (portal adj3 ("patient messag*" or secure)).mp. 4
 69 (messag* adj3 (patient or respond* or exchang* or interaction*)).mp. 18
 70 ("Electronic medical record*" or "electronic record" or "electronic health record" or
 EHR or EMR or "digital health record*" or "digital record*" or "computerized health
 record*" or "computerized record*").mp. 98
 71 (system* adj3 (documentation or charting or "chart* medical record*")).mp. 20
 72 ("digital technolog*" or computer or tablet or "electronic chart*" or "health
 information technolog*" or technolog*-based).mp. 668
 73 (tele-nurs* or tele-medicine or telenurs* or telemedicine or telehealth or "video
 consult*" or "remote care" or "virtual care" or "electronic consult system*").mp.
 246
 74 ("artificial intelligence" or AI or GenAI or "Generative AI" or "generative artificial
 intelligence").mp. 223
 75 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or
 72 or 73 or 74 1455
 76 22 and 34 and 56 and 75 381
 77 limit 76 to yr="2015-2026" 197

Education Resources Information Center (ERIC)

Set	Search	Results
S1	(MAINSUBJECT.EXACT("Empathy") OR MAINSUBJECT.EXACT("Attitudes") OR MAINSUBJECT.EXACT("Physician Patient Relationship") OR (care NEAR/3 (compassion OR compassionate OR empathy OR empathetic)) OR (behavior NEAR/3 (caring OR care OR compassionate OR compassion OR empathy OR empathetic)) OR (behaviors NEAR/3 (caring OR care OR compassionate OR compassion OR empathy OR empathetic)) OR (patient NEAR/3 (centered OR interaction OR interactions OR communication OR communications OR communicate OR communicates)) OR (relationship NEAR/3 (patient-provider OR therapeutic)) OR (relationships NEAR/3 (patient-provider OR therapeutic)) OR (relations NEAR/3 (patient-provider OR therapeutic)) OR (relational NEAR/3 (patient-provider OR therapeutic)) OR (compassion OR compassionate OR empathy OR empathetic) OR (build NEAR/3 rapport) OR (building NEAR/3 rapport) OR (builds NEAR/3 rapport) OR (communication NEAR/3 (verbal OR nonverbal)) OR (communications NEAR/3 (verbal OR nonverbal)) OR (skill NEAR/3 interpersonal) OR (skills NEAR/3 interpersonal) OR ("patient interaction" NEAR/3 (recognition OR recognize OR recognizing OR recognizes OR consider OR considering OR considers OR understand OR understands OR understanding OR acknowledge OR acknowledgement OR acknowledging OR acknowledges OR emotion OR emotions OR emotional OR trust OR trusts OR trusting OR dignity OR Humane OR Humanity OR humanism OR humanistic OR humanitarian)) OR (alliance NEAR/2 therapeutic) OR (alliances NEAR/2 therapeutic) OR (suffer NEAR/3 (recognize OR recognizing OR recognizes OR recognition OR consider OR considering OR considers OR respond OR responds OR responding OR alleviate OR alleviates OR alleviating OR aware OR awareness OR empathy OR empathetic OR sympathy OR sympathetic OR understand OR understanding OR understands OR acknowledge OR acknowledges OR acknowledgement OR attitude OR attitudes)) OR (suffering NEAR/3 (recognize OR recognizing OR recognizes OR recognition OR consider OR considering OR considers OR respond OR responds OR responding OR alleviate OR alleviates OR alleviating OR aware OR awareness OR empathy OR empathetic OR sympathy OR sympathetic OR understand OR understanding OR understands OR acknowledge OR acknowledges OR acknowledgement OR attitude OR attitudes)) OR (distress NEAR/3 (recognize OR recognizing OR recognizes OR recognition OR consider OR considering OR considers OR respond OR responds OR responding OR alleviate OR alleviates OR alleviating OR aware OR awareness OR empathy OR empathetic OR sympathy OR sympathetic OR understand OR understanding OR understands OR acknowledge OR acknowledges OR acknowledgement OR attitude OR attitudes)) OR (pain NEAR/3 (recognize OR recognizing OR recognizes OR recognition OR consider OR considering OR considers OR respond OR responds OR responding OR alleviate OR alleviates OR alleviating OR aware OR awareness OR empathy OR empathetic OR sympathy OR sympathetic OR understand OR understanding OR understands OR acknowledge OR acknowledges OR acknowledgement OR attitude OR attitudes))	

- OR attitudes)) OR (responsibility OR responsible OR obligation OR "social role" OR motivation OR motivated OR inspired OR inspiration OR "human right" OR "human rights")) 237,416
- S2 (MAINSUBJECT.EXACT("Internships (medical)") OR MAINSUBJECT.EXACT("Clinical experience") OR MAINSUBJECT.EXACT("Continuing Education") OR MAINSUBJECT.EXACT("professional continuing education") OR MAINSUBJECT.EXACT("medical education") OR MAINSUBJECT.EXACT("graduate medical education") OR MAINSUBJECT.EXACT("nursing education") OR MAINSUBJECT.EXACT("Mentors") OR MAINSUBJECT.EXACT("Preceptorships (medical)") OR MAINSUBJECT.EXACT("Nurses") OR MAINSUBJECT.EXACT("registered nurses") OR MAINSUBJECT.EXACT("professional nurses") OR MAINSUBJECT.EXACT("licensed nurses") OR MAINSUBJECT.EXACT("certified nurses") OR MAINSUBJECT.EXACT("Nurse Practitioners") OR MAINSUBJECT.EXACT("curriculum content") OR MAINSUBJECT.EXACT("teaching practices") OR MAINSUBJECT.EXACT("inservice education") OR (medical NEAR/3 (resident OR residents OR trainee OR trainees OR student OR students OR professional OR professionals OR residency OR clerkship OR educator OR educators OR mentor OR mentors OR intern OR interns OR internship OR preceptor OR preceptorship OR practitioner OR practitioners)) OR (general NEAR/3 (resident OR residents OR trainee OR trainees OR student OR students OR professional OR professionals OR residency OR clerkship OR educator OR educators OR mentor OR mentors OR intern OR interns OR internship OR preceptor OR preceptorship OR practitioner OR practitioners)) OR (nurse NEAR/3 (resident OR residents OR trainee OR trainees OR student OR students OR professional OR professionals OR residency OR clerkship OR educator OR educators OR mentor OR mentors OR intern OR interns OR internship OR preceptor OR preceptorship OR practitioner OR practitioners)) OR (nurses NEAR/3 (resident OR residents OR trainee OR trainees OR student OR students OR professional OR professionals OR residency OR clerkship OR educator OR educators OR mentor OR mentors OR intern OR interns OR internship OR preceptor OR preceptorship OR practitioner OR practitioners)) OR (nursing NEAR/3 (resident OR residents OR trainee OR trainees OR student OR students OR professional OR professionals OR residency OR clerkship OR educator OR educators OR mentor OR mentors OR intern OR interns OR internship OR preceptor OR preceptorship OR practitioner OR practitioners)) OR (health NEAR/3 (educator OR educators)) OR (preceptor OR preceptors OR preceptorship OR trainer OR mentor OR mentors OR educator OR educators) OR (curriculum OR curricula OR course OR courses OR workshop OR workshops OR teach OR teaches OR train OR training OR learn OR learning OR taught)) 1,085,496
- S3 (MAINSUBJECT.EXACT("Family Practice (medicine)") OR MAINSUBJECT.EXACT("General Practice (medicine)") OR MAINSUBJECT.EXACT("Primary Health Care") OR (family NEAR/3 (care OR "care

practice" OR medicine OR practice OR physician OR physicians OR nurse OR nurses OR doctor OR doctors OR practitioner OR practitioners)) OR (primary NEAR/3 (care OR healthcare OR "care practice" OR medicine OR practice OR physician OR physicians OR nurse OR nurses OR doctor OR doctors OR practitioner OR practitioners))) 11,501

S4 (("health information system*" OR "hospital information system*" OR HIS) OR (portal NEAR/3 ("patient message" OR "patient messaging" OR "patient messages" OR secure)) OR (message NEAR/3 (patient OR respond OR response OR responding OR responds OR exchange OR exchanging OR exchanges OR interaction OR interactions)) OR (messages NEAR/3 (patient OR respond OR response OR responding OR responds OR exchange OR exchanging OR exchanges OR interaction OR interactions)) OR (messaging NEAR/3 (patient OR respond OR response OR responding OR responds OR exchange OR exchanging OR exchanges OR interaction OR interactions)) OR ("Electronic medical record" OR "Electronic medical records" OR "electronic record" OR "electronic records" OR "electronic health record" OR "electronic health records" OR EHR OR EMR OR "digital health record" OR "digital health records" OR "digital record" OR "digital records" OR "computerized health record" OR "computerized health records" OR "computerized record" OR "computerized records") OR (system NEAR/3 (documentation OR charting)) OR (systems NEAR/3 (documentation OR charting)) OR ("digital technology" OR "digital technologies" OR computer OR computers OR tablet OR tablets OR "electronic chart" OR "electronic charts" OR "electronic charting" OR "health information technology" OR "health information technologies" OR technology-based OR technologies-based) OR (tele-nurse OR tele-nursing OR tele-medicine OR telenurse OR telenursing OR telemedicine OR telehealth OR "video consult" OR "video consultation" OR "video consults" OR "remote care" OR "virtual care" OR "electronic consult system" OR "electronic consult systems") OR ("artificial intelligence" OR AI OR GenAI OR "Generative AI" OR "generative artificial intelligence")) 217,689

S5 S1 AND S2 AND S3 AND S4 65

S6 Narrowed by: Entered date: 2015-01-01 - 2025-03-14 29

Web of Science

Line Field Terms Results

- 1 Topic (care NEAR/3 (compassion* OR empath*)) OR (behavio?r* NEAR/3 (caring OR care OR compassionate OR compassion OR empathy OR empathetic)) OR (patient NEAR/3 (centered OR interaction* OR communication*)) OR (relation* NEAR/3 (patient-provider OR therapeutic)) OR (compassion OR compassionate OR empathy OR empathetic) OR (build* NEAR/3 rapport) OR (communication* NEAR/3 (verbal OR nonverbal)) OR (skill* NEAR/3 interpersonal) OR ("patient interaction" NEAR/3 (recognition OR recogniz* OR consider* OR understand* OR acknowledg* OR emotion* OR trust* OR dignity OR Humane OR Humanity OR humanism OR humanistic OR humanitarian)) OR (alliance* NEAR/2 therapeutic) OR (suffer* NEAR/3 (recogni* OR recognition OR consider* OR respond* OR alleviate* OR aware* OR respond* OR empath* OR sympath* OR understand* OR acknowledg* OR attitude*)) OR (distress* NEAR/3 (recogni* OR recognition OR consider* OR respond* OR alleviate* OR aware* OR respond* OR empath* OR sympath* OR understand* OR acknowleg* OR attitude*)) OR (pain NEAR/3 (recogni* OR recognition OR consider* OR respond* OR alleviate* OR aware* OR respond* OR empath* OR sympath* OR understand* OR acknowleg* OR attitude*)) OR (responsibility OR responsible OR obligation OR "social role" OR motivation OR motivated OR inspired OR inspiration OR "human right*")
- 2 Topic (family NEAR/3 (care OR "care practice" OR medicine OR practice OR physician* OR nurse* OR doctor* OR practitioner*)) OR (primary NEAR/3 (care OR healthcare OR "care practice" OR medicine OR practice OR physician* OR nurse* OR doctor* OR practitioner*))
- 3 Topic inservice training OR (medical NEAR/3 (resident* OR trainee* OR student* OR professional* OR residency OR clerkship OR educator* OR mentor* OR intern* OR preceptor* OR practitioner*)) OR (general NEAR/3 (resident* OR trainee* OR student* OR professional* OR residency OR clerkship OR educator* OR mentor* OR intern* OR preceptor* OR practitioner*)) OR (nurs* NEAR/3 (trainee* OR student* OR professional* OR residency OR clerkship OR educator* OR mentor* OR intern* OR preceptor* OR practitioner* OR practical)) OR "health educator*" OR (preceptor* OR trainer OR mentor* OR educator*) OR (curriculum OR curricula OR course* OR workshop* OR teach* OR train* OR learn* OR taught*)
- 4 Topic ("health information system*" OR "hospital information system*" OR HIS) OR (portal NEAR/3 ("patient messag*" OR secure)) OR (messag* NEAR/3 (patient OR respond* OR exchang* OR interaction*)) OR ("Electronic medical record*" OR "electronic record" OR "electronic health record" OR EHR OR EMR OR "digital health record*" OR "digital record*" OR "computerized health record*" OR "computerized record*") OR (system* NEAR/3 (documentation OR charting OR "chart* medical record*")) OR ("digital technolog*" OR computer OR tablet OR "electronic chart*" OR "health information technolog*" OR technolog*-based) OR (tele-nurs* OR tele-medicine OR telenurs* OR telemedicine OR telehealth OR "video consult*" OR "remote care" OR "virtual care" OR "electronic consult system*") OR ("artificial

intelligence" OR AI OR GenAI OR "Generative AI" OR "generative artificial intelligence")

1 AND 2 AND 3 AND 4 1,389 documents

Publication years: 2025 or 2024 or 2023 or 2022 or 2021 or 2020 or 2019 or 2018 or 2017 or 2016 or 2015 974 documents