Title: Nurse prescribing in primary care: A metasynthesis of the literature

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Figure 1

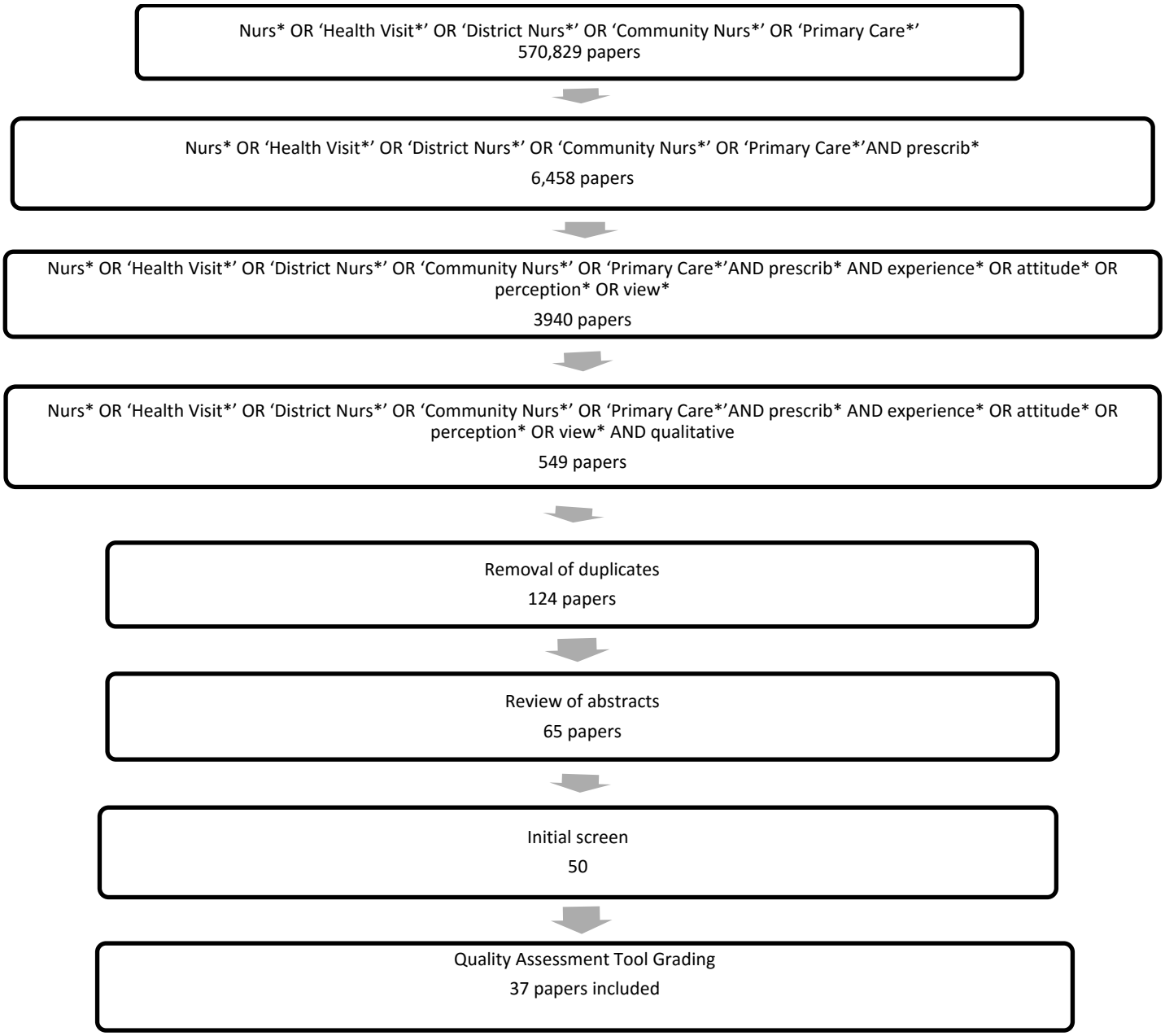
Nurs* OR 'Health Visit*' OR 'District Nurs*' OR 'Community Nurs*' OR 'Primary Care*'
570,829 papers
Nurs* OR 'Health Visit*' OR 'District Nurs*' OR 'Community Nurs*' OR 'Primary Care*'AND prescrib*
6,458 papers
Nurs* OR 'Health Visit*' OR 'District Nurs*' OR 'Community Nurs*' OR 'Primary Care*'AND prescrib* AND experience* OR attitude* OR perception* OR view*
3940 papers
Nurs* OR 'Health Visit*' OR 'District Nurs*' OR 'Community Nurs*' OR 'Primary Care*'AND prescrib* AND experience* OR attitude* OR perception* OR view* AND qualitative
549 papers
Removal of duplicates
124 papers
Review of abstracts
65 papers
Initial screen
50
Quality Assessment Tool Grading
37 papers included

TABLE 1	
Databases	Others
CINAHL MEDLINE / OVID MEDLINE ACADEMIC SEARCH COMPLETE PROQUEST HEALTH & MEDICAL COMPLETE OVID JOURNALS@OVID EMBASE ERIC HMIC ELECTRONIC THESIS ONLINE SERVICE (EThOS)	Gov.UK NICE Evidence Search Health & Social Care Conference Papers/Presentations

TABLE 2	
Included Criteria	Independent nurse prescribers practicing in primary/community care Supplementary nurse prescribers practicing in primary/community care V100 prescribers V150 prescribers V300 prescribers
Excluded Criteria	Other prescribing groups: doctors, physicians, pharmacists, physiotherapists, radiographers, podiatrists/chiropodists, optometrists, dentists Patient perspectives Non-Medical Prescribing Leads/managers Non-prescribing colleagues Nurse prescibers not practicing in primary/community care Studies not available in English Studies conducted pre-1999 Wholly quantitative methodologies Non-peer reviewed journals
Search Terms	
P (population)	• Nurse / Nurses / Nursing (Nurs*) • Health Visitor / Health Visiting ('Health Visit*') • District Nurse / District Nursing ('District Nurs*') • Community Nurse / Community Nursing ('Community Nurs*') • Primary Care ('Primary Care*)
I (issue)	• Prescriber / Prescribers /Prescribing (Prescrib*)
E (Effect/method)	• Qualitative

Table 3: Quality assessment tool (Downe et al, 2009)
Are the aims clear? Are the participants appropriate for the research question? Is the design appropriate for the aims and theoretical perspective? Is the method(s) appropriate for the design? Is the sample size and sampling justified? Does the data analysis fit with the methodology? Is reflexivity present? Is the study ethical? Does the data justify the findings? Is the context described sufficiently? Is there sufficient evidence of rigour?

Table 4: Grading System (Downe et al 2009)
A: No, or few flaws. The study credibility, transferability, dependability and confirmability is high. B: Some flaws, unlikely to affect the credibility, transferability, dependability and/or confirmability of the study. C: Some flaws that may affect the credibility, transferability, dependability and/or confirmability of the study. D: Significant flaws that are very likely to affect the credibility, transferability, dependability and/or confirmability of the study.

Table 5: Characteristics of papers included in metasynthesis			
Code	**Author, date & country**	**Title**	**Design/Method**
1	Bhanbhro, S., Drennan, V. M., Grant, R., & Harris, R. (2011) UK, USA, Canada, Botswana, Zimbabwe	Assessing the contribution of prescribing in primary care by nurses & professionals allied to medicine: a systematic review	Integrative review of literature
2	Bowden, L (2004) England	The impact of nurse prescribing on the role of the district nurse	Qualitative Interviews
3	Bowskill, D. (2009) England	The integration of nurse prescribing: case studies in primary & secondary care	Qualitative Case study design. Semi-structured interviews
4	Bradley, E.,Hynam, B. & Nolan, P. (2007) England	Nurse prescribing: reflections on safety in practice	Qualitative Interviews
5	Bradley, E. & Nolan, P. (2007) England	Impact of nurse prescribing: a qualitative study	Qualitative Grounded theory approach Semi-structured interviews
6	Brodie, L., Donaldson, J. & Watt, S. (2014) Scotland	Non-medical prescribers & benzo-diazepines: a qualitative study	Qualitative Semi- structured interviews
7	Carey, N., Courtenay, M. & Burke, J. (2007) UK-wide	Supplementary nurse prescribing for patients with skin conditions: a national questionnaire survey	Mixed methods Self-completed questionnaire
8	Carey, N., Stenner, K. & Courtenay, M. (2014) England	An exploration of how nurse prescribing is being used for patients with respiratory conditions across the east of England	Qualitative Semi- structured telephone interviews
9	Carey, N., Stenner, K. & Courtney, M. (2010) England	How nurse prescribing is being used in diabetes services: views of nurses & team members	Qualitative Semi- structured interviews
10	Coull, A., Murray, I., Turner-Halliday, F. & Watterson, A. (2013) Scotland	The expansion of nurse prescribing in Scotland: an evaluation	Mixed method omnibus survey case study interviews
11	Cousins, R. & Donnell, C. (2012) England	Nurse prescribing in general practice: a qualitative study of job satisfaction & work-related stress	Qualitative In-depth interviews
12	Darvishpour, A, Joolaee, S. & Cheraghi, M.A. (2014) UK, USA, Canada, Botswana, Zimbabwe, Australia, Ireland, New Zealand, Sweden	A meta-synthesis study of literature review & systematic review published in nurse prescribing	Qualitative meta- synthesis
13	Davies, J. (2005) England	Health visitors' perceptions of nurse prescribing: a qualitative field work study	Qualitative Interviews
14	Department of Health (2011) UK	Evaluation of nurse & pharmacist independent prescribing	Mixed methods Questionnaire survey, focus groups, interviews & workshops
15	Downer, F. & Shepherd, C.M. (2010) Scotland	District nurses prescribing as nurse independent prescribers	Qualitative Heideggerian Phenomenology Interviews
16	Fisher, R. (2010) England	Nurse prescribing: A vehicle for improved collaboration, or a stumbling block to inter-professional working?	Qualitative Ethnographic Interviews & observations
17	Hall, J. (2006) UK	Influences on community nurse prescribing	Mixed methods Semi- structured interviews Questionnaire
18	Hall, J., Cantrill, J. & Noyce, P. (2006) England	Why don't trained community nurse prescribers prescribe?	Mixed methods Semi- structured interviews Questionnaire
19	Hall, J., Cantrill, J. & Noyce, P. (2004) England	Managing independent prescribing: the influence of primary care trusts on community nurse prescribing	Qualitative Semi-structured interviews
20	Hall, J., Cantrill, J. & Noyce, P. (2003) England	Influences on community nurse prescribing	Qualitative Semi-structured interviews
21	Harris, J. & Taylor, J. (2004) UK, Sweden, Australia, New Zealand, USA	Research literature review on prescribing	Literature review Quantitative & qualitative papers included
22	Jones, M., Bennett, J., Lucas, B., Miller,D. & Gray, R. (2007) England	Mental health nurse supplementary prescribing: Experiences of mental health nurses, psychiatrists and patients	Qualitative Semi-structured interviews

23	Klein, T. (2015) Oregon US	Clinical nurse specialist prescriber characteristics & challenges in Oregon	Mixed methods Descriptive survey
24	Lewis-Evans, A.& Jester, R. (2004) England	Nurse prescribers' experiences of prescribing	Qualitative. Minimally- structured interviews
25	Luker, K.A. & McHugh, G.A. (2002) UK	Nurse prescribing from the community nurse's perspective	Mixed methods Postal questionnaire Mainly open ended questions
26	Maddox, C. (2011) England	Influences on non-medical prescribing: nurse & pharmacist prescribers in primary & community care	Qualitative In-depth interviews. Critical incident technique
27	Mahoney, D.F. & Ladd, E. (2010) US	More than a prescriber: gerontological nurse practitioners' perspectives on prescribing & pharmaceutical marketing	Qualitative Focus groups
28	NIPEC (2007) Northern Ireland	Review of the implementation of the nurse prescriber role	Mixed methods Questionnaire Focus groups workshops
29	Ross, J.D., Clarke, A. & Kettles, A.M. (2014) England	Mental health nurse prescribing: using a constructivist approach to investigate the nurse-patient relationship	Qualitative constructivist Focus groups interviews
30	Scottish Gov. (2009) Scotland	An evaluation of nurse prescribing in Scotland	Mixed methods Questionnaire Survey Case studies Interviews
31	Sodha, M., McLaughlin, M., Williams, G. & Dhillon, S. (2002) England	Nurses' confidence & pharmaco-logical knowledge	Mixed methods Cross-sectional survey. Open & closed questions
32	Spitz, A., Moore, A., A., Papaleontio, M., Granieri, E., Turner, B., J., & Reid, M. (2011) New York US	Primary care providers' perspective on prescribing opioids to older adults with chronic non-cancer pain: a qualitative study.	Qualitative cross- sectional study Focus groups
33	Stenner, K., Carey, N., & Courtenay, M. (2010) England	How nurse prescribing influences the role of nursing	Qualitative case study approach Interviews
34	Stenner, K., Carey, N., & Courtenay, M. (2010) England	Implementing nurse prescribing: a case study in diabetes	Qualitative Semi- structured interviews
35	Stenner, K., & Courtenay, M. (2008) England	Benefits of nurse prescribing for patients in pain: nurses' views	Qualitative Semi- structured interviews
36	Stenner, K., & Courtenay, M. (2008) England	The role of inter-professional relationships & support for nurse prescribing in acute & chronic pain	Qualitative Semi- structured interviews
37	Wilhelmsson S., & Foldevi, M. (2003) Sweden	Exploring views on Swedish district nurses' prescribing: a focus group study in primary care	Qualitative Focus group interviews

Table 6: Three step approach to metasynthesis			
First Order Interpretations	**Second Order Interpretations**	**Papers**	**Third Order Interpretations**
Efficiency, timeliness, waiting times, access to medicines, reduced hospital admissions, use of skills, confidence in NMP, more time with patient, acceptability, patient satisfaction, ability to provide information, patient choice, improved adherence, flexibility in appointment times, concordance, minimal disruption, lack of established relationship made nurses uneasy about prescribing, patients expected more than nurses could offer.	Patient impact	1, 5, 8, 10, 13, 14, 15, 17, 20, 21, 24, 27, 35	**The need to provide patient-centred care**
Seamless care, improved patient care, better patient care, complete episodes of care, patient-centred, continuity of care	Completing care	1, 2, 5, 8, 10, 12, 15, 24, 30, 35	
Effectiveness of treatment, cost-effectiveness, resources, Nurses felt they were more aware of budgetary issues whilst doctors worried they would not be aware. External pressures from their managers and formularies to prescribe low cost products, more time for consultations, value to the service	Service impact	1, 2, 10, 13, 17, 20, 24	**The benefits to the service**
Training, preparation for practice, assimilation of knowledge, Correlation between specialist training and higher rates of prescribing, Knowledgeable about pharmacology, more knowledgeable, CPD, responsibility to keep up to date	Knowledge	2, 4, 6, 7, 9, 10, 11, 12, 14, 15, 17, 19, 21, 22, 25, 30, 31, 35, 37	**The need for knowledge**
Accountability, use of guidelines, those who did deviate tended to be more experienced NPs. Views on formularies were neutral (a guide) to negative (restrictive).	Accountability	2, 3, 17, 33	**Professional accountability and boundary setting**
Confidence, comfort, familiar products, competence to diagnose, decision making, risk of becoming over confident, over-estimation of competence, increased anxiety with increased responsibility, less comfortable prescribing items for first time or that they rarely prescribed, more comfortable prescribing items associated with low risk), some products risky (paracetamol and laxatives), less comfortable prescribing for the first time or an item rarely prescribed.	Competence	2, 3, 4, 8, 10, 12, 15, 17, 20, 25, 26, 31, 35	
Risk taking, safe and unsafe items, safer than by proxy, more careful, audit, co-morbidities, concerns re lack of diagnostic expertise, Cautious approach supported patient safety, Range of quality assurance tools and CPD activities used, lack of experience in prescribing for particular age groups, lack of access to records to determine underlying conditions, allergies, if treatment had been prescribed previously (more comfortable prescribing items pts have had before, uncomfortable prescribing for a pt they did not know, fear of making mistakes, reliability of patient and caregiver	Avoiding harm	2, 3, 4, 8, 10, 12, 14, 17, 20, 22, 26, 30, 32, 35	**Safety consciousness**
Chore of repeat prescribing, pressure to prescribe, differences in practice, time, lack of support and CPD, cross- GP boundary challenges, budgets, increased workloads, lack of reward, legal limitations, executive factors, educational deficiencies, research weaknesses, concerns re pharmacological knowledge, lack of understanding of role, limited formulary, access to records, views on formularies ranged from neutral to negative, with them acting as a guide which was not required or restricting prescriber choice /professional freedom.	Barriers	2, 3, 7, 8, 10, 11, 12, 13, 15, 17, 18, 26	**Barriers to effective prescribing**
Job satisfaction, improved professional role, Being left behind, self-empowerment, professionalism, working outside traditional boundaries, complement not replace doctors, new boundaries, traditional hierarchies, doctor-checking, exclusive to doctors, self-esteem, ability to challenge, legitimising nursing role, integrating caring and curing, medicalisation, add-on role, brand of prescriber, autonomy, status, respect from colleagues and patients, essential to specialist roles, shared territory, reaching full potential, increased the respect they received from doctors, used prescribing to complement nursing actions rather than substitute other aspects of their role, Job descriptions should support the NP role.	Nursing role	2, 3, 5, 6, 8, 9, 10, 11, 12, 13, 14, 26, 27, 29, 30, 33, 35, 36	**Role preservation**
Improved relationship with pharmacist, collaborative working, improved communication with colleagues, doctors' time was also used more effectively to deal with more complex cases, some doctors unclear about nurses prescribing authority, good interdisciplinary communication re prescribing in their area of practice, GPs dictating what can be prescribed, access to GPs, control and domination, inappropriate expectations, lack of understanding of role, fear of exploitation, resistance from colleagues, professional rivalry, no change in status, change in content of conversations and in team interactions, lack of reward	Collaboration and relationships with colleagues	2, 3, 4, 9, 10, 12, 14, 16, 17, 24, 34, 36	**Power-shifts in Inter-professional relationships**

Support, trust, link between support of doctor and effectiveness	Doctor's influence and support	3, 4, 5, 8, 9, 10, 25, 28, 34, 36, 37	
Need for organisational support, fragmented implementation of policy, NP was largely driven by the practitioner to enhance existing services rather than enable service re-design, only half of Trusts had a strategy for the development of NMP, organisational preparedness	Organisational support	1, 3, 5, 10, 14, 22, 34, 36, 37	**Culture of prescribing**