Barrier	Career Entry (Count)	Career Entry (Sources)	Role Transition (Count)	Role Transition (Sources)	Reten- tion (Count)	Retention (Sources)	Driver	Career Entry (Count)	Career Entry (Sources)	Role Transition (Count)	Role Transition (Sources)	Retention (Count)	Retention (Sources)
Lack of support/ Isolation from team (n=19)	10 Mixed- methods studies (n=3), qualitative studies (n=7)	[6,14,30,32, 40,43,49] (with transition pro- grammes): [31,38,41]	8 Qualitative studies (n=6), ob- servational studies (n=2)	[9,19,20,27, 28,37,44,45]	1 Obser- vational study (n=1)	[35]	Support/ integra- tion from team (n=16)	11 Mixed- methods studies (n=3), qualitative studies (n=7), quasi- experiment al study (n=1)	[6,8,14,32,4 9] with transition pro- grammes): [24,25,31,3 8,41,53]	5 Qualitative studies (n=4), obser- vational studies (n=1)	[9,20,28,39, 44]	0	-
Fear of making mistakes/ self-doubt (n=15)	9 Mixed- methods studies (n=2), qualitative studies (n=7)	[10,14,30,3 2,40,49] (with transition pro- grammes): [1,13,41]	6 Qualitative studies (n=6)	[19,20,36,3 9,44,45]	0	-	Accep- tance of making mistakes (n=1)	1 Mixed- methods study (n=1)	[32]	0	-	0	-
Less reflection (n=1)	1 Qualitative studies (n=1)	[8]	0	-	0	-	Getting feedback /reflec- tion (n=8)	7 Qualitative studies (n=3), mixed- methods studies (n=3), quasi- experiment al study (n=1)	[6,8,32,49] (with transition pro- grammes): [13,38,53]	1 Qualitative studies (n=1)	[44]	0	-

Attachment 3: Cross-classification of barriers and drivers in the areas of careed entry, role transition and retention

Attachment 3 to Müller J, Breitinger F, Bräuer P, Dauer B, Zilenzinski M, Paulicke D, Jahn P. Drivers and barriers to career entry and retention of nurses with initial higher education: a scoping review. GMS J Med Educ. 2025;42(3):Doc35. DOI: 10.3205/zma001759

Barrier	Career Entry (Count)	Career Entry (Sources)	Role Transition (Count)	Role Transition (Sources)	Reten- tion (Count)	Retention (Sources)	Driver	Career Entry (Count)	Career Entry (Sources)	Role Transition (Count)	Role Transition (Sources)	Retention (Count)	Retention (Sources)
Lack of experience with complex cases/ new situations (n=2)	2 Mixed- methods studies (n=1), qualitative studies (n=1)	With transition programme s: [31,41]	0	-	0	-	Increa- sing ex- perience (n=1)	1 Qualitative studies (n=1)	[8]	0	-	0	-
Lack of knowledge /less pre- paration through education (n=2)	1 Qualitative studies (n=1)	[43]	0	-	1 Obser- vational studies (n=1)	[35]	Desire to train and learn (n=4)	2 Mixed- methods studies (n=2)	With transition pro- grammes: [25,38]	2 Qualitative studies (n=2)	[20,37]	0	-
Lack of job satifaction (n=2)	0	-	0	-	2 Qualita- tive studies (n=1), Obser- vational studies (n=1)	[7,35]	Job variety and satifac- tion (n=1)	0	-	0	-	1 Qualita-tive studies (n=1)	[34]
High workload/ overload (n=13)	12 Mixed- methods studies (n=3), qualitative studies (n=9)	[10,14,30,3 2,40,43,49] With transition pro- grammes: [1,18,31,38, 41]	0	-	1 Ober- vational studies (n=1)	[35]	Integrati on into work enviro- ments (n=15)	11 Mixed- methods studies (n=5), qualitative studies (n=6)	[6,10,32,40, 49] With transition pro- grammes: [13,18,24,2 5,31,38]	4 Qualitative studies (n=4)	[19,37,39,4 5]		

Attachment 3 to Müller J, Breitinger F, Bräuer P, Dauer B, Zilenzinski M, Paulicke D, Jahn P. Drivers and barriers to career entry and retention of nurses with initial higher education: a scoping review. GMS J Med Educ. 2025;42(3):Doc35. DOI: 10.3205/zma001759

Barrier	Career Entry (Count)	Career Entry (Sources)	Role Transition (Count)	Role Transition (Sources)	Reten- tion (Count)	Retention (Sources)	Driver	Career Entry (Count)	Career Entry (Sources)	Role Transition (Count)	Role Transition (Sources)	Retention (Count)	Retention (Sources)
Tension with medical staff (n=6)	4 Mixed- methods studies (n=1), qualitative studies (n=3)	[6,14,32,49]	2 Qualitative studies (n=1), ob- servational studies (n=1)	[28,44]	0	-	Support from mentors (n=13)	10 Mixed- methods studies (n=4), qualitative studies (n=5), quais- experiment al studies (n=1)	[6,10,14,32, 40,49] With transition pro- grammes:[1 3,25,31,53]	3 Qualitative studies (n=3)	[29,39,44]	0	-
Lack of time (n=6)	6 Mixed- methods studies (n=1), qualitative studies (n=5)	[6,14,32,40, 43,49]	0	-	0	-							
Lack of staff (n=5)	3 Mixed methods studies (n=1), qualitative studies (n=2)	[6,14,32]	2 Qualitative studies (n=2)	[19,37]	0	-							
No say in organi- sation (n=4)	4 Qualitative studies (n=4)	[8,9,14,30]	0	-	0	-							

Barrier	Career Entry (Count)	Career Entry (Sources)	Role Transition (Count)	Role Transition (Sources)	Reten- tion (Count)	Retention (Sources)	Driver	Career Entry (Count)	Career Entry (Sources)	Role Transition (Count)	Role Transition (Sources)	Retention (Count)	Retention (Sources)
Violence in organi- sations (n=2)	2 Qualitative studies (n=2)	[14,40]	0	-	0	-							
Lack of challenge (n=1)	0	-	0	-	1 Obser- vational studies (n=1)	[35]							
Work-life- imbalance (n=1)	0	-	0	-	1 Obser- vational studies (n=1)	[35]							