Supplemental Online Content

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eAppendix 2. Summary of Answers to Open Questions on Barriers of and Enablers to BZRA Deprescribing (General Practitioners)

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. Background characteristics of hospital physicians, by country

Characteristic	Belgium No. (%) (n=43) [a]	Greece No. (%) (n =40) [a]	Norway No. (%) (n =37) [a]	Poland No. (%) (n=40) [a]	Spain No. (%) (n=40) [a]	Switzerland No. (%) (n=40) [a]
Age, y						
≤ 30	18 (41.9)	10 (25)	8 (21.6)	12 (30)	3 (7.5)	14 (35)
31 – 40	12 (27.9)	3 (7.5)	11 (29.7)	7 (17.5)	8 (20)	22 (55)
41 – 50	7 (16.3)	16 (40)	12 (32.4)	16 (40)	10 (25)	3 (7.5)
51 – 60	5 (11.6)	8 (20)	4 (10.8)	4 (10)	10 (25)	0 (0)
≥ 61	1 (2.3)	3 (7.5)	2 (5.5)	1 (2.5)	9 (22.5)	1 (2.5)
Gender						
Male	17 (40.5)	20 (50)	17 (45.9)	14 (37.8)	12 (30)	11 (27.5)
Female	25 (59.5)	20 (50)	20 (54.1)	23 (62.2)	27 (67.5)	29 (72.5)
Prefer not to answer	0 (0)	0 (0)	0 (0)	0 (0)	1 (2.5)	0 (0)
Occupation, hospital physicians						
Geriatrician	10 (23.3)	1 (2.5)	18 (48.6)	0 (0)	15 (37.5)	0 (0)
Psychiatrist	4 (9.3)	1 (2.5)	4 (10.9)	0 (0)	1 (2.5)	0 (0)
Internist	8 (18.6)	22 (55)	15 (40.5)	0 (0)	13 (32.5)	40 (100)
Cardiologist	0 (0)	0 (0)	0 (0)	20 (50)	0 (0)	0 (0)
Neurologist	6 (14)	0 (0)	0 (0)	20 (50)	2 (5)	0 (0)
Other	15 (34.9)	16 (40)	0 (0)	0 (0)	9 (22.5)	0 (0)
Type of care, hospital physicians						
Inpatients	17 (39.5)	13 (32.5)	17 (45.9)	19 (48.7)	12 (30.8)	33 (82.5)
Outpatients (clinics)	5 (11.7)	3 (7.5)	3 (8.2)	4 (10.3)	11 (28.2)	1 (2.5)
Both (inpatients/outpatients)	21 (48.8)	18 (45)	17 (45.9)	11 (41)	16 (41)	6 (15)
Experience, y						
< 5	16 (37.2)	8 (20)	11 (29.7)	14 (35)	4 (10)	23 (57.5)
5 – 9	10 (23.3)	7 (17.5)	3 (8.2)	4 (10)	7 (17.5)	11 (27.5)
10 – 14	5 (11.6)	8 (20)	9 (24.3)	3 (7.5)	1 (2.5)	3 (7.5)
15 – 19	3 (7)	4 (10)	7 (18.9)	7 (17.5)	8 (20)	1 (2.5)
≥ 20	9 (20.9)	13 (32.5)	7 (18.9)	12 (30)	20 (50)	2 (5)
Deprescribed BZRA before, self-reported						
Yes	34 (79.1)	22 (56.4)	35 (94.6)	26 (66.6)	34 (87.2)	33 (84.6)
No	9 (20.9)	17 (43.6)	2 (5.4)	13 (33.4)	5 (12.8)	6 (15.4)
Deprescribe BZRA routinely, self-reported						
Yes	32 (74.4)	19 (48.8)	18 (48.6)	18 (46.2)	22 (56.4)	26 (66.6)
No	11 (25.6)	20 (51.2)	19 (51.4)	21 (53.8)	17 (43.6)	13 (33.4)

[a] Missing response (excluded from percentages) totaled 4 for Gender (1 in Belgium; 3 in Poland), 2 for Type of care (1 in Poland; 1 in Spain), 4 for Deprescribed BZRA before (1 in Greece; 1 in Poland; 1 in Spain; 1 in Switzerland), 4 for Deprescribe BZRA routinely (1 in Greece; 1 in Poland; 1 in Spain; 1 in Switzerland)

eTable 2. Background characteristics of general practitioners, by country

Characteristic	Belgium No. (%) (n=20) [a]	Greece No. (%) (n=19) [a]	Norway No. (%) (n=2) [a]	Poland No. (%) (n=19) [a]	Spain No. (%) (n=16) [a]	Switzerland No. (%) (n=20) [a]
Age, y						
less than 30 years old	1 (5.0)	0 (0)	0 (0)	3 (15.8)	1 (6.2)	0 (0)
31 – 40 years old	4 (20.0)	6 (31.6)	0 (0)	8 (42.1)	4 (25.0)	6 (30.0)
41 – 50 years old	5 (25.0)	6 (31.6)	1 (50.0)	3 (15.8)	5 (31.2)	8 (40.0)
51 – 60 years old	4 (20.0)	7 (36.8)	1 (50.0)	5 (26.3)	6 (37.5)	4 (20.0)
61 years old and more	6 (30.0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (10.0)
Gender						
Men	13 (65.0)	13 (68.4)	1 (50.0)	4 (21.1)	5 (31.2)	8 (40.0)
Women	7 (35)	6 (31.6)	1 (50.0)	15 (78.9)	11 (68.8)	12 (60.0)
Type of practice, general practitioner						
Solo practice (in the office on my own)	5 (25.0)	8 (42.1)	0 (0)	4 (21.1)	2 (14.3)	2 (10.0)
Group practice, monodisciplinary	8 (40.0)	0 (0)	1 (50.0)	0 (0)	2 (14.3)	9 (45.0)
Group practice, multidisciplinary: PS and non-physicians)	6 (30.0)	2 (10.5)	0 (0)	6 (31.6)	5 (35.7)	4 (20.0)
Group practice, multidisciplinary: GPs, specialists, and non-physicians	1 (5.0)	9 (47.4)	1 (50.0)	9 (47.4)	5 (35.7)	5 (25.0)
Experience, y						
Less than 5 years	1 (5.0)	4 (21.1)	0 (0)	4 (21.1)	2 (12.5)	0 (0)
5 – 9 years	3 (15.0)	5 (26.3)	0 (0)	8 (42.1)	3 (18.8)	4 (20.0)
10 – 14 years	2 (10.0)	2 (10.5)	0 (0)	3 (15.8)	2 (12.5)	4 (20.0)
15 – 19 years	2 (10.0)	3 (15.8)	1 (50.0)	0 (0)	2 (12.5)	6 (30.0)
20 years or more	12 (60.0	5 (26.3)	1 (50.0)	4 (21.1)	7 (43.8)	6 (30.0)
Deprescribed BZRA before, self-reported						
Yes	18 (100)	13 (68.4)	2 (100)	14 (87.5)	15 (93.8)	20 (100)
No	0 (0)	6 (31.6)	0 (0)	2 (12.5)	1 (6.2)	0 (0)
Deprescribed BZRA routinely, self-reported						
Yes	15 (83.3)	13 (68.4)	2 (100)	9 (56.3)	10 (62.5)	17 (85.0)
No	3 (16.7)	6 (31.6)	0 (0)	7 (43.7)	6 (37.5)	3 (15.0)

[a] Missing response (excluded from percentages) totaled 2 for Type of practice (2 in Spain), 5 for Deprescribed BZRA before (2 in Belgium, 3 in Poland), 5 for Deprescribed BZRA routinely (2 in Belgium, 3 in Poland
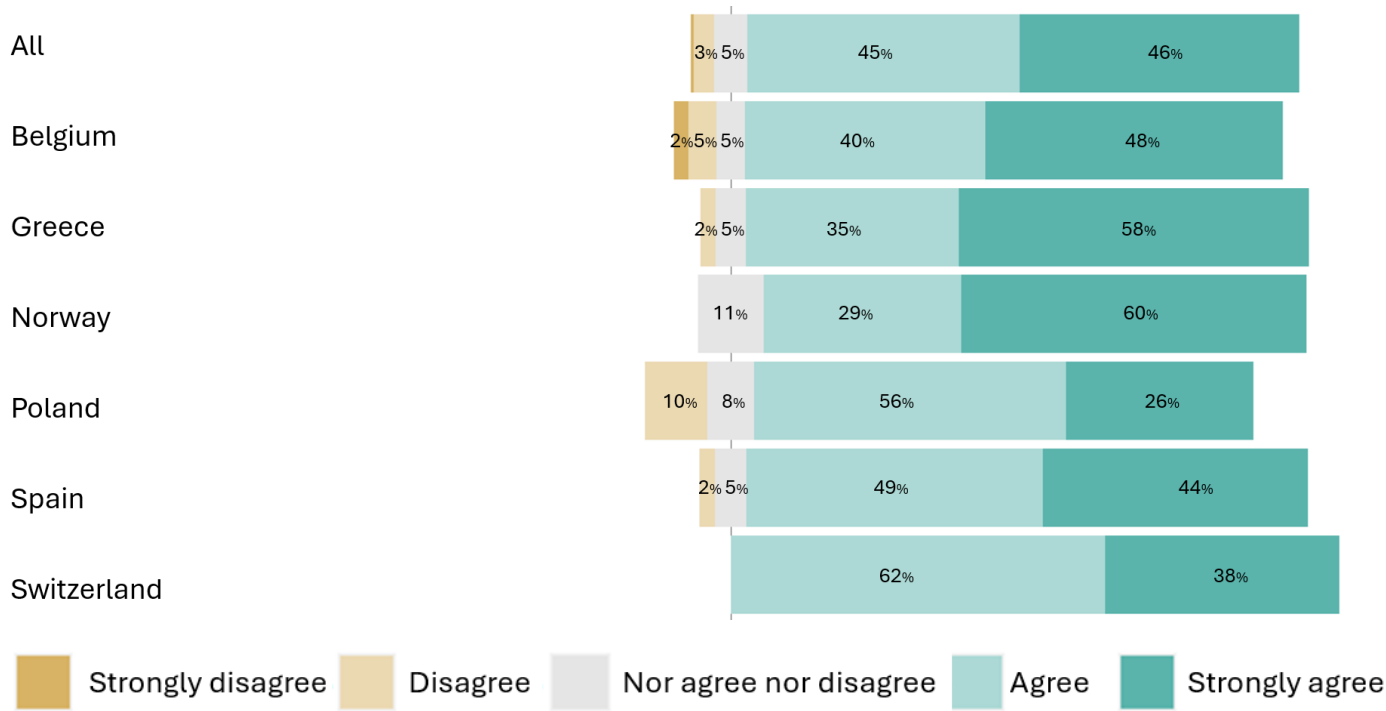
eTable 3. Barriers to and enablers of BZRA deprescribing by TDF-based domains and items for hospital physicians: country-specific data.

The colour code for the tables below		
Enabler (mean ≥ 4.00)	Moderate Barrier (mean 3.00-3.99)	Major Barrier (mean ≤ 2.99)

eTable 3.1. Knowledge

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
I know the risks associated with the use of BZRA in older adults with sleep problems.	4.28 (0.93)	4.47 (0.72)	4.46 (0.69)	4.03 (0.90)	4.33 (0.70)	4.38 (0.49)
I know the situations or comorbidities in which BZRA deprescribing is not recommended.	3.07 (1.08)	3.88 (1.04)	3.46 (0.93)	3.05 (0.98)	3.79 (0.96)	3.13 (1.04)
I know how to taper BZRA in older adults with sleep problems.	3.28 (1.08)	3.67 (1.02)	3.35 (0.95)	3.03 (1.18)	3.90 (1.02)	2.74 (1.02)
I know how to engage patients about deprescribing BZRA.	3.12 (0.93)	3.60 (1.10)	3.39 (0.84)	2.90 (0.94)	3.73 (0.82)	3.55 (0.88)
I am aware of alternative approaches to deal with sleep problems in older adults.	3.70 (1.04)	3.75 (1.17)	3.59 (0.76)	3.62 (0.94)	3.85 (0.92)	3.92 (0.62)

I know the risks associated with the use of BZRA in older adults with sleep problems.

I know the situations or comorbidities in which BZRA deprescribing is not recommended.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	2%	26%	16%	44%	12%
Belgium	2%	38%	21%	30%	9%
Greece	2%	8%	22%	36%	32%
Norway		22%	19%	51%	8%
Poland	5%	30%	20%	45%	
Spain		18%	3%	61%	18%
Switzerland	2%	38%	8%	50%	2%

I know how to taper BZRA in older adults with sleep problems.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	4%	25%	18%	40%	13%
Belgium	7%	21%	14%	53%	5%
Greece		15%	28%	32%	25%
Norway		24%	24%	44%	8%
Poland	10%	28%	18%	36%	8%
Spain	5%	5%	10%	54%	26%
Switzerland		59%	15%	18%	8%

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I know how to engage patients about deprescribing BZRA.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	3%	18%	28%	42%	9%
Belgium	3%	26%	34%	32%	5%
Greece	5%	10%	29%	34%	22%
Norway	3%	14%	25%	58%	
Poland	5%	28%	44%	18%	5%
Spain		12%	12%	66%	10%
Switzerland		15%	25%	50%	10%

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

I am aware of alternative approaches to deal with sleep problems in older adults.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	2%	11%	16%	54%	17%
Belgium	5%	12%	9%	58%	16%
Greece	2%	18%	15%	33%	32%
Norway		11%	24%	60%	5%
Poland		13%	31%	38%	18%
Spain	2%	8%	12%	58%	20%
Switzerland		5%	8%	77%	10%

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

eTable 3.2. Skills

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
I have been trained on how to deprescribe BZRA in older adults with sleep problems.	2.70 (1.30)	3.05 (1.36)	2.81 (1.02)	2.41 (1.31)	2.95 (1.17)	2.51 (0.99)
I have been trained to engage patients about BZRA deprescribing.	2.33 (1.32)	3.05 (1.15)	2.51 (0.90)	2.45 (1.32)	2.79 (1.19)	2.92 (1.09)
I have been trained to implement alternative approaches for sleep problems in older adults.	2.67 (1.21)	2.95 (1.38)	2.78 (1.11)	2.52 (1.18)	3.00 (1.27)	3.00 (1.08)

I have been trained on how to deprescribe BZRA in older adults with sleep problems.
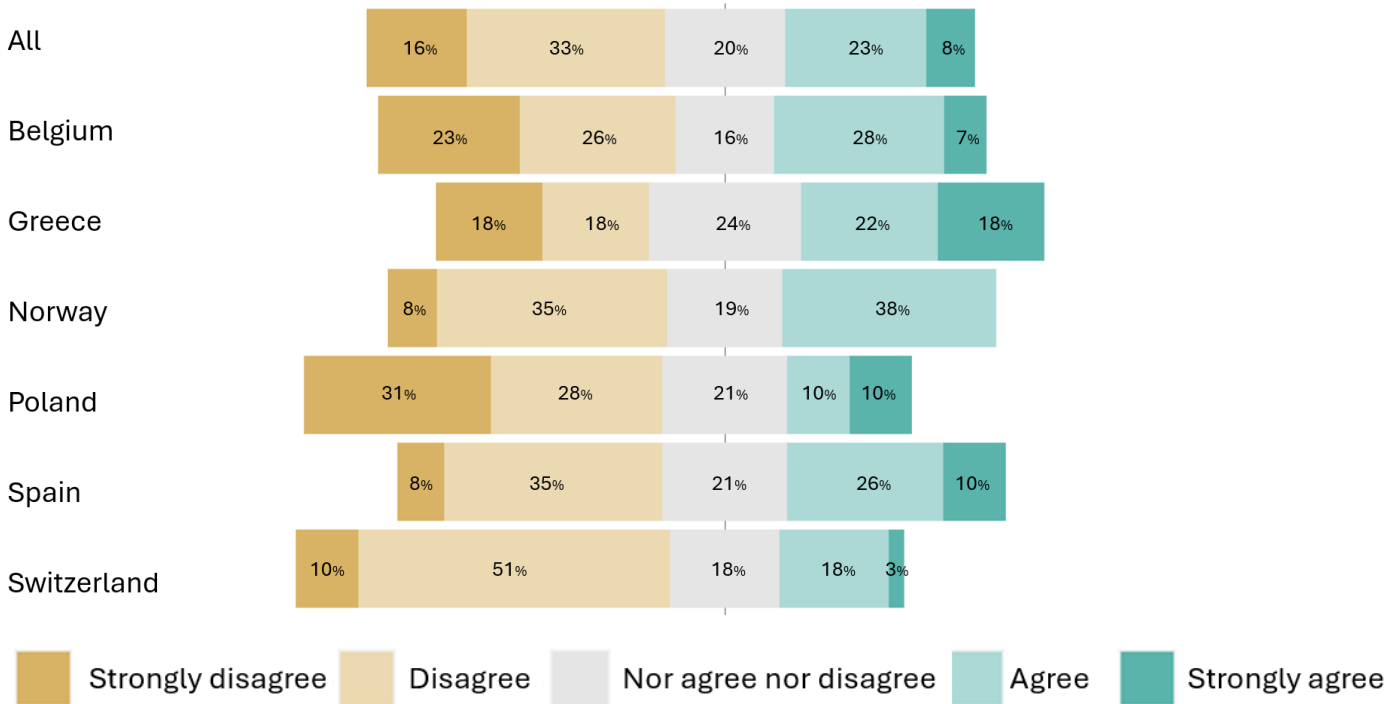
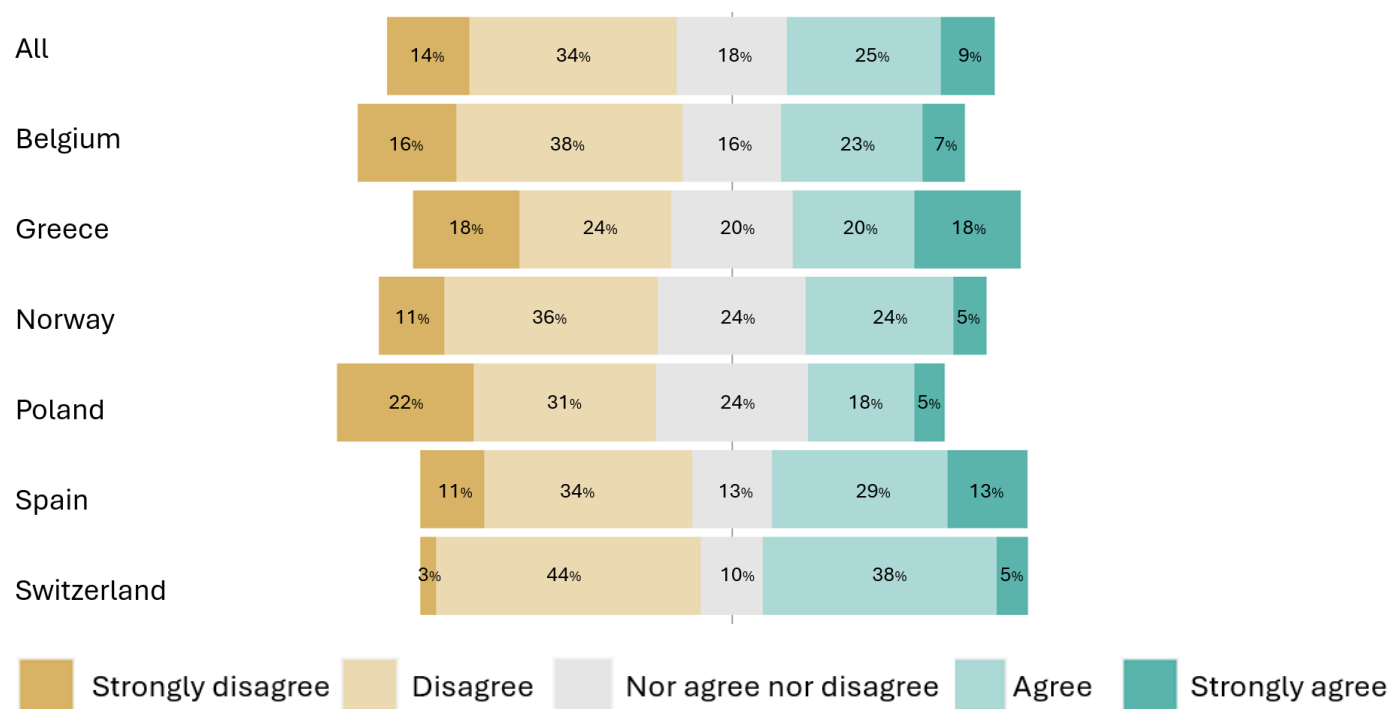## I have been trained to engage patients about BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	16%	37%	18%	22%	7%
Belgium	33%	33%	16%	7%	12%
Greece	10%	22%	30%	28%	10%
Norway	5%	59%	19%	14%	3%
Poland	30%	30%	12%	20%	8%
Spain	11%	43%	13%	26%	8%
Switzerland	8%	36%	15%	38%	3%

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

I have been trained to implement alternative approaches for sleep problems in older adults.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	14%	34%	18%	25%	9%
Belgium	16%	38%	16%	23%	7%
Greece	18%	24%	20%	20%	18%
Norway	11%	36%	24%	24%	5%
Poland	22%	31%	24%	18%	5%
Spain	11%	34%	13%	29%	13%
Switzerland	3%	44%	10%	38%	5%

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree
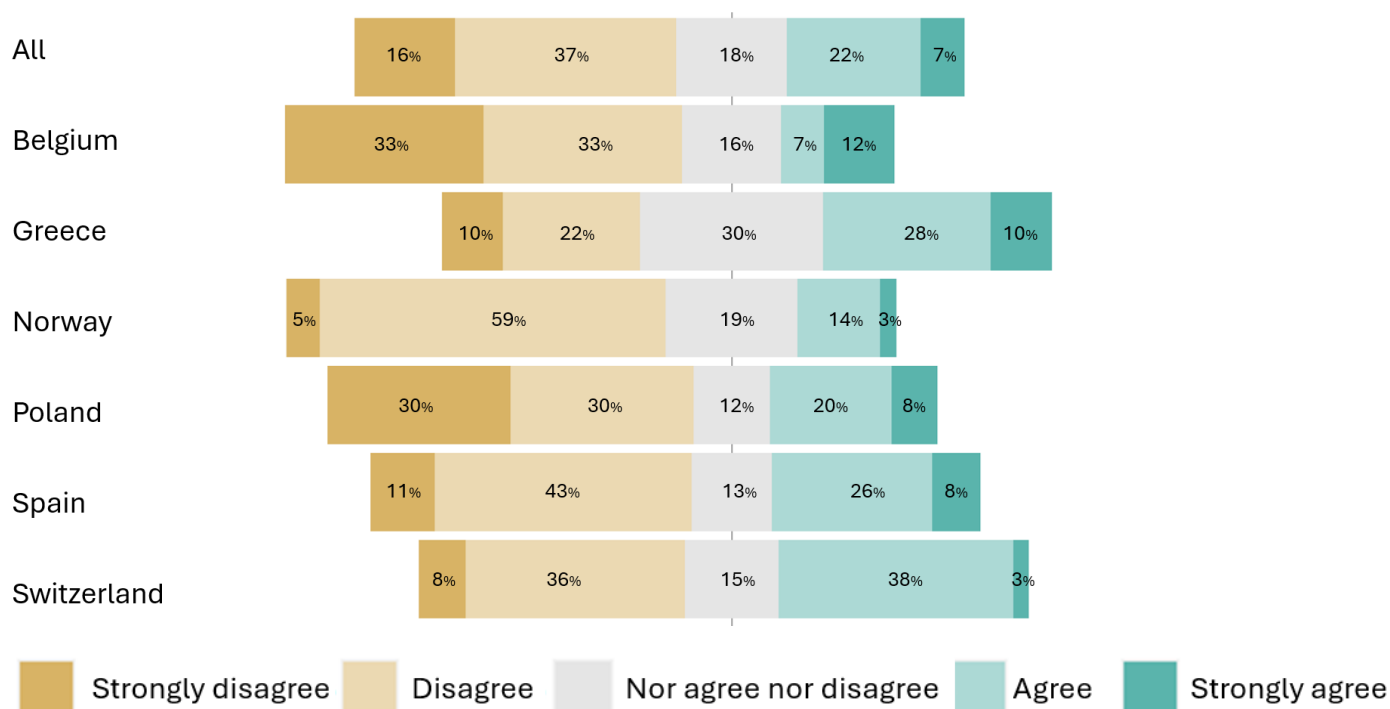
eTable 3.3. Memory, attention, and decision processes

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
I usually do not consider deprescribing BZRA in older adults with sleep problems because it is a difficult and time-consuming process.	3.55* (1.02)	3.13* (1.09)	2.89* (0.91)	3.05* (1.20)	3.55* (0.89)	3.31* (0.86)
As long as the patient has no specific issue or request, I renew/continue the prescription of BZRA.	3.31* (1.07)	3.25* (1.26)	3.27* (0.90)	3.58* (0.86)	3.08* (1.01)	3.72* (0.72)

* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

I usually do not consider deprescribing BZRA in older adults as it is a difficult and time-consuming process.

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As long as the patient has no specific issue or request, I renew/continue the prescription of BZRA.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	7%	48%	21%	18%	4%
Belgium	5%	55%	14%	19%	7%
Greece	15%	38%	15%	22%	10%
Norway	3%	45%	30%	19%	3%
Poland	11%	50%	26%	13%	
Spain	3%	41%	23%	28%	5%
Switzerland	8%	64%	21%	8%	

Legend: Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree ■
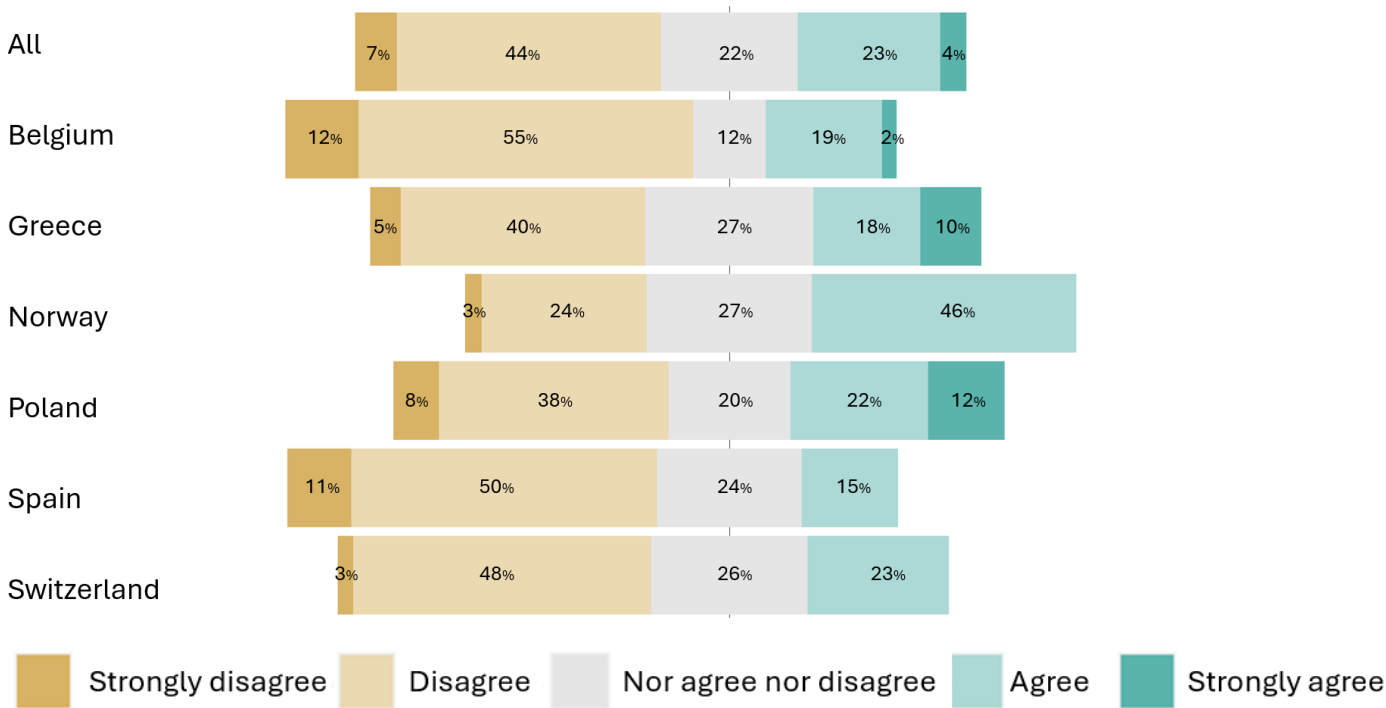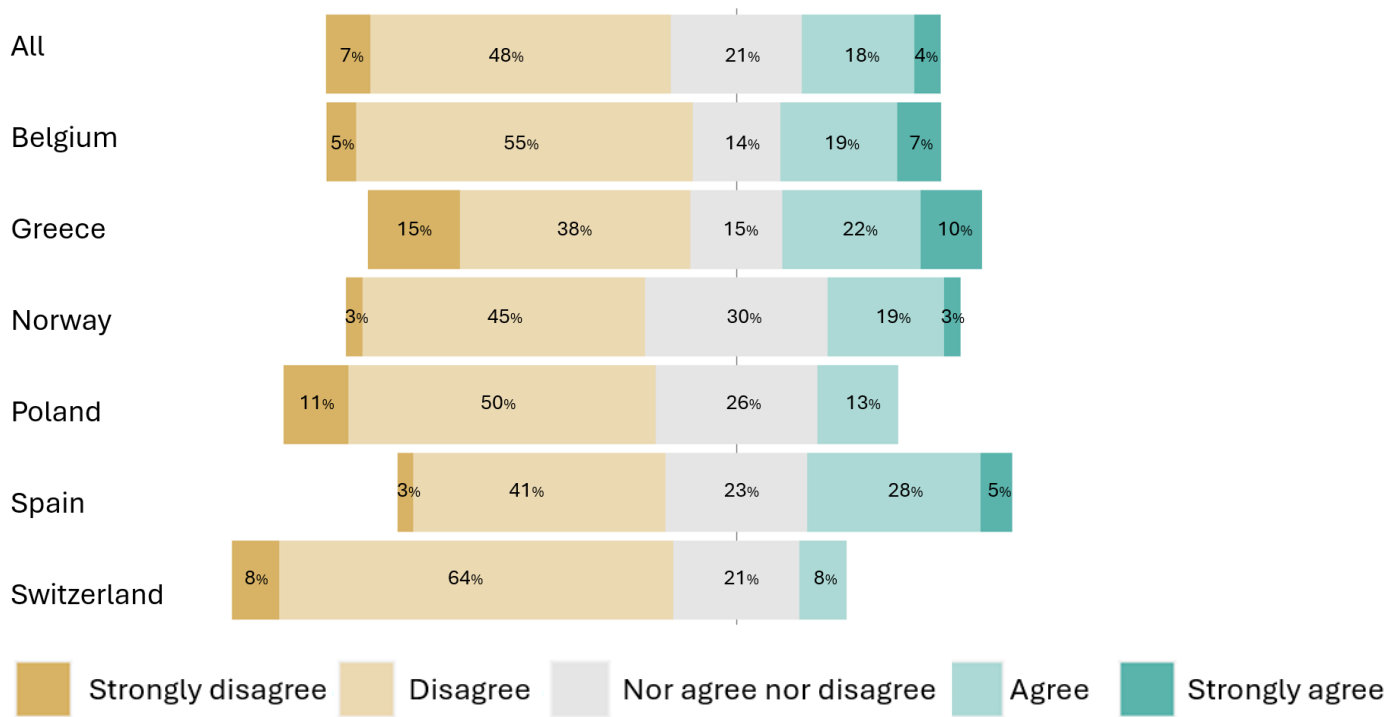
eTable 3.4. Social/Professional Role and Identity

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
It is my responsibility as a physician to deprescribe BZRA in older adults with sleep problems.	4.23 (0.68)	3.36 (1.20)	3.81 (0.78)	3.40 (0.96)	3.90 (1.08)	3.85 (0.70)
In the department or institution where I work, it is relevant to initiate BZRA deprescribing.	4.19 (0.86)	3.15 (0.89)	3.86 (0.71)	2.63 (1.00)	3.45 (1.13)	3.61 (0.97)
I do not feel concerned with BZRA deprescribing in older adults.	4.30* (0.91)	3.28* (1.07)	3.24* (0.89)	3.33* (0.93)	4.30* (0.85)	3.67* (0.77)

*reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)
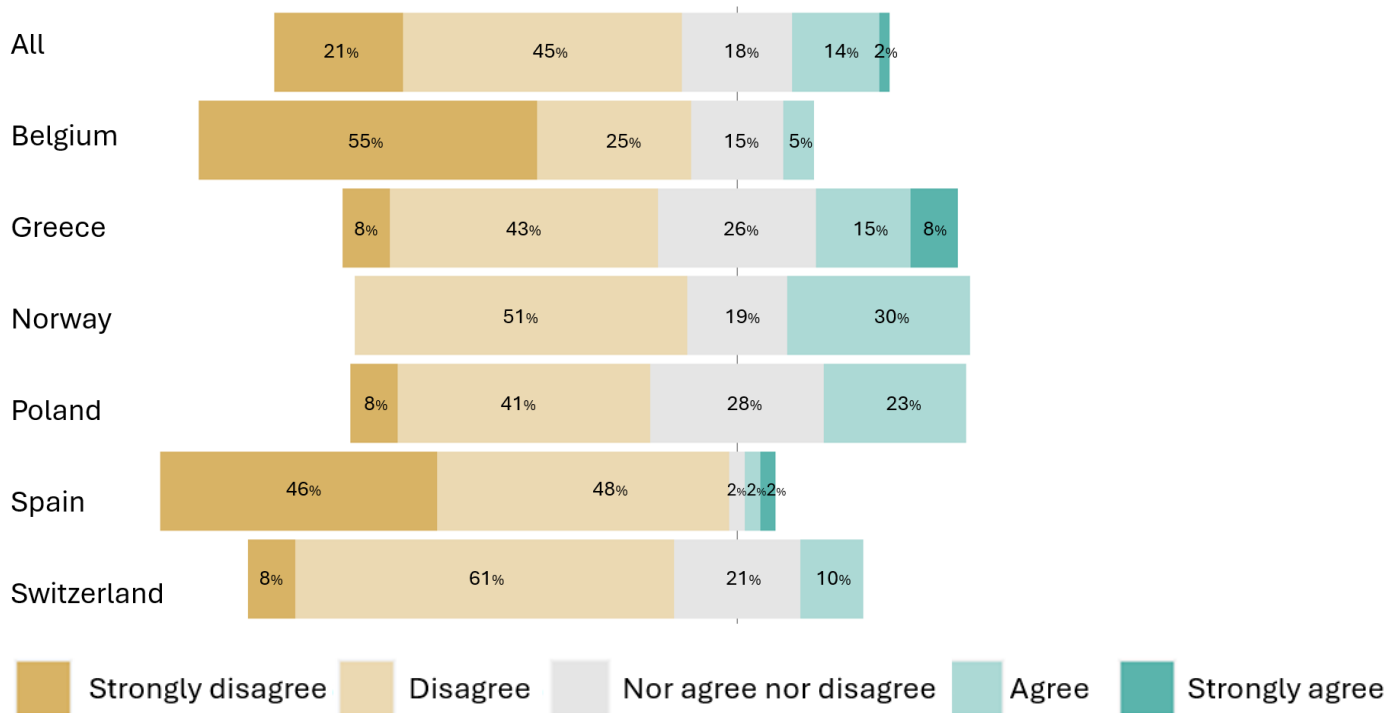
It is my responsibility as a physician to deprescribe BZRA in older adults with sleep problems.

Country	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	2%	10%	21%	44%	23%
Belgium			14%	49%	37%
Greece	3%	28%	23%	23%	23%
Norway		8%	27%	49%	16%
Poland	2%	15%	32%	41%	10%
Spain	2%	12%	10%	42%	32%
Switzerland		2%	25%	58%	15%

Legend: Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree

In the department or institution where I work, it is relevant to initiate BZRA deprescribing.

Country	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	3%	17%	25%	38%	17%
Belgium		5%	14%	38%	43%
Greece	2%	18%	50%	22%	8%
Norway		5%	14%	67%	14%
Poland	12%	38%	25%	25%	
Spain	3%	24%	18%	37%	18%
Switzerland		16%	26%	40%	18%

Legend: Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree

I do not feel concerned with BZRA deprescribing in older adults.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	21%	45%	18%	14%	2%
Belgium	55%	25%	15%	5%	
Greece	8%	43%	26%	15%	8%
Norway		51%	19%	30%	
Poland	8%	41%	28%	23%	
Spain	46%	48%	2% 2%	2%	
Switzerland	8%	61%	21%	10%	

Legend: ▮ Strongly disagree ▮ Disagree ▮ Nor agree nor disagree ▮ Agree ▮ Strongly agree

eTable 3.5. Beliefs about capabilities

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
I am confident that I can deprescribe BZRA in older adults with sleep problems even when I have limited time.	2.63 (1.02)	2.77 (1.10)	2.62 (0.86)	2.47 (0.95)	3.82 (0.721)	2.65 (0.95)
I am confident I could deprescribe BZRA in older adults with sleep problems if I wanted to.	3.47 (1.12)	2.92 (1.12)	3.19 (0.82)	3.13 (0.96)	3.82 (0.79)	3.25 (0.87)

I am confident, I can deprescribe BZRA in older adults with sleep problems even when I have limited time.
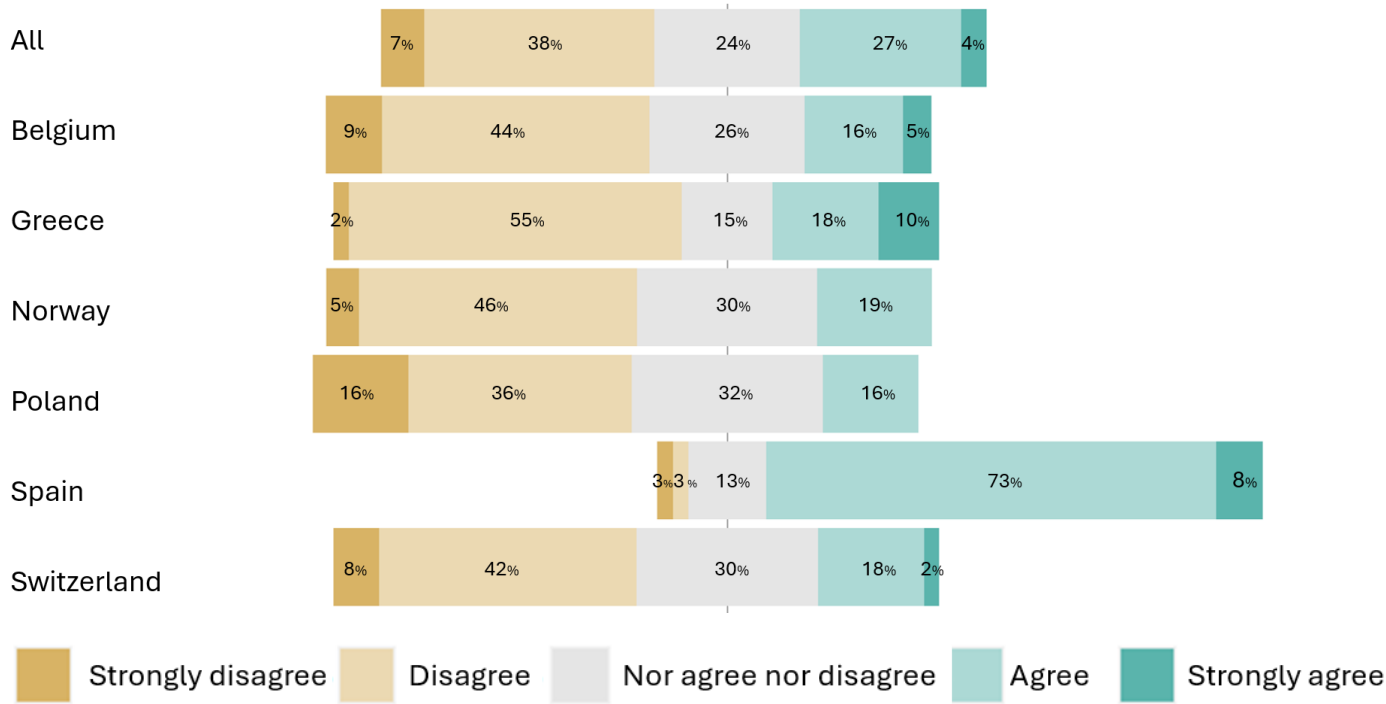
	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	7%	38%	24%	27%	4%
Belgium	9%	44%	26%	16%	5%
Greece	2%	55%	15%	18%	10%
Norway	5%	46%	30%	19%	
Poland	16%	36%	32%	16%	
Spain	3%	3%	13%	73%	8%
Switzerland	8%	42%	30%	18%	2%

I am confident I could deprescribe BZRA in older adults with sleep problems if I wanted to.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	3%	20%	28%	41%	8%
Belgium	5%	19%	19%	41%	16%
Greece	10%	25%	37%	18%	10%
Norway		25%	39%	33%	3%
Poland	5%	21%	32%	39%	3%
Spain		10%	10%	67%	13%
Switzerland		22%	35%	38%	5%

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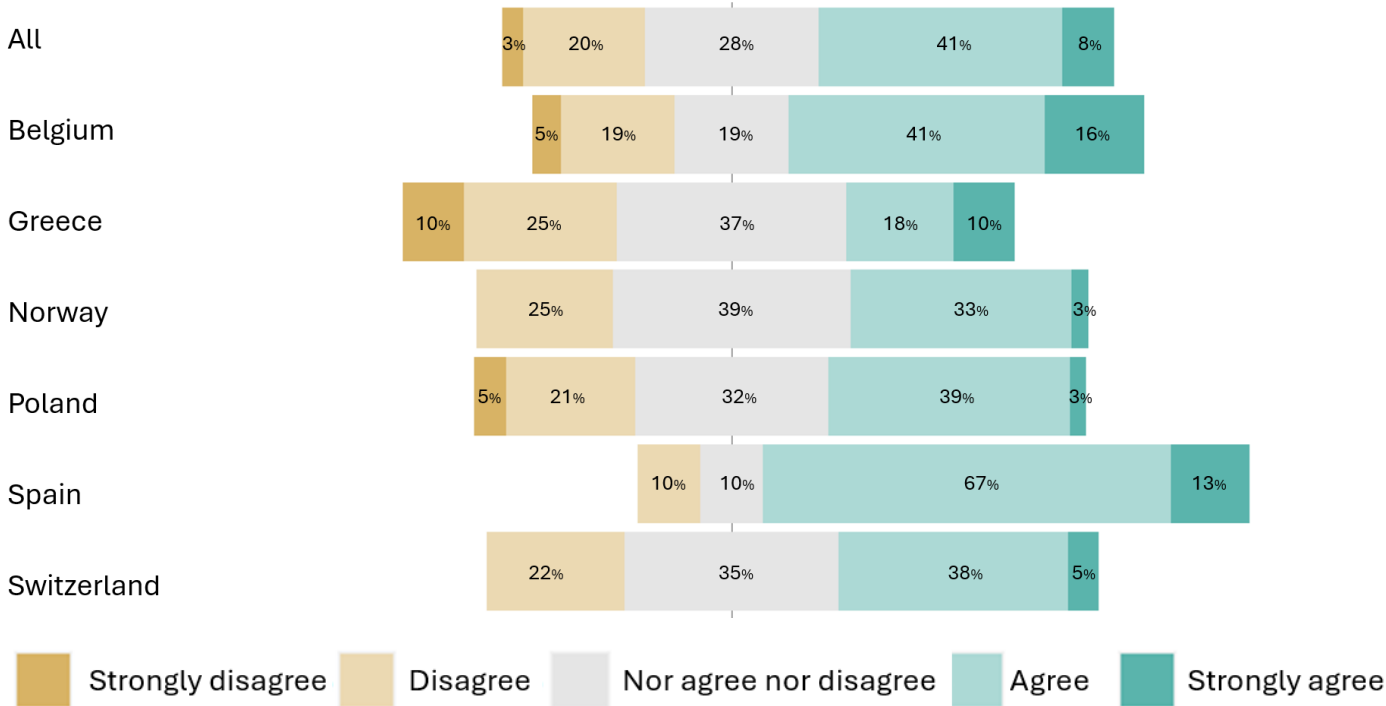
eTable 3.6. Beliefs about consequences

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
If I deprescribe BZRA to older adults with sleep problems, it will benefit the population's health in general.	4.35 (0.69)	3.45 (0.99)	4.05 (0.66)	3.56 (0.68)	3.79 (0.89)	4.03 (0.81)
If I deprescribe BZRA in older adults with sleep problems, it will negatively affect my relationship with these patients.	3.90* (0.75)	3.48* (0.93)	2.97* (0.89)	3.40* (0.81)	3.89* (0.79)	3.27* (0.78)
I believe that BZRA deprescribing in older adults with sleep problems will have negative consequences for my patient's health.	3.60* (0.85)	3.10* (0.90)	3.49* (0.77)	3.30* (0.85)	3.44* (0.99)	3.49* (0.89)
In general, I believe that the benefits of deprescribing BZRA in older adults with sleep problems outweigh the harms.	4.30 (0.89)	3.49 (0.89)	4.16 (0.60)	3.70 (0.94)	4.18 (0.91)	4.13 (0.73)

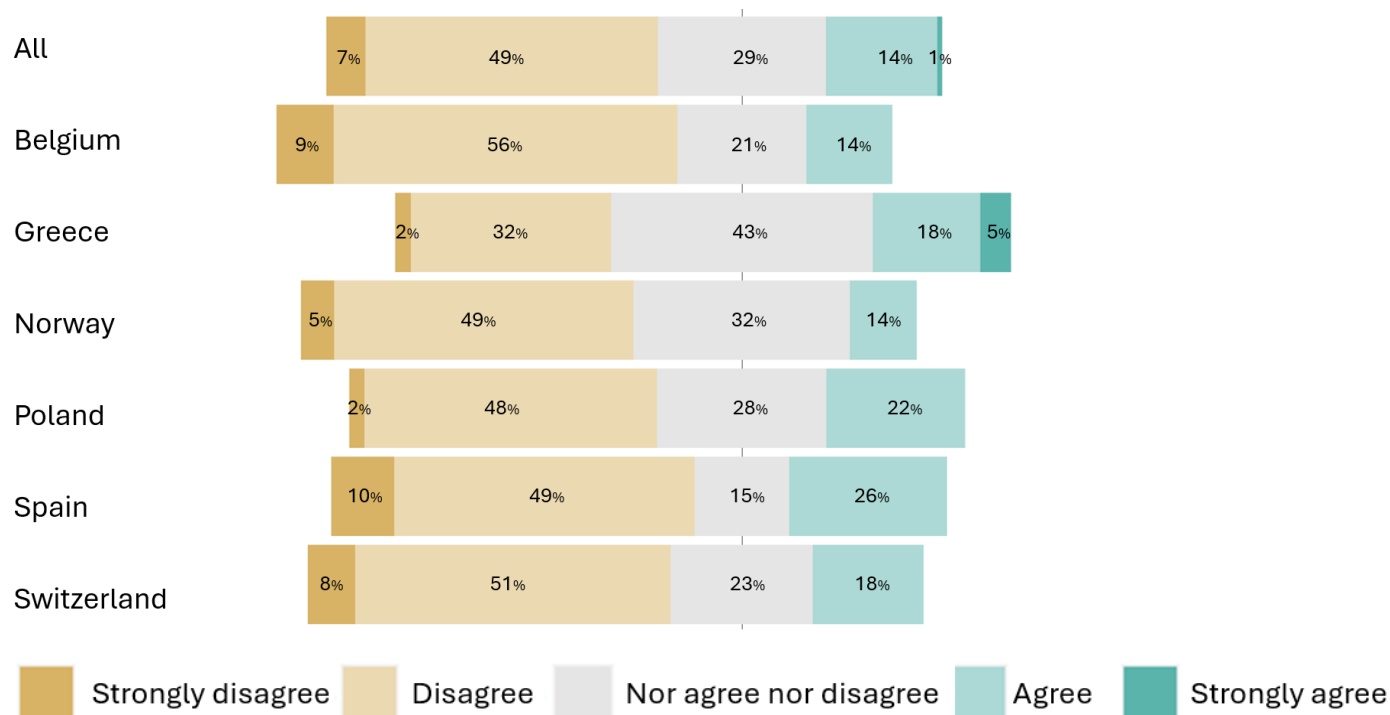*reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

If I deprescribe BZRA to older adults with sleep problems, it will benefit the population's health in general.
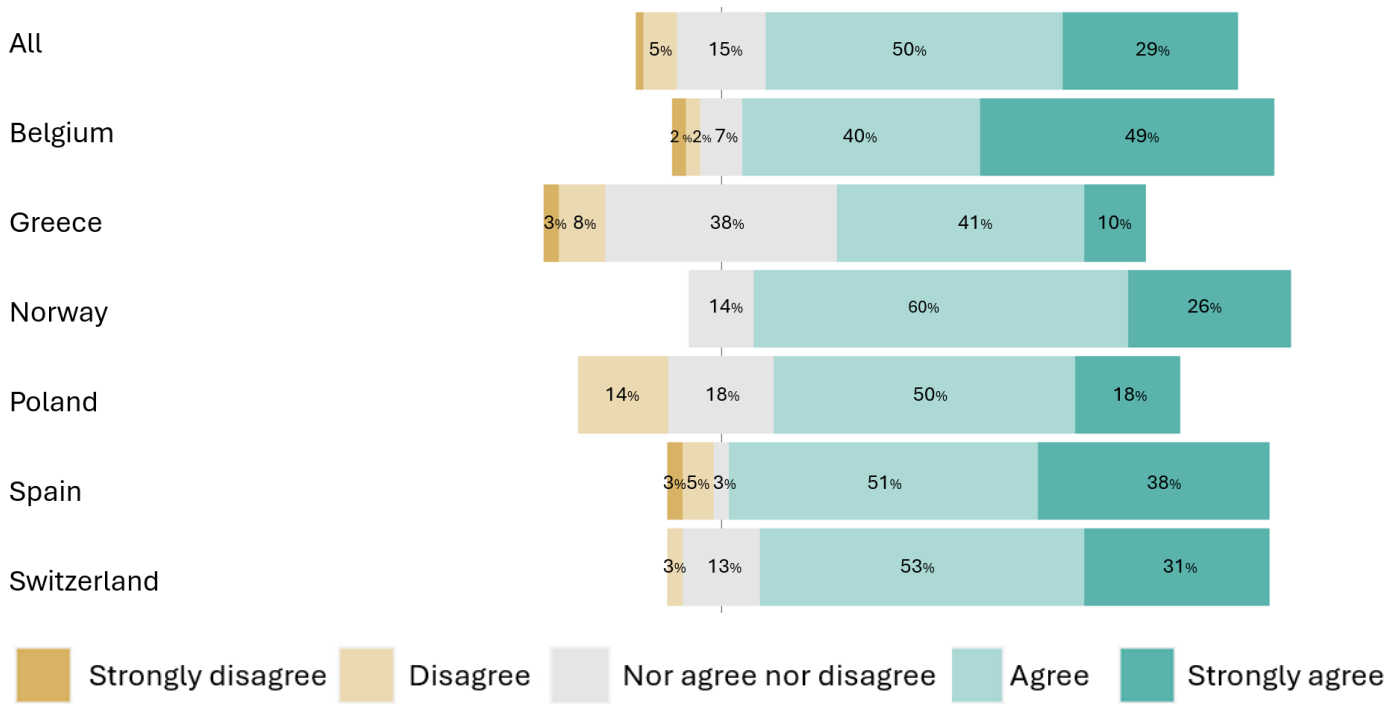

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If I deprescribe BZRA in older adults, it will negatively affect my relationship with these patients.

Country	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	9%	47%	29%	14%	1%
Belgium	19%	55%	24%	2%	
Greece	8%	53%	22%	15%	2%
Norway	3%	26%	30%	41%	
Poland	5%	45%	35%	15%	
Spain	21%	53%	21%	5%	
Switzerland		46%	40%	12%	2%

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

I believe that BZRA deprescribing in older adults will have negative consequences for my patient's health.

Country	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	7%	49%	29%	14%	1%
Belgium	9%	56%	21%	14%	
Greece	2%	32%	43%	18%	5%
Norway	5%	49%	32%	14%	
Poland	2%	48%	28%	22%	
Spain	10%	49%	15%	26%	
Switzerland	8%	51%	23%	18%	

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

In general, I believe that the benefits of deprescribing BZRA in older adults outweigh the harms.

| | Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree |

All — 5%, 15%, 50%, 29%
Belgium — 2%, 2%, 7%, 40%, 49%
Greece — 3%, 8%, 38%, 41%, 10%
Norway — 14%, 60%, 26%
Poland — 14%, 18%, 50%, 18%
Spain — 3%, 5%, 3%, 51%, 38%
Switzerland — 3%, 13%, 53%, 31%
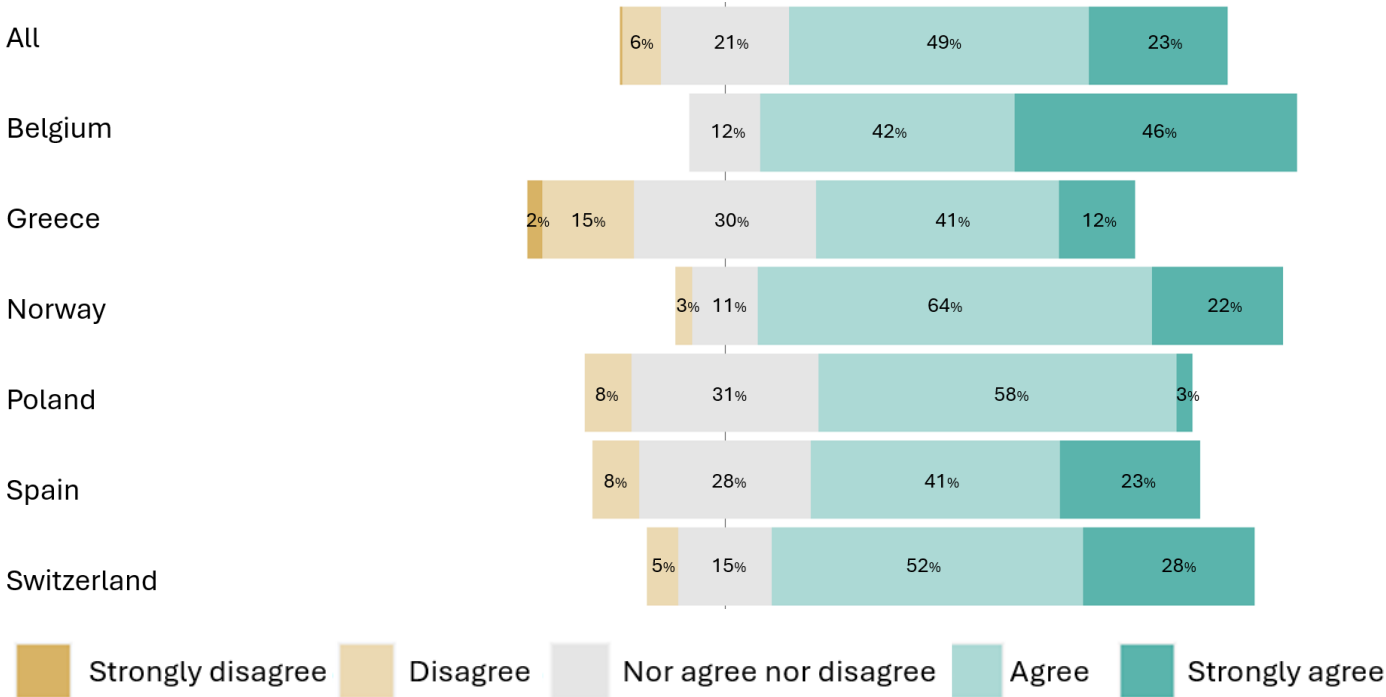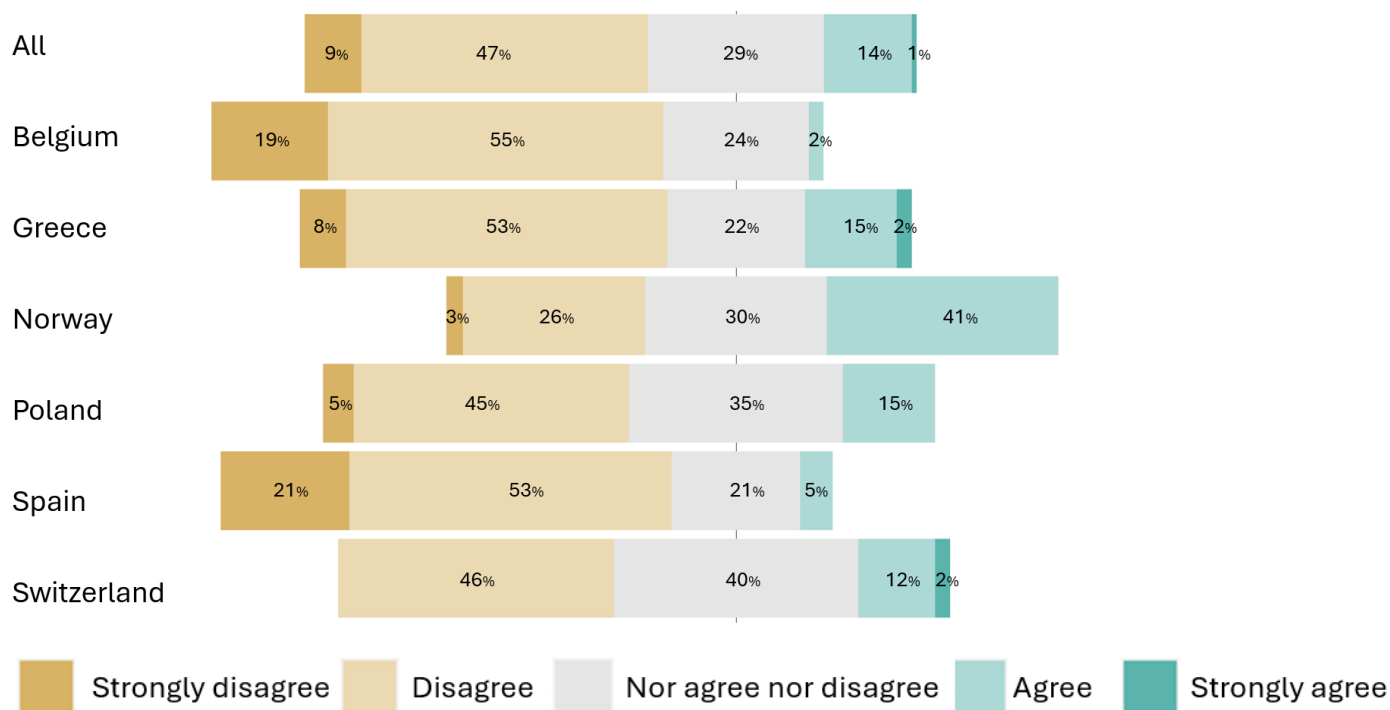
eTable 3.7. Reinforcement

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
I am reluctant to deprescribe BZRA in older adults with sleep problems due to previous failed attempts.	3.53* (1.03)	3.31* (1.03)	3.70* (0.70)	3.21* (0.95)	3.59* (0.94)	3.31* (0.73)

*reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

I am reluctant to deprescribe BZRA in older adults with sleep problems due to previous failed attempts.
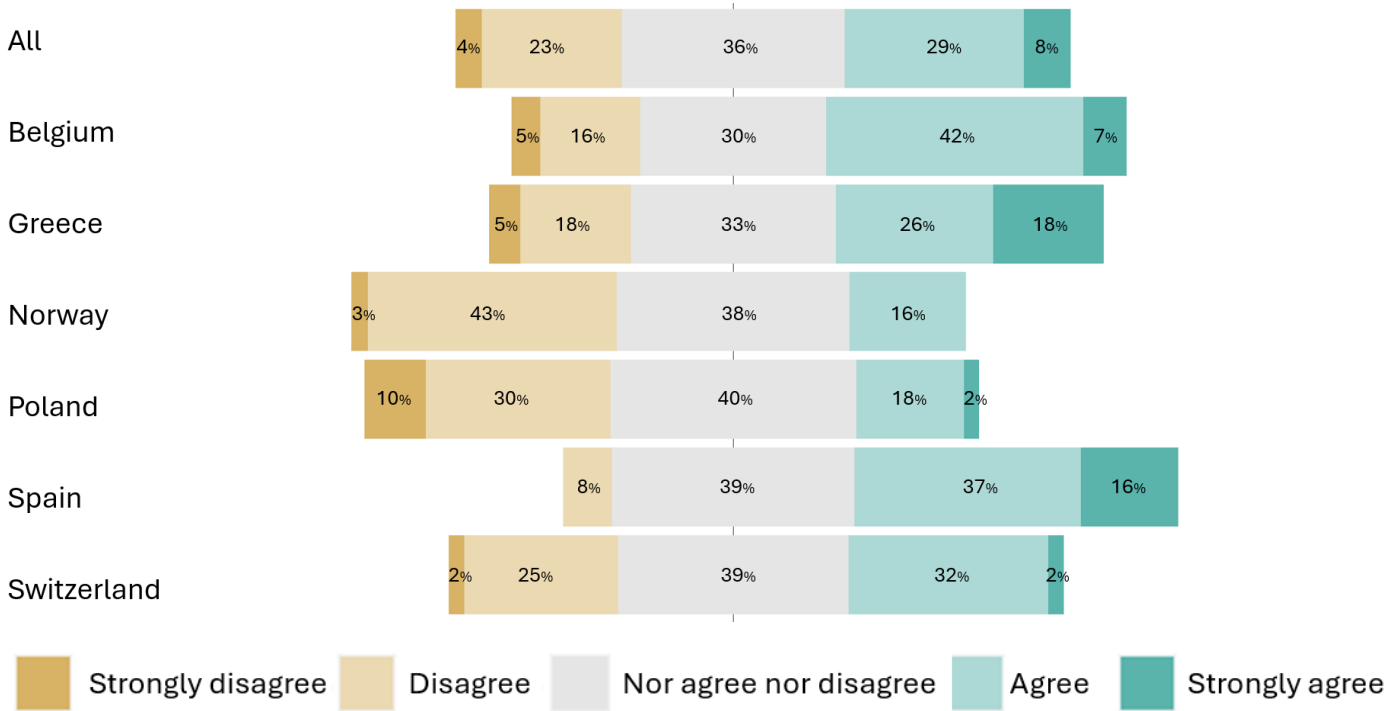

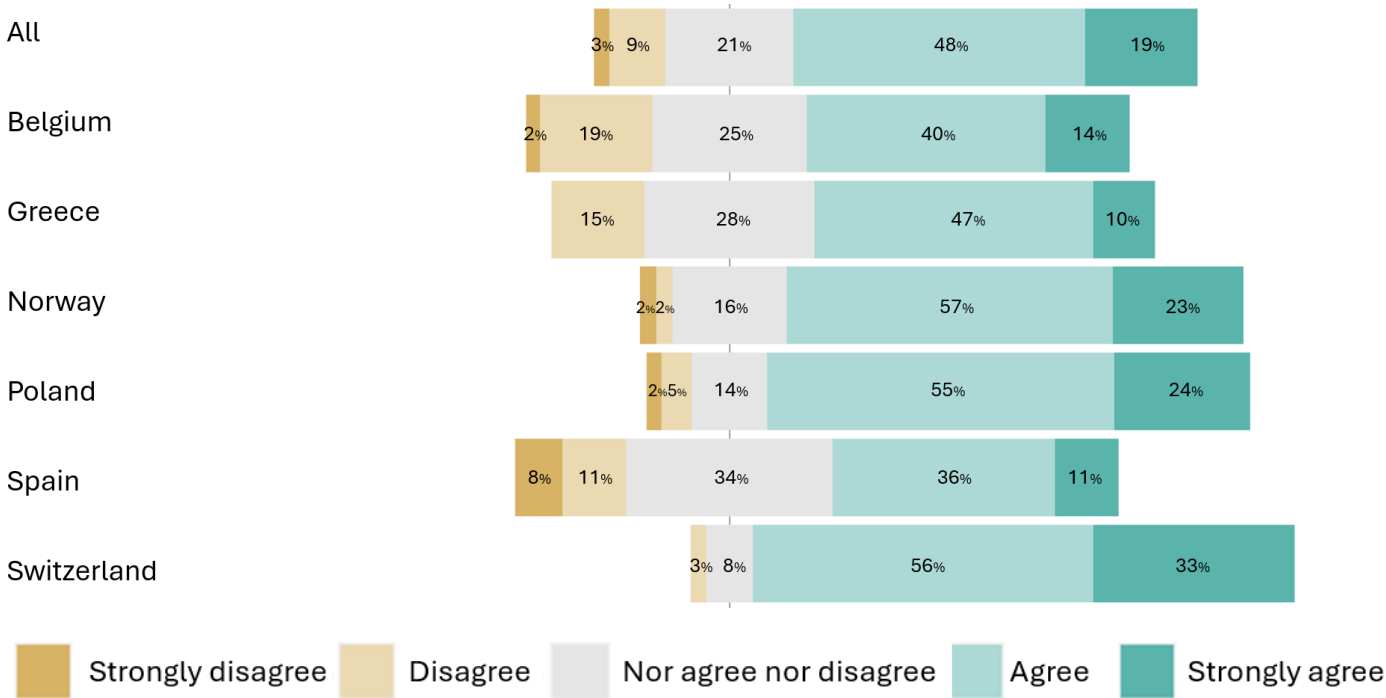| | Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree |
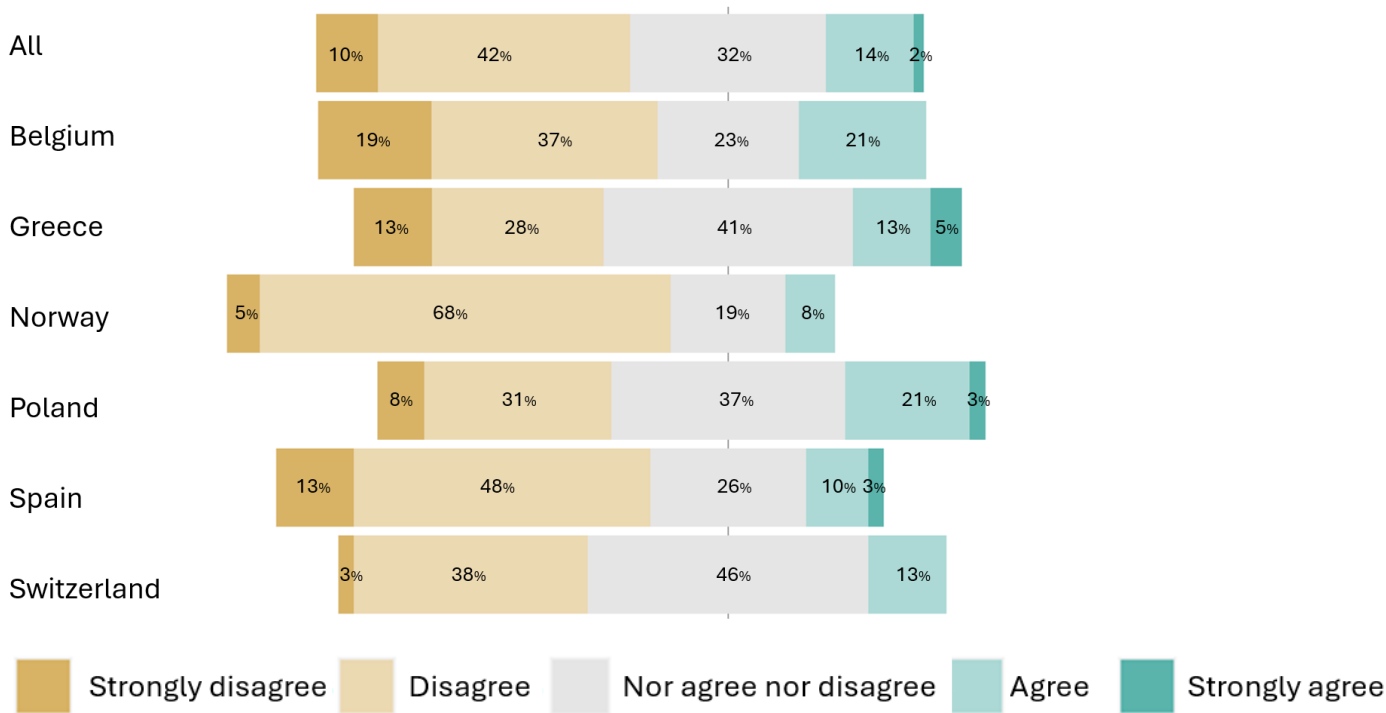
eTable 3.8. Goals

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
Deprescribing BZRA in older adults with sleep problems is a priority for me.	3.30 (0.99)	3.33 (1.13)	2.73 (0.80)	2.73 (0.96)	3.61 (0.86)	3.08 (0.89)
My patients often have other health problems that are usually more important for me to address than the BZRA deprescribing.	2.56* (1.03)	2.49* (0.89)	2.11* (0.88)	2.08* (0.89)	2.68* (1.07)	1.79* (0.69)

*reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

## Deprescribing BZRA in older adults with sleep problems is a priority for me.

Country	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	4%	23%	36%	29%	8%
Belgium	5%	16%	30%	42%	7%
Greece	5%	18%	33%	26%	18%
Norway	3%	43%	38%	16%	
Poland	10%	30%	40%	18%	2%
Spain		8%	39%	37%	16%
Switzerland	2%	25%	39%	32%	2%

Legend: Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree

My patients have other health problems more important for me to address than the BZRA deprescribing.

Country	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	3%	9%	21%	48%	19%
Belgium	2%	19%	25%	40%	14%
Greece		15%	28%	47%	10%
Norway	2%	2%	16%	57%	23%
Poland	2%	5%	14%	55%	24%
Spain	8%	11%	34%	36%	11%
Switzerland		3%	8%	56%	33%

Legend: Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree

eTable 3.9. Intentions

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
I intend to deprescribe BZRA in older adults with sleep problems.	4.09 (0.97)	3.28 (0.86)	3.54 (0.73)	3.49 (0.76)	3.64 (0.96)	3.87 (0.62)
I intend to promote the use of alternative approaches to help older adults deal with sleep problems.	4.07 (0.86)	3.18 (1.19)	3.76 (0.83)	3.89 (0.65)	3.77 (0.92)	4.00 (0.69)

I intend to deprescribe BZRA in older adults with sleep problems.
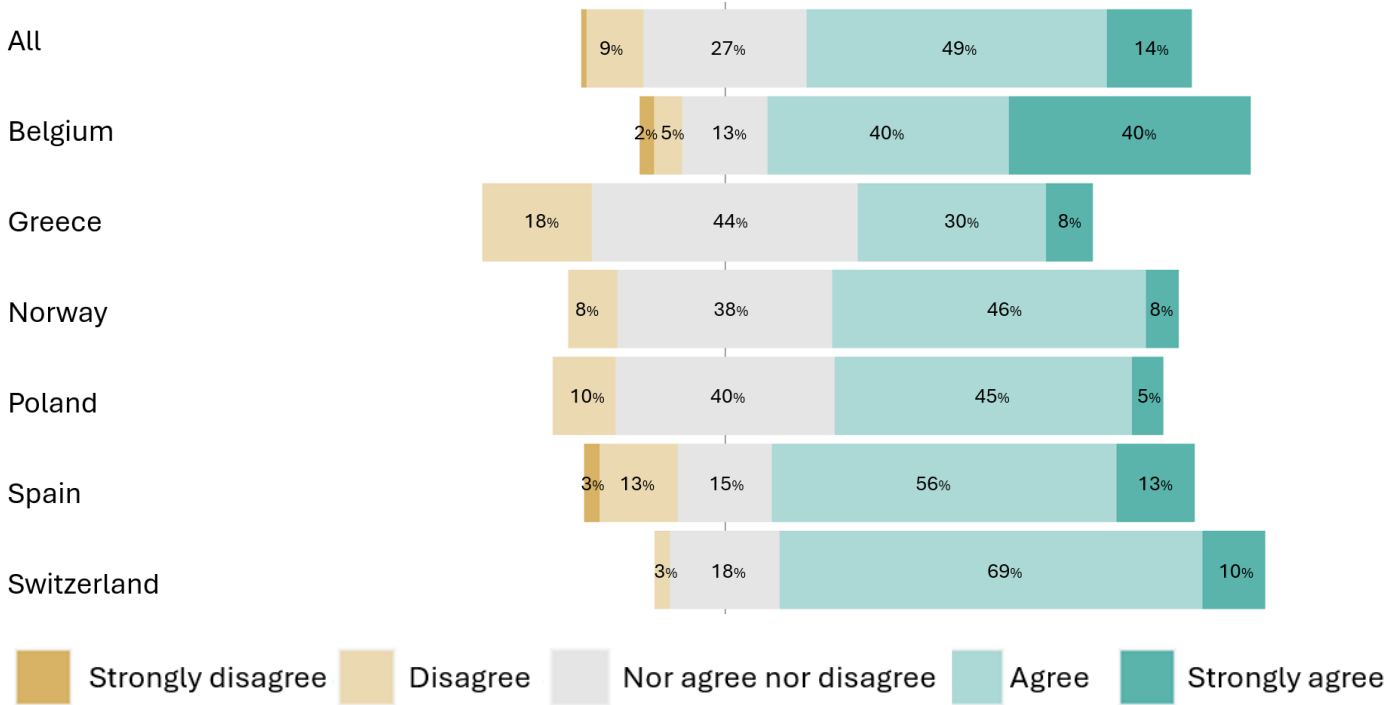
I intend to promote the use of alternative approaches to help older adults deal with sleep problems.
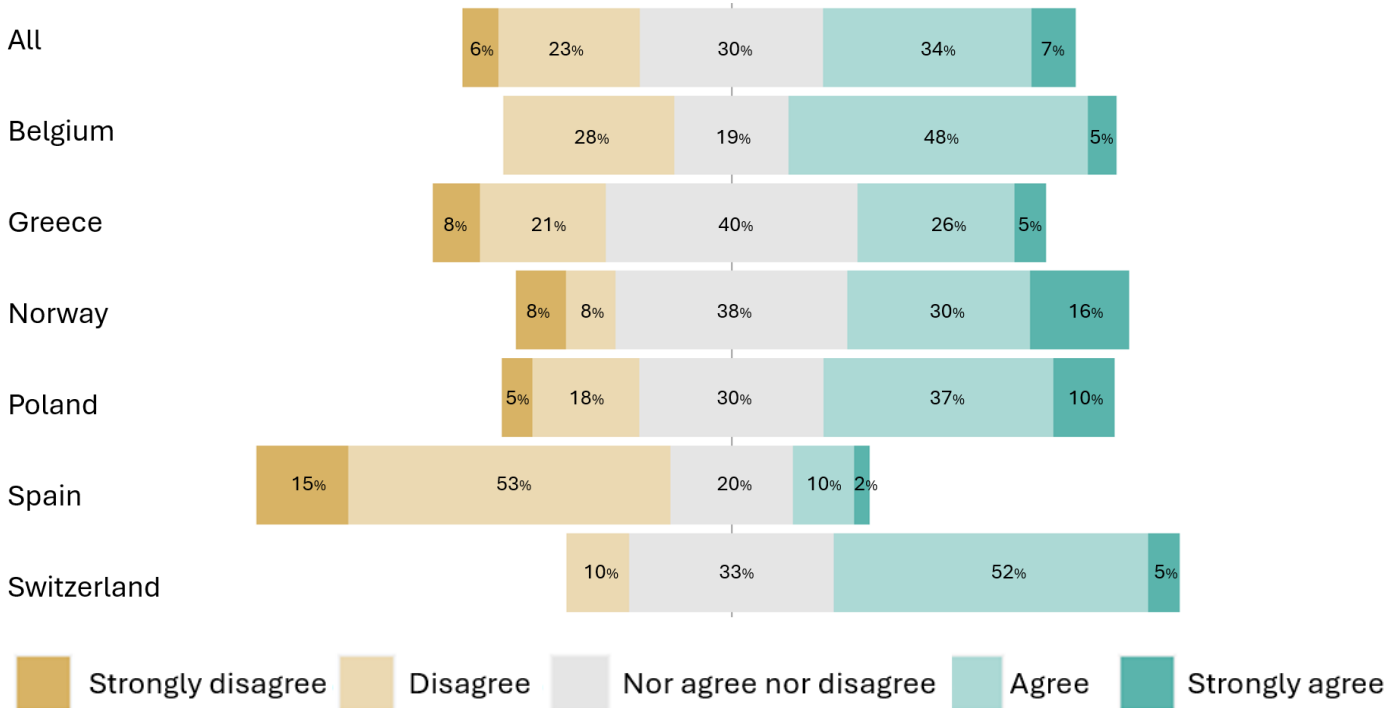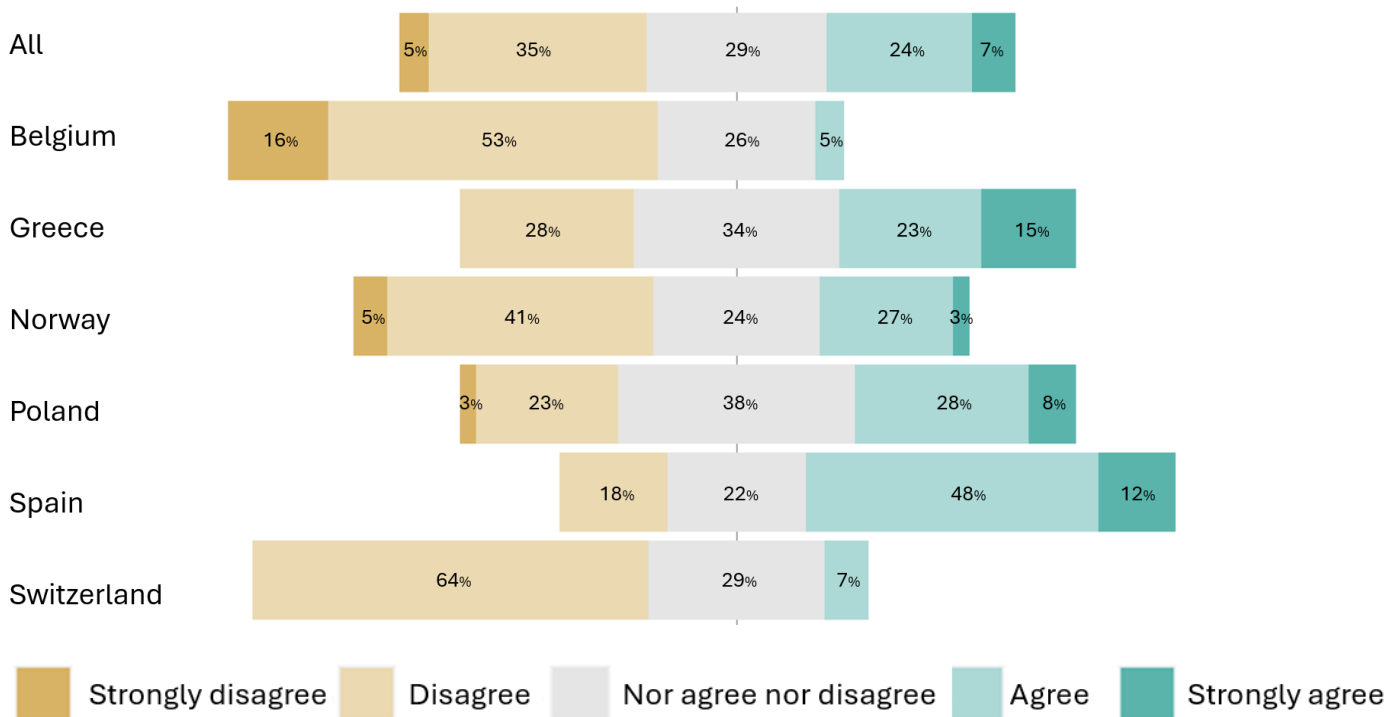

| | Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree |
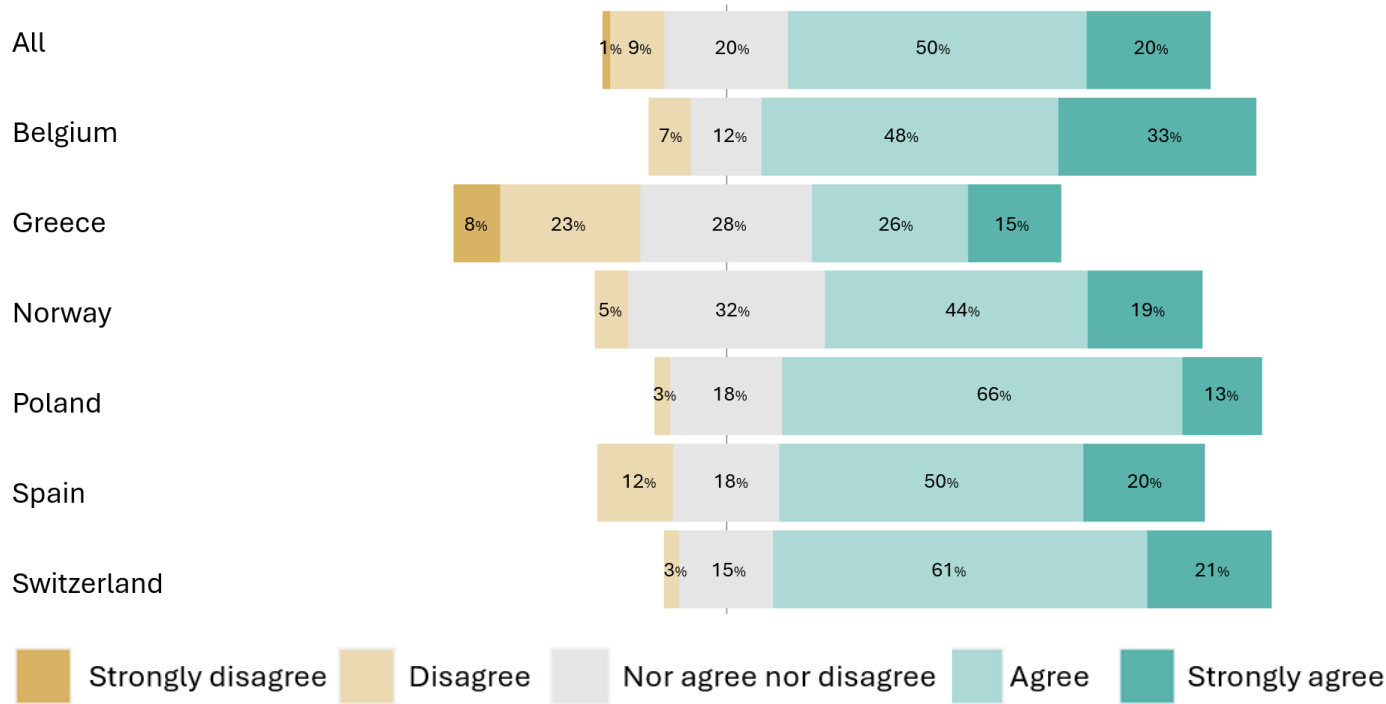
eTable 3.10. Emotions

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
I feel frustrated with all the challenges of BZRA deprescribing in older adults with sleep problems.	2.70* (0.94)	3.00* (1.00)	2.62* (1.11)	2.70* (1.04)	3.67* (0.94)	2.49* (0.76)
I feel stressed about BZRA deprescribing in older adults with sleep problems.	3.81* (0.76)	2.74* (1.04)	3.27* (0.96)	2.85* (0.96)	2.45* (0.93)	3.57* (0.65)

* reversed mean applied to negative statements (so, as that for all items, the lower the mean, the higher the barrier)

I feel frustrated with all the challenges of BZRA deprescribing in older adults with sleep problems.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	6%	23%	30%	34%	7%
Belgium		28%	19%	48%	5%
Greece	8%	21%	40%	26%	5%
Norway	8%	8%	38%	30%	16%
Poland	5%	18%	30%	37%	10%
Spain	15%	53%	20%	10%	2%
Switzerland		10%	33%	52%	5%

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

I feel stressed about BZRA deprescribing in older adults with sleep problems.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	5%	35%	29%	24%	7%
Belgium	16%	53%	26%	5%	
Greece		28%	34%	23%	15%
Norway	5%	41%	24%	27%	3%
Poland	3%	23%	38%	28%	8%
Spain		18%	22%	48%	12%
Switzerland		64%	29%	7%	

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

eTable 3.11. Environmental context and resources

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
There are guidelines and tools available for BZRA deprescribing in older adults with sleep problems that are possible to implement in my practice.	3.42 (0.88)	3.33 (0.87)	2.84 (0.76)	3.10 (0.94)	2.31 (0.98)	2.93 (0.62)
I have enough time to educate and inform patients about BZRA deprescribing.	2.44 (1.12)	2.79 (1.10)	2.46 (1.12)	2.00 (0.90)	2.71 (1.04)	2.26 (0.88)
There is enough staff in the department or institution where I work to support BZRA deprescribing.	2.95 (1.05)	2.26 (0.94)	2.62 (1.14)	2.30 (1.07)	3.59 (0.91)	2.88 (1.07)
In my opinion, BZRA deprescribing is not prioritized by our healthcare system.	3.86* (1.15)	2.64* (1.25)	2.30* (1.02)	2.70* (1.16)	2.23* (0.87)	2.26* (0.85)
In the department or institution where I work, we have set goals (or policies) that encourage BZRA deprescribing.	2.93 (1.08)	2.62 (1.16)	2.43 (0.93)	2.17 (0.96)	2.58 (1.11)	3.38 (0.88)

*reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)
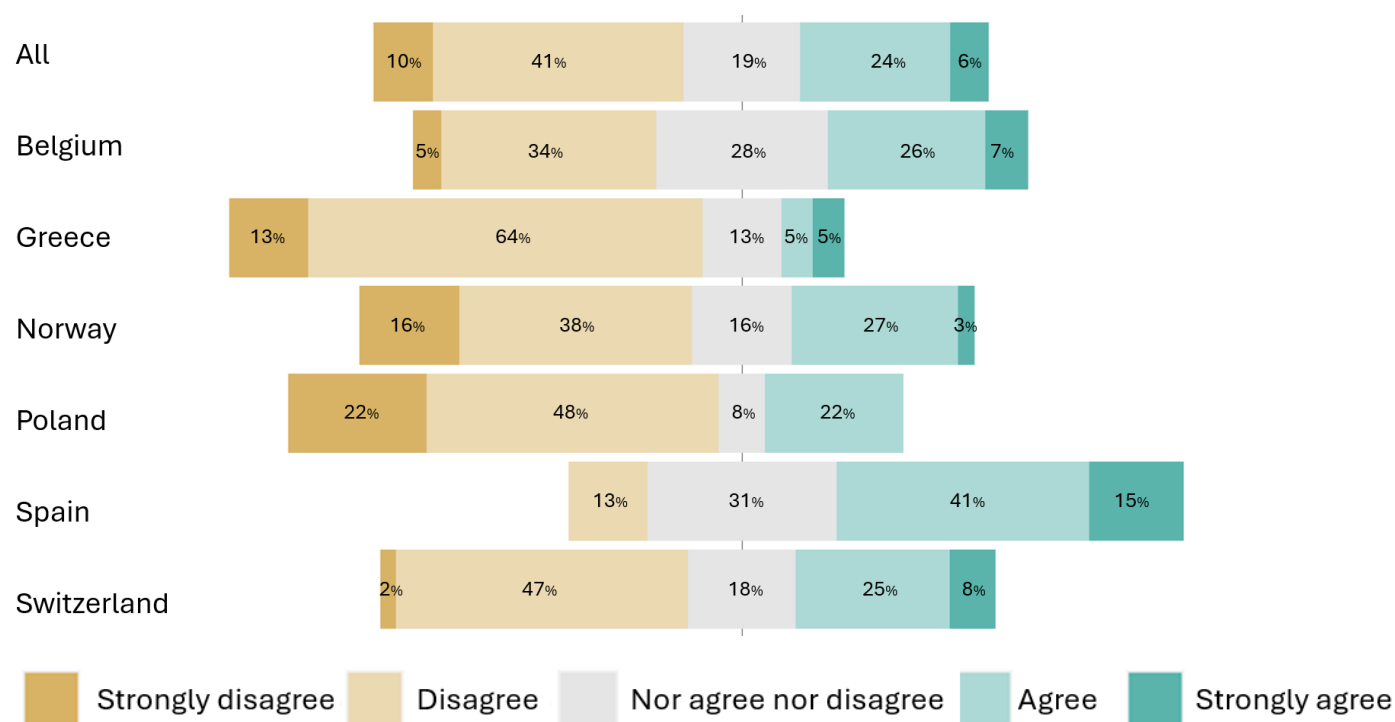
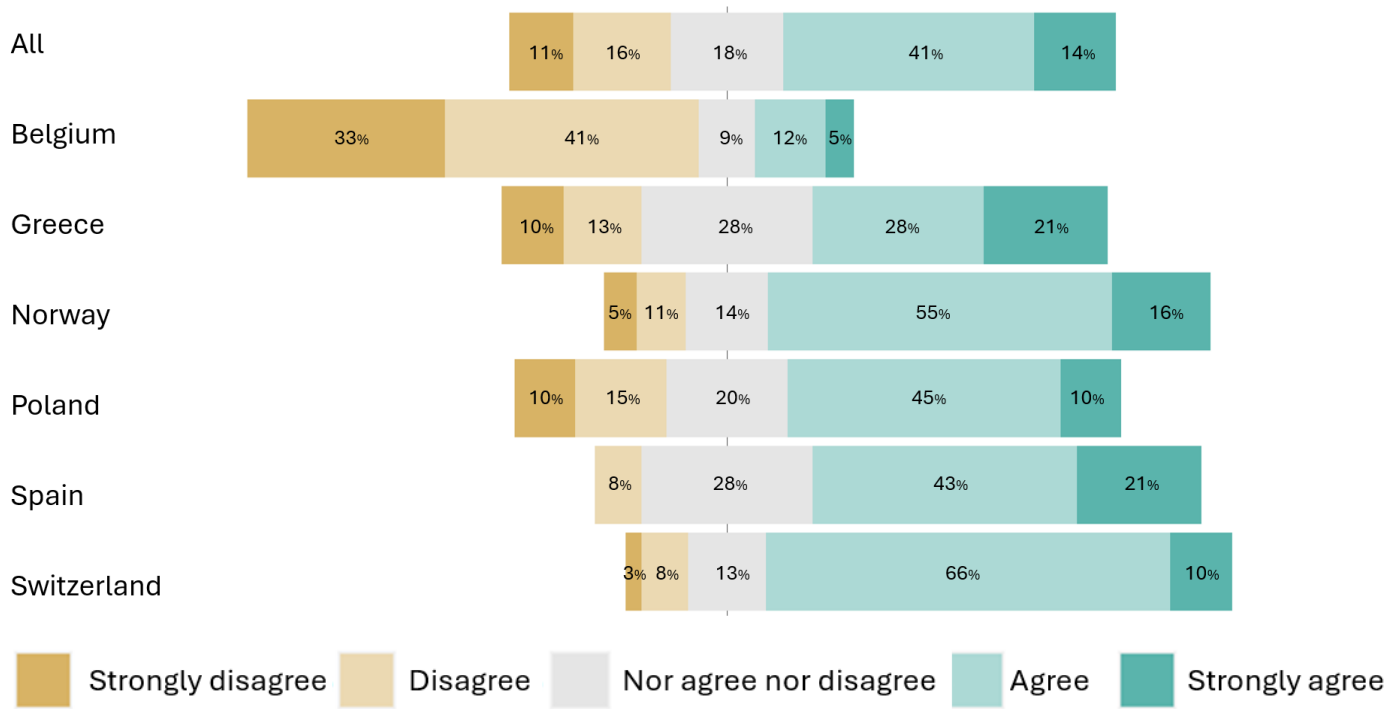There are guidelines/tools available for BZRA deprescribing in older adults implementable in my practice.

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I have enough time to educate and inform patients about BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	18%	42%	18%	20%	2%
Belgium	18%	47%	9%	24%	2%
Greece	10%	36%	23%	26%	5%
Norway	22%	32%	24%	19%	3%
Poland	32%	44%	16%	8%	
Spain	13%	32%	26%	29%	
Switzerland	15%	57%	15%	13%	

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

There is enough staff in the department or institution where I work to support BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	10%	41%	19%	24%	6%
Belgium	5%	34%	28%	26%	7%
Greece	13%	64%	13%	5%	5%
Norway	16%	38%	16%	27%	3%
Poland	22%	48%	8%	22%	
Spain		13%	31%	41%	15%
Switzerland	2%	47%	18%	25%	8%

Legend: Strongly disagree · Disagree · Nor agree nor disagree · Agree · Strongly agree

In my opinion, BZRA deprescribing is not prioritized by our healthcare system.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	11%	16%	18%	41%	14%
Belgium	33%	41%	9%	12%	5%
Greece	10%	13%	28%	28%	21%
Norway	5%	11%	14%	55%	16%
Poland	10%	15%	20%	45%	10%
Spain		8%	28%	43%	21%
Switzerland	3%	8%	13%	66%	10%

Legend: Strongly disagree — Disagree — Nor agree nor disagree — Agree — Strongly agree

In the department or institution where I work, we have set goals that encourage BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	14%	33%	28%	20%	5%
Belgium	12%	21%	34%	28%	5%
Greece	13%	46%	15%	18%	8%
Norway	14%	46%	24%	16%	
Poland	28%	37%	25%	10%	
Spain	16%	37%	26%	16%	5%
Switzerland		15%	42%	33%	10%

Legend: Strongly disagree — Disagree — Nor agree nor disagree — Agree — Strongly agree

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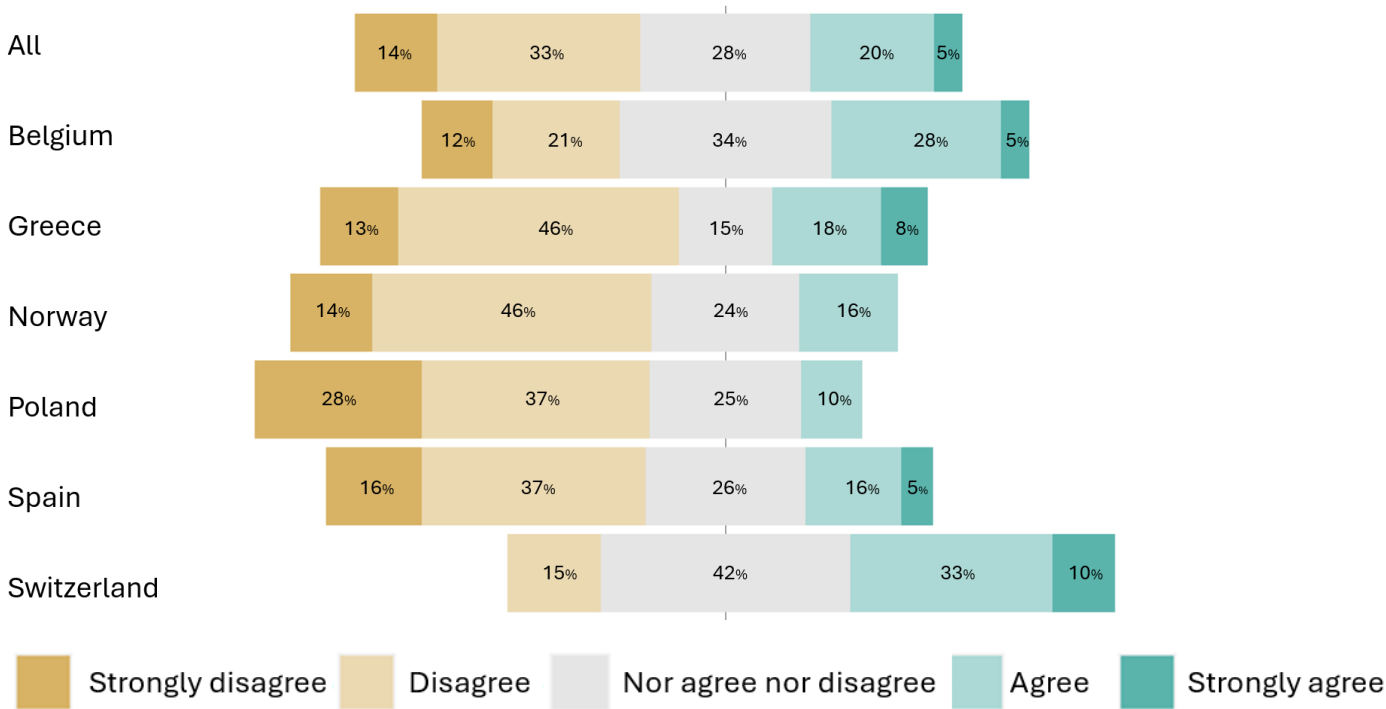
eTable 3.12. Social influence

TDF-based items	Mean (SD)					
	Belgium	**Greece**	**Norway**	**Poland**	**Spain**	**Switzerland**
I feel a lot of pressure from older adults with sleep problems and/or their relatives to renew/extend their prescriptions.	2.19* (0.94)	2.46* (0.97)	2.35* (0.89)	2.23* (0.87)	2.42* (0.92)	2.46* (0.92)
Most of my older patients take a BZRA for sleep problems or their relatives are reluctant to deprescribe their BZRA.	2.02* (0.71)	2.19* (0.97)	2.19* (0.81)	2.15* (0.84)	2.26* (0.79)	2.31* (0.83)
My colleagues/collaborators whose opinions I value support BZRA deprescribing in older adults with sleep problems.	4.21 (0.68)	3.08 (0.90)	3.86 (0.82)	3.31 (0.86)	3.92 (0.912)	3.77 (0.74)
My colleagues are supportive of BZRA deprescribing.	4.10 (0.91)	2.97 (1.11)	3.89 (0.81)	3.33 (0.93)	3.67 (0.87)	3.69 (0.77)

*reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)
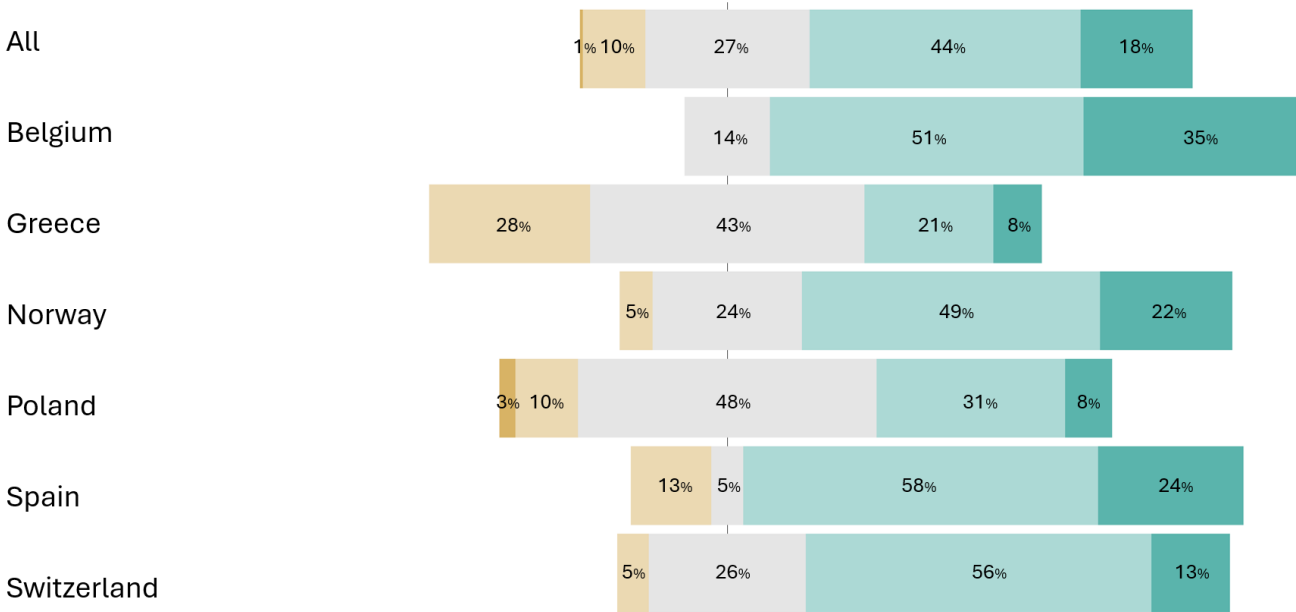
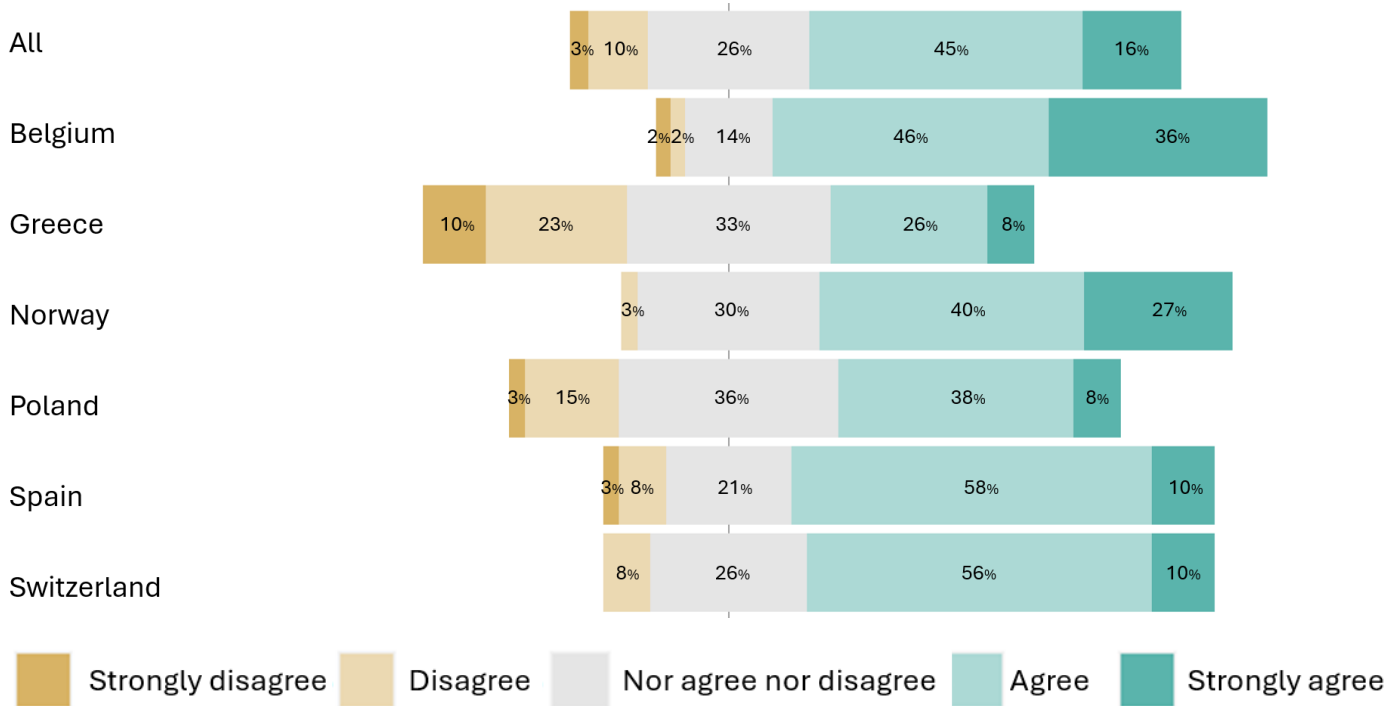I feel a lot of pressure from older adults and/or their relatives to renew/extend their prescriptions.

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Most of my older patients who take a BZRA, or their relatives, are reluctant to deprescribe their BZRA.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All		8%	19%	56%	17%
Belgium		5%	12%	64%	19%
Greece	3%	11%	8%	59%	19%
Norway		8%	22%	56%	14%
Poland		8%	21%	51%	20%
Spain		8%	23%	56%	13%
Switzerland		8%	31%	46%	15%

Legend: ■ Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree

My colleagues/collaborators whose opinions I value support BZRA deprescribing in older adults.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	1%	10%	27%	44%	18%
Belgium			14%	51%	35%
Greece		28%	43%	21%	8%
Norway		5%	24%	49%	22%
Poland	3%	10%	48%	31%	8%
Spain		13%	5%	58%	24%
Switzerland		5%	26%	56%	13%

My colleagues are supportive of BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	3%	10%	26%	45%	16%
Belgium	2%	2%	14%	46%	36%
Greece	10%	23%	33%	26%	8%
Norway		3%	30%	40%	27%
Poland	3%	15%	36%	38%	8%
Spain	3%	8%	21%	58%	10%
Switzerland		8%	26%	56%	10%
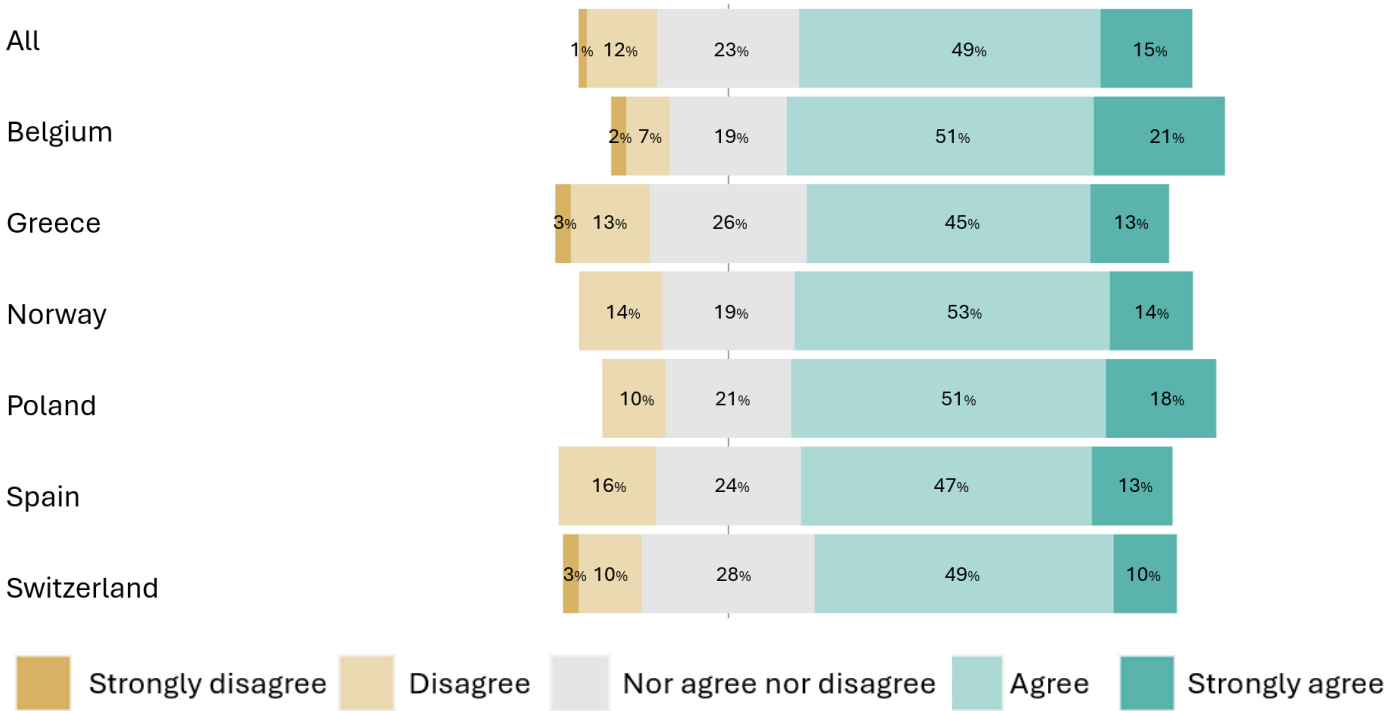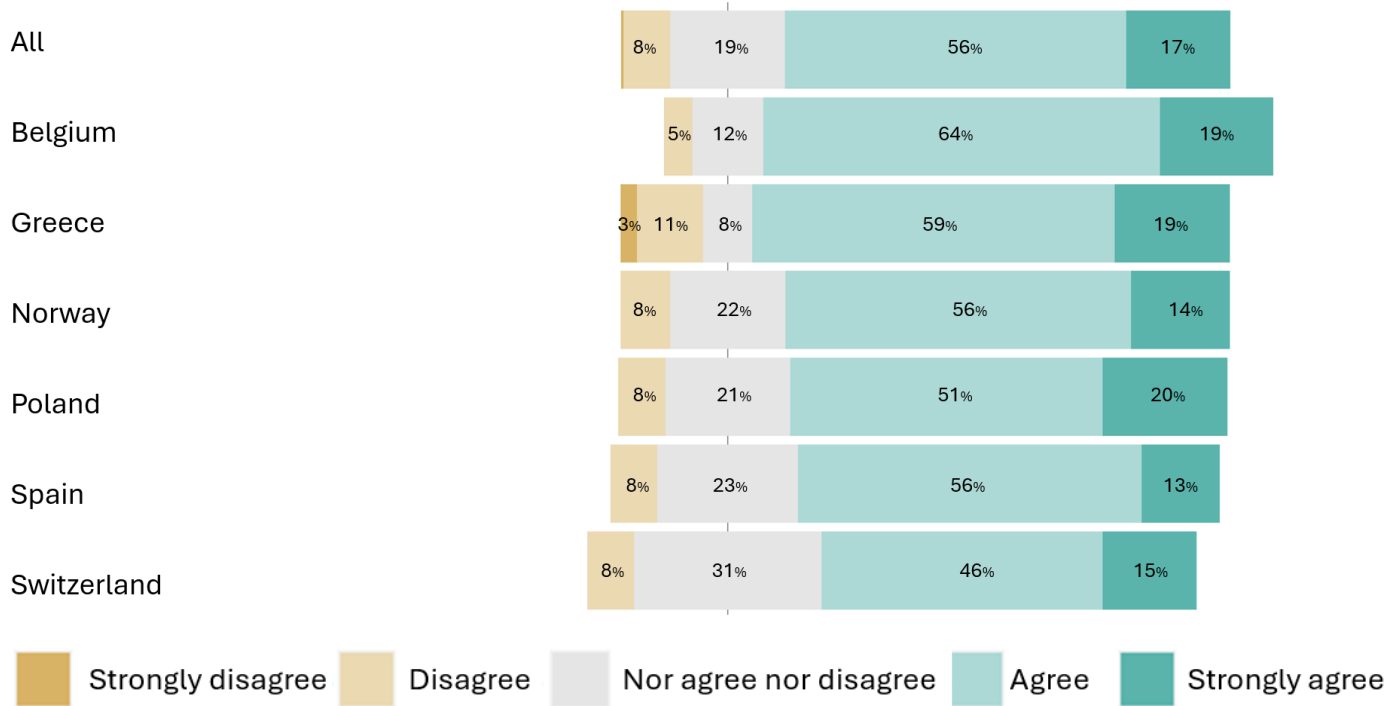
eAppendix 1. Summary of answers to open questions on barriers of and enablers to BZRA deprescribing (hospital physicians.)

In collaboration with partners, the statements were translated from the local language into English and deductively coded according to the Theoretical Domains Framework.

The most cited TDF domain was "Environmental context and resources." Physicians reported a lack of time and stated that short hospitalization was a barrier to BZRA deprescribing. This also led to a lack of follow-up of patients and poor relationships between physicians and patients.

- *"I have too much work and not enough time to work well"* (Pneumologist)
- *"Usually short appointment times with patients, insufficient for a thorough conversation and explanation of the harmful effects of BZRA."* (Cardiologist)
- *"I do not have the opportunity to follow them up after discharge, and it is expected that the GP follows them up."* (Geriatrician)
- *"Lack of regular support in BZRA deprescribing. One visit every 6 months is not sufficient to support the patient."* (Neurologist)

Physicians also reported poor coordination between inpatient and ambulatory care.

- *"Lack of cooperation between individuals involved in the process of BZRA deprescribing, such as between the family doctor, psychiatrist, and neurologist."* (Neurologist)
- *"Lack of contact with primary care for follow-up and non-renewal of prescription"* (Internist)

The domain "social influence" was also frequently cited by physicians. They evoked patients' reluctance, as well as a lack of collaboration among physicians who renew BZRA prescriptions. Nursing staff also was cited as a potential influence.

- *"Patients reluctant to try any intervention other than medication."* (Other)
- *"Even if as a specialist doctor I deprescribe a BZRA, it is often useless because the GP or another doctor renews the prescription."* (Internist)
- *"Nurse says that the patient MUST have something (read: must have some prescription medicine)."* (Internist)
- *"In hospital settings, one of the barriers to deprescribing comes from nursing. Elderly patients with sleep difficulties regularly request their sleeping pill or are older, which is an important work overload for understaffed teams during the night."* (Other)

Patients' conditions, including acute situations, psychiatric issues, and cognitive impairments also seemed to impact physicians' behavior.

- *"Difficult to use motivational interviewing and cognitive therapy if the patient has cognitive impairment. They may lack insight into the problem and be determined that no medication should be changed."* (Geriatrician)

In enablers, physicians mostly pointed to the resolution of the barriers mentioned before. Even though some insights may be considered.

- *"It favors the risk of falls (leading to hospitalization), and the risk of cognitive troubles. Those arguments are sometimes useful in patients who can still understand those explanations. This is also a very big cost for Belgian public health (direct costs with the medications and indirect with the falls and their consequences). Note the significant risk of dependency that can lead to psycho-social isolation."* (Neurologist)

- *"In the pocket" precise schema adapted to the molecule – nonpharmacological alternatives - give the right explanations on the evolution of sleep during aging."* (Geriatrician)
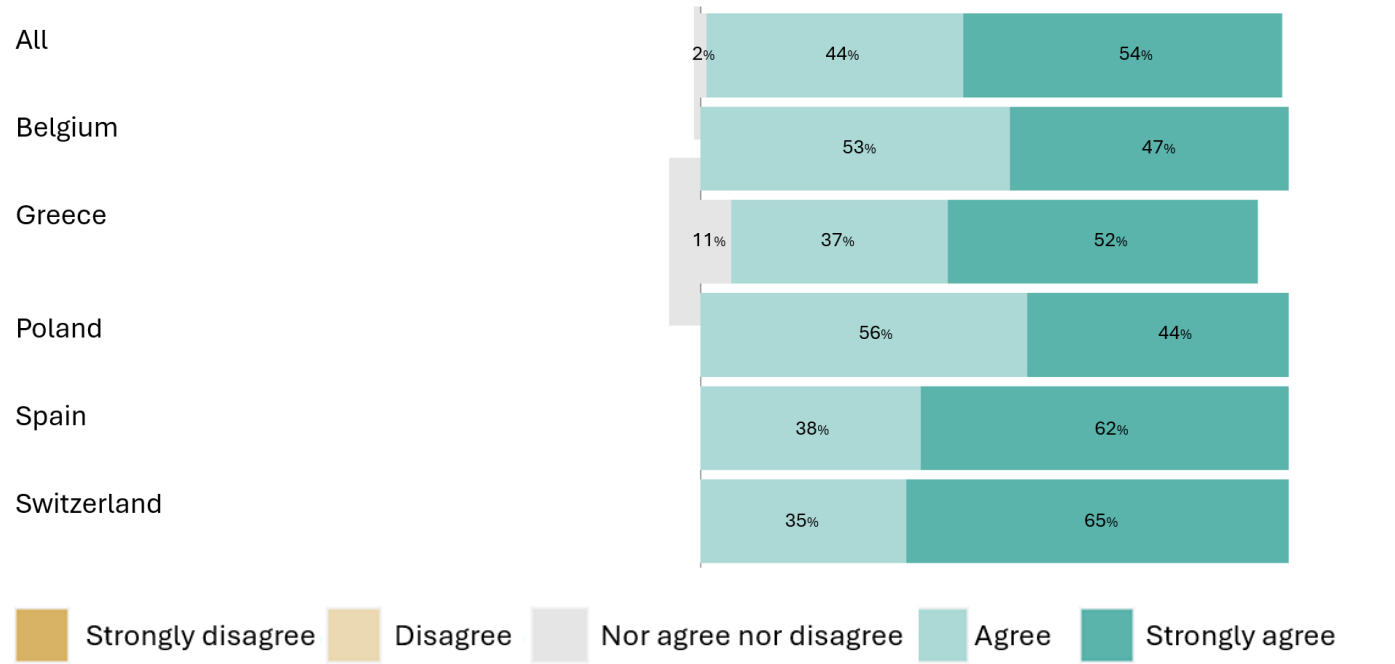
eTable 4. Barriers to and enablers of BZRA deprescribing by TDF-based domains and items for general practitioners: country-specific data.

The color code for the tables below		
Enabler (mean ≥ 4.00)	Moderate Barrier (mean 3.00-3.99)	Major Barrier (mean ≤ 2.99)

eTable 4.1. Knowledge

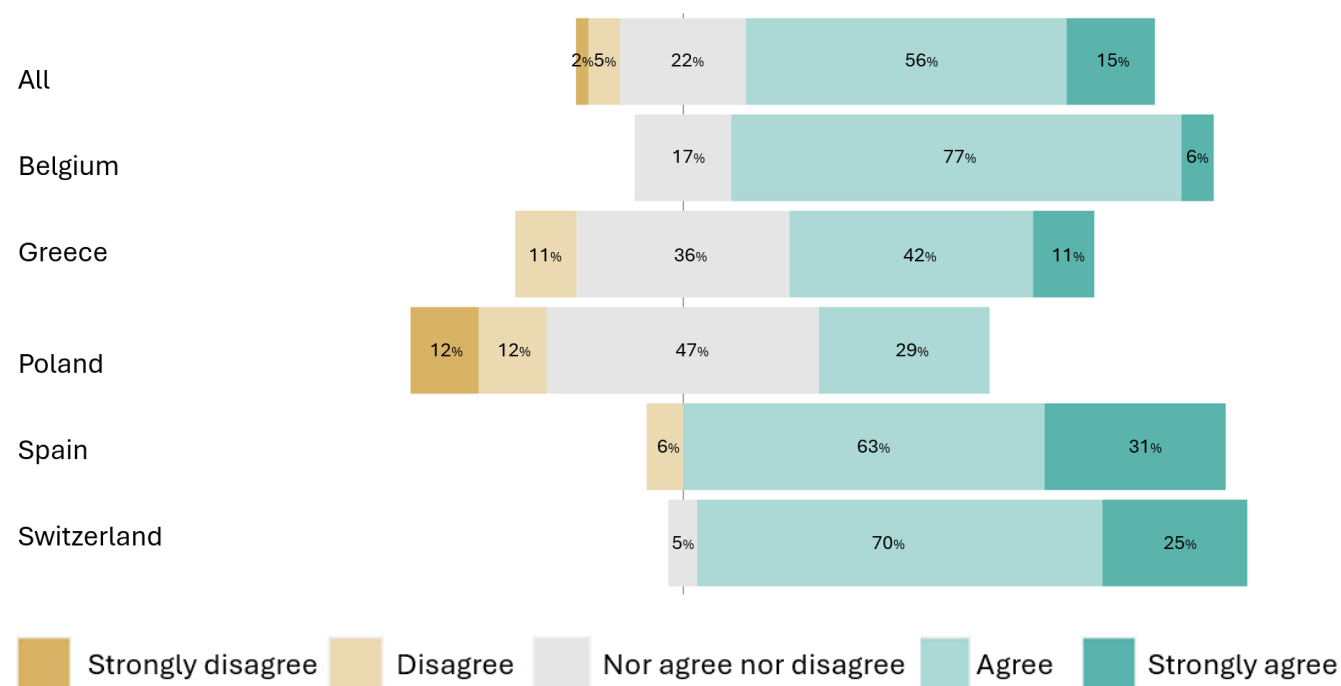| TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
I know the risks associated with the use of BZRA in older adults with sleep problems.	4.47 (0.51)	4.42 (0.69)	4.44 (0.51)	4.63 (0.50)	4.65 (0.49)
I know the situations or comorbidities in which BZRA deprescribing is not recommended.	2.89 (0.90)	3.95 (0.71)	3.06 (1.03)	3.50 (1.15)	3.40 (0.88)
I know how to taper BZRA in older adults with sleep problems.	3.89 (0.47)	3.53 (0.84)	2.94 (0.97)	4.19 (0.75)	4.20 (0.53)
I know how to engage patients about BZRA deprescribing.	3.95 (0.69)	4.11 (0.74)	3.11 (0.88)	3.88 (0.81)	3.85 (0.88)
I am aware of alternative approaches to deal with sleep problems in older adults.	4.06 (0.24)	3.53 (0.91)	3.29 (0.96)	3.75 (1.06)	4.10 (0.55)

I know the risks associated with the use of BZRA in older adults with sleep problems.
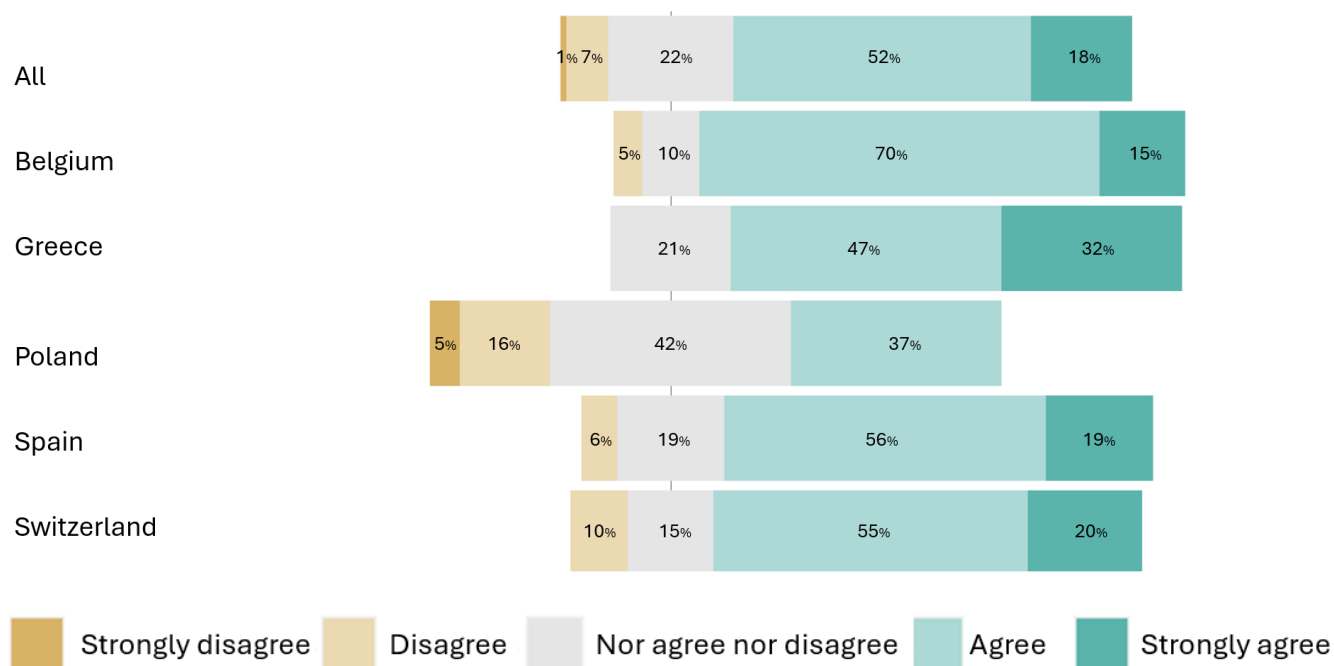

All — 2%, 44%, 54%
Belgium — 53%, 47%
Greece — 11%, 37%, 52%
Poland — 56%, 44%
Spain — 38%, 62%
Switzerland — 35%, 65%

Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree

I know the situations or comorbidities in which BZRA deprescribing is not recommended.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	1%	24%	23%	42%	10%
Belgium		45%	22%	33%	
Greece			26%	53%	21%
Poland		41%	18%	35%	6%
Spain	6%	19%	6%	57%	12%
Switzerland		15%	40%	35%	10%

■ Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree

I know how to taper BZRA in older adults with sleep problems.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	2%	5%	22%	56%	15%
Belgium			17%	77%	6%
Greece		11%	36%	42%	11%
Poland	12%	12%	47%	29%	
Spain			6%	63%	31%
Switzerland			5%	70%	25%

■ Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree

I know how to engage patients about BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	1%	7%	22%	52%	18%
Belgium		5%	10%	70%	15%
Greece			21%	47%	32%
Poland	5%	16%	42%	37%	
Spain		6%	19%	56%	19%
Switzerland		10%	15%	55%	20%

Strongly disagree   Disagree   Nor agree nor disagree   Agree   Strongly agree

I am aware of alternative approaches to deal with sleep problems in older adults.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	2%	8%	13%	66%	11%
Belgium				94%	6%
Greece	5%	5%	26%	59%	5%
Poland		29%	18%	47%	6%
Spain	6%	6%	12%	57%	19%
Switzerland			10%	70%	20%

Strongly disagree   Disagree   Nor agree nor disagree   Agree   Strongly agree

eTable 4.2. Skills

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
I have been trained on how to deprescribe BZRA in older adults with sleep problems.	3.39 (1.20)	2.89 (1.10)	1.69 (0.79)	3.13 (1.09)	3.25 (1.29)
I have been trained to engage patients about BZRA deprescribing.	2.83 (1.25)	2.58 (1.07)	1.82 (0.81)	2.75 (1.06)	3.00 (1.21)
I have been trained to implement alternative approaches for sleep problems in older adults.	3.11 (1.23)	2.63 (0.96)	2.47 (1.33)	2.38 (1.09)	3.45 (1.05)

I have been trained on how to deprescribe BZRA in older adults with sleep problems.
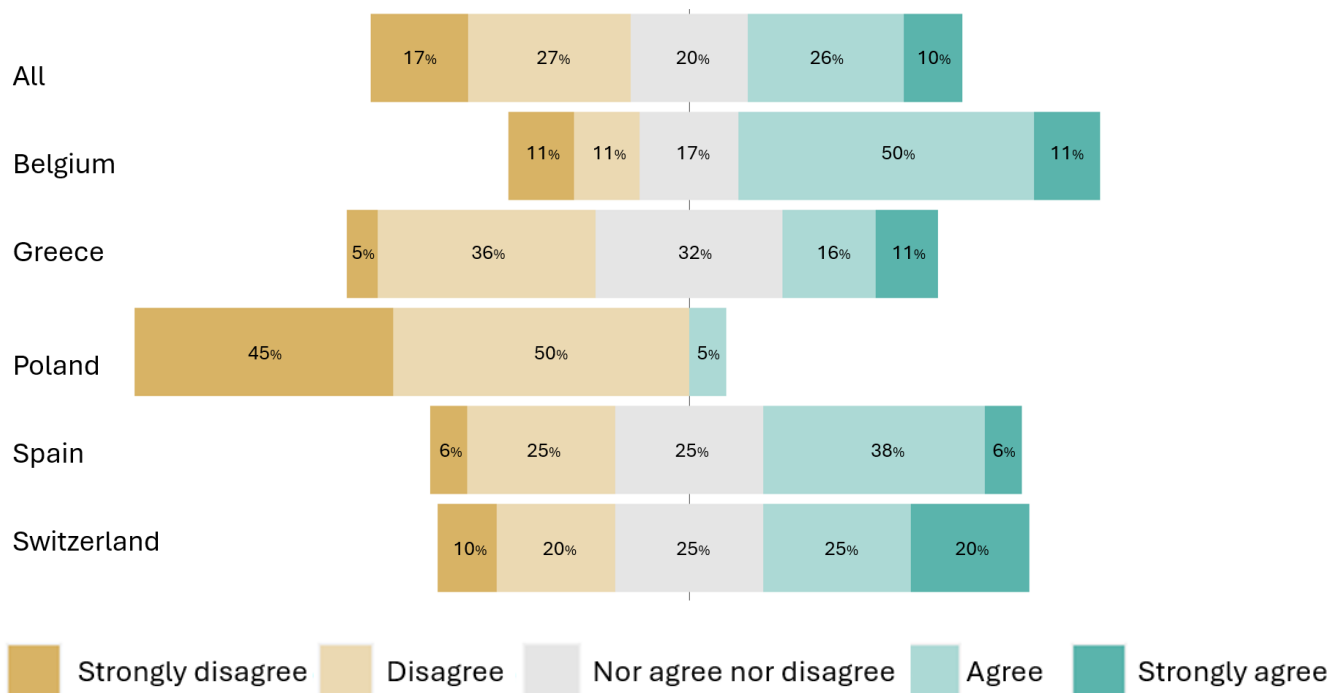
I have been trained to engage patients about BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	16%	39%	18%	22%	5%
Belgium	11%	39%	17%	22%	11%
Greece	11%	47%	21%	16%	5%
Poland	35%	53%	6%	6%	
Spain	12%	31%	25%	32%	
Switzerland	10%	30%	20%	30%	10%

I have been trained to implement alternative approaches for sleep problems in older adults.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	13%	35%	16%	29%	7%
Belgium	11%	27%	6%	50%	6%
Greece	11%	36%	32%	21%	
Poland	24%	40%	12%	12%	12%
Spain	19%	50%	6%	25%	
Switzerland		25%	20%	40%	15%
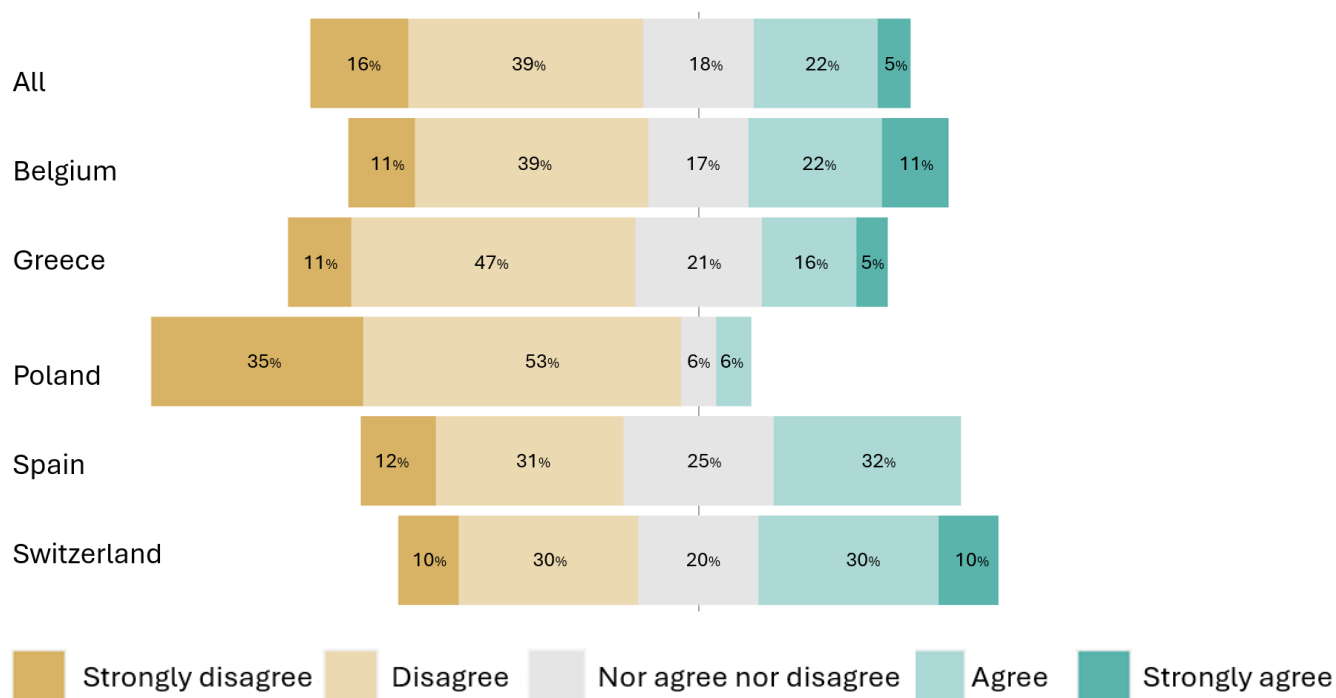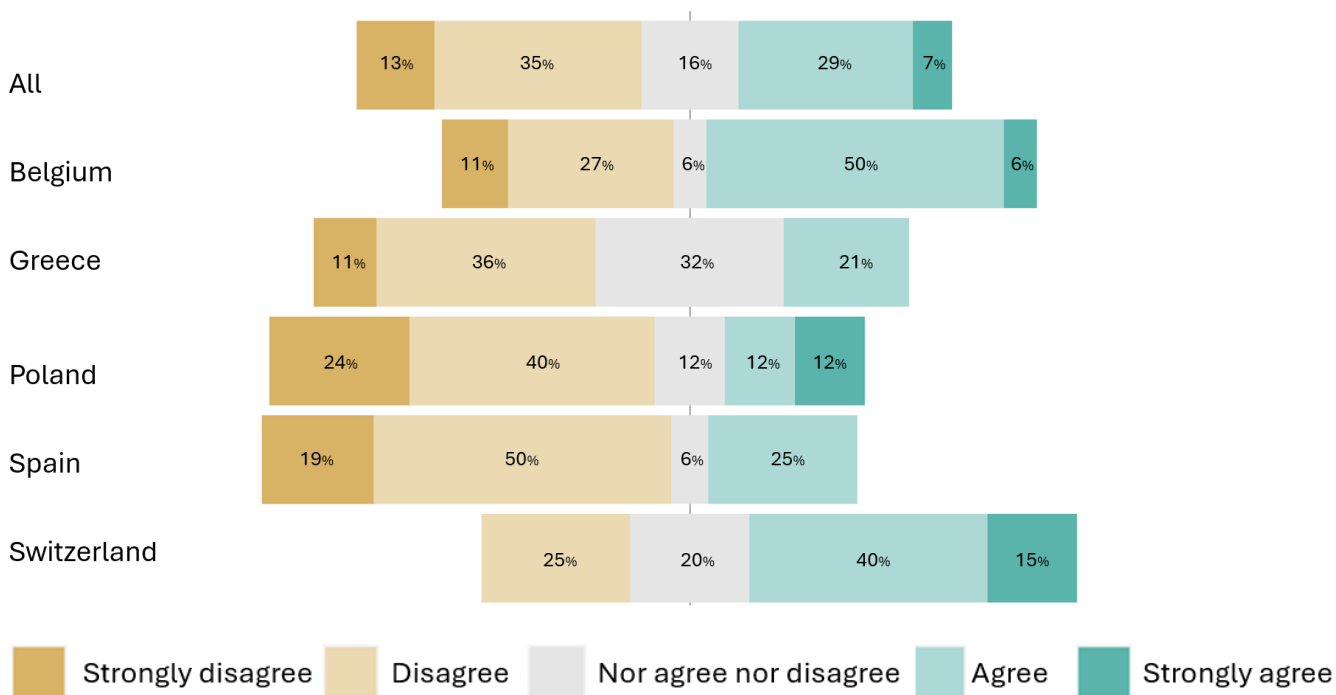
eTable 4.3. Memory, attention, and decision process

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
I usually do not consider BZRA deprescribing in older adults with sleep problems because it is a difficult and time-consuming process.	3.56* (0.98)	3.32* (1.11)	3.18* (1.13)	3.69* (0.95)	4.05* (1.05)
As long as the patient has no specific issue or request, I renew/continue the prescription of BZRA.	3.32* (0.95)	2.79* (1.13)	3.56* (1.25)	3.00* (0.89)	3.70* (0.87)

* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

I usually do not consider deprescribing BZRA in older adults as it is a difficult and time-consuming process.

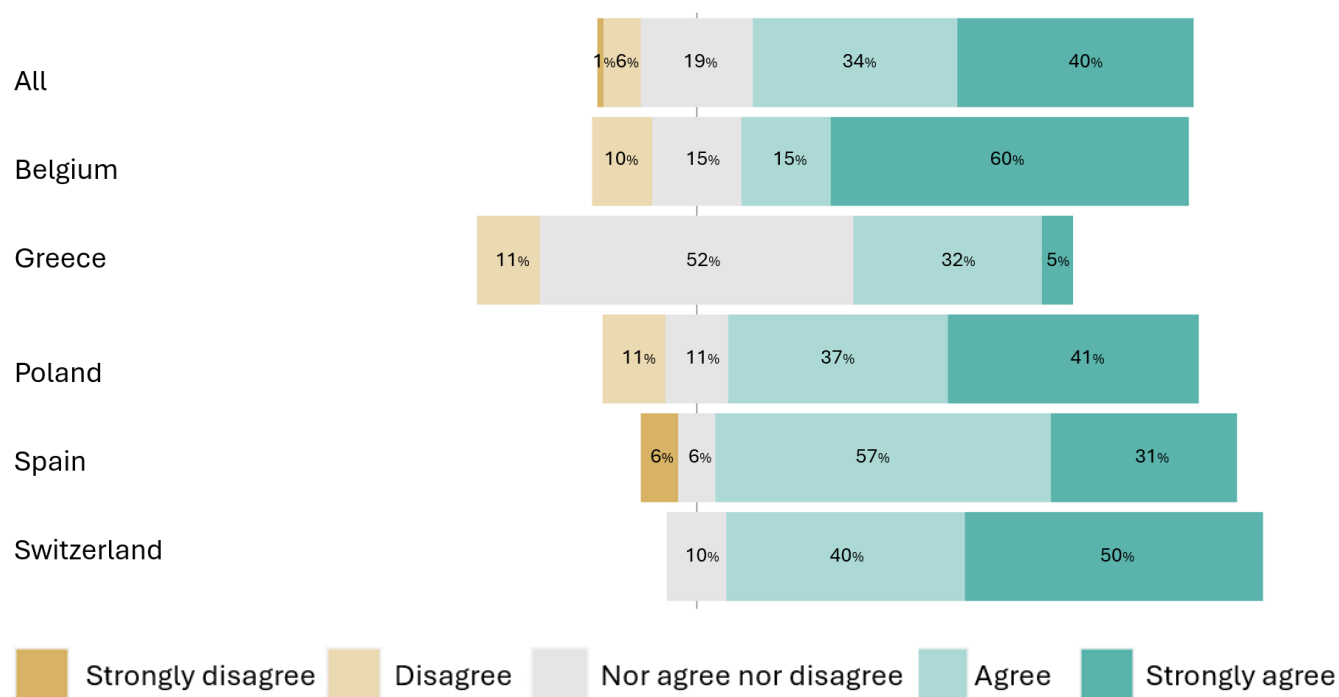As long as the patient has no specific issue or request, I renew/continue the prescription of BZRA.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	11%	40%	19%	27%	3%
Belgium	11%	32%	36%	21%	
Greece	5%	26%	21%	37%	11%
Poland	22%	44%	6%	22%	6%
Spain		38%	24%	38%	
Switzerland	10%	65%	10%	15%	

Legend: ■ Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree
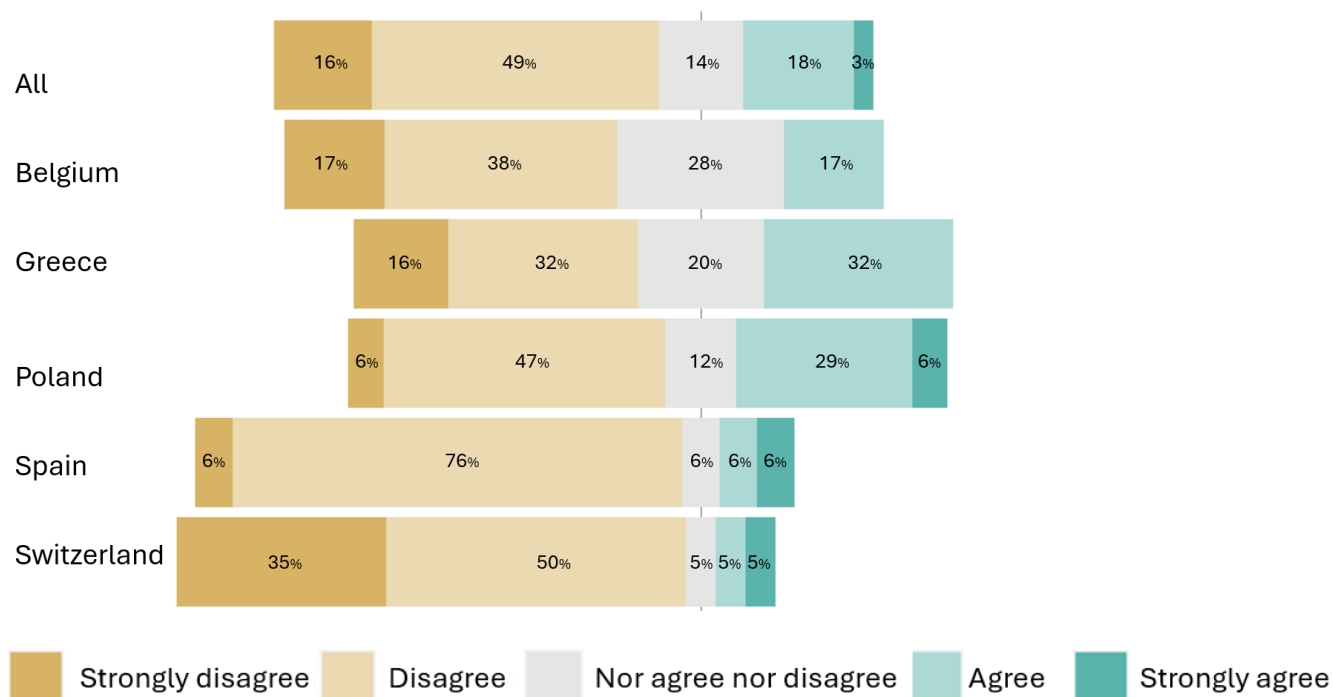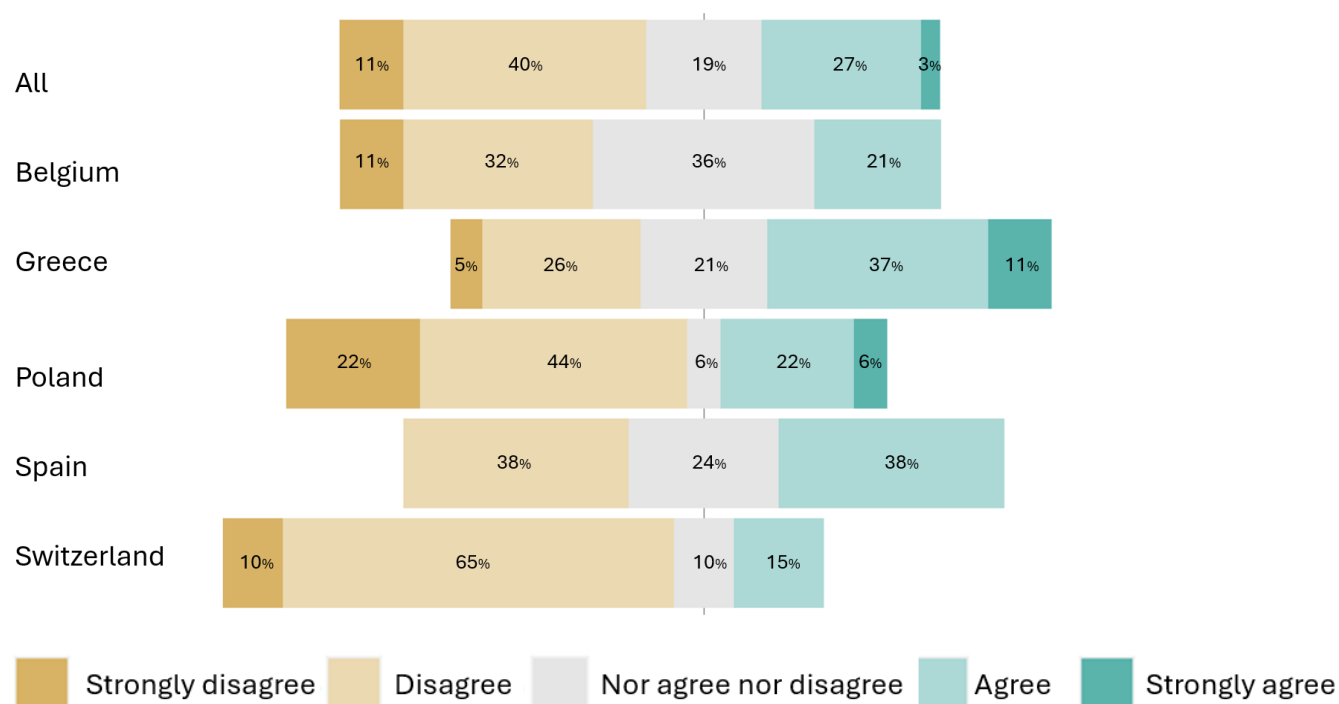
eTable 4.4. Social/Professional Role and Identity

TDF-based items	Mean (SD)				
	Belgium	Greece	Poland	Spain	Switzerland
It is my responsibility as a general practitioner to deprescribe BZRA in older adults with sleep problems.	4.25 (1.07)	3.32 (0.75)	4.11 (0.99)	4.06 (0.99)	4.40 (0.68)
In my practice, it is relevant to follow up on BZRA deprescribing initiated by a physician from the hospital.	4.33 (0.84)	3.58 (1.12)	3.65 (0.86)	4.19 (1.05)	4.50 (0.69)
I don't feel concerned with the deprescribing of BZRA in older adults.	4.63* (0.49)	3.53* (0.91)	3.69* (0.95)	3.94* (1.39)	4.70* (0.47)

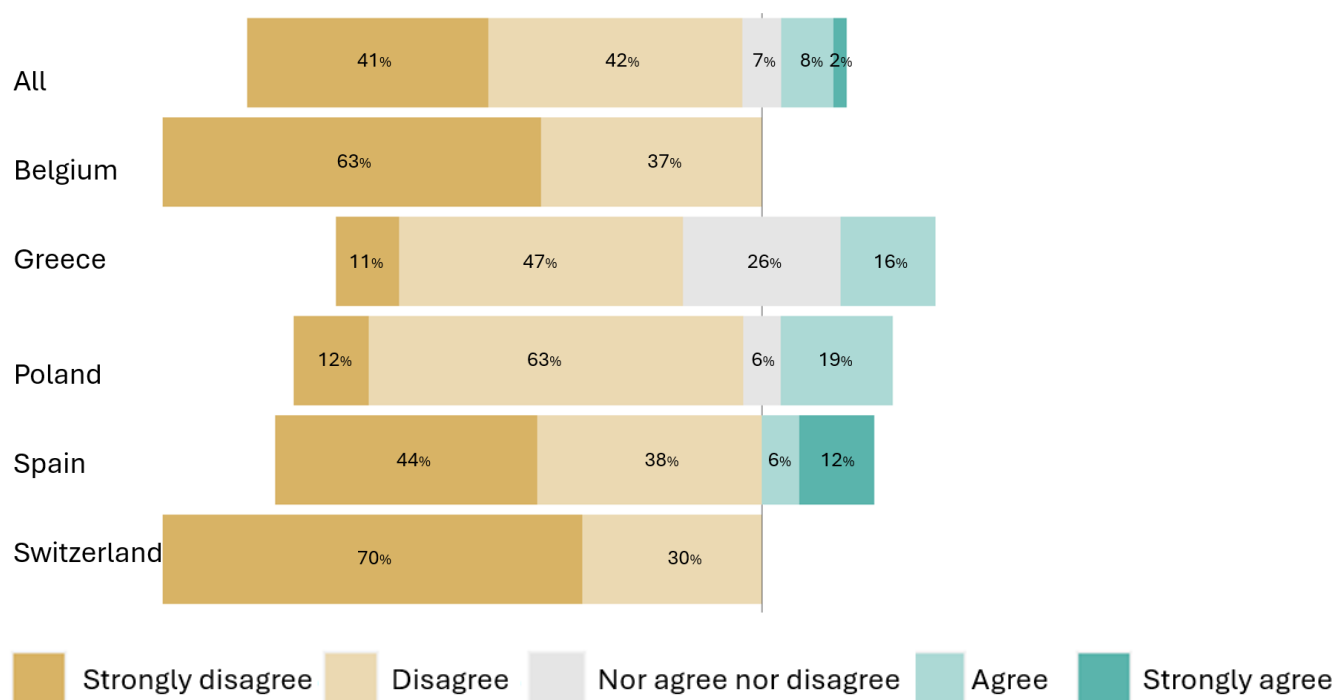* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

It is my responsibility as a general practitioner to deprescribe BZRA in older adults with sleep problems.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	1%	6%	19%	34%	40%
Belgium		10%	15%	15%	60%
Greece		11%	52%	32%	5%
Poland		11%	11%	37%	41%
Spain	6%		6%	57%	31%
Switzerland			10%	40%	50%

In my practice, it is relevant to follow up on BZRA deprescribing initiated by a hospital physician.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	3%	5%	15%	40%	37%
Belgium		6%	6%	38%	50%
Greece	5%	11%	26%	37%	21%
Poland		12%	24%	52%	12%
Spain	6%		6%	44%	44%
Switzerland			10%	30%	60%

I don't feel concerned with the deprescribing of BZRA in older adults.

| | Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree |
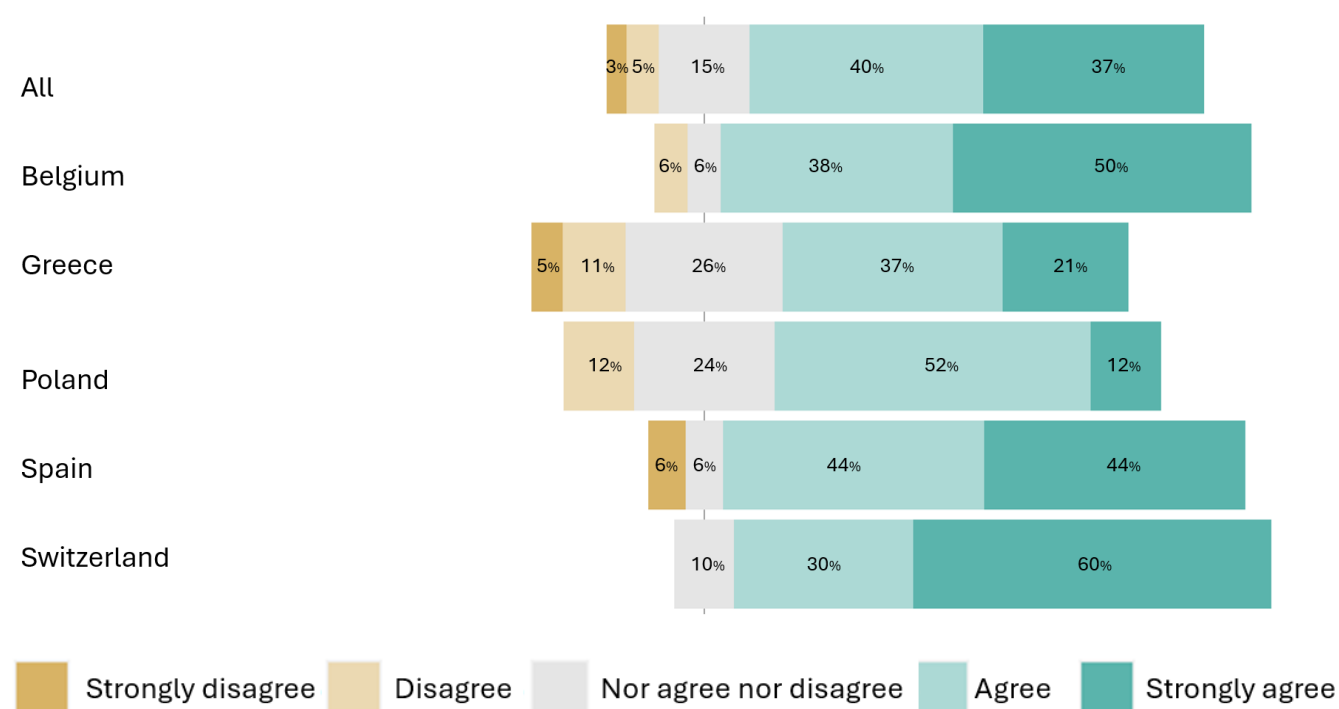
eTable 4.5. Beliefs about capabilities

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
I am confident that I can deprescribe BZRA in older adults with sleep problems even when I have limited time.	2.89 (1.13)	2.26 (0.81)	2.29 (0.85)	3.00 (0.97)	3.20 (0.89)
I am confident I could deprescribe BZRA in older adults with sleep problems if I wanted to.	3.11 (1.08)	2.63 (0.89)	2.81 (0.83)	3.50 (0.97)	3.45 (0.76)

I am confident that I can deprescribe BZRA in older adults even when I have limited time.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	8%	40%	25%	25%	2%
Belgium	10%	28%	28%	28%	6%
Greece	16%	47%	32%	5%	
Poland	12%	58%	18%	12%	
Spain		44%	12%	44%	
Switzerland		25%	35%	35%	5%

- Strongly disagree
- Disagree
- Nor agree nor disagree
- Agree
- Strongly agree

I am confident I could deprescribe BZRA in older adults with sleep problems if I wanted to.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	4%	24%	32%	36%	4%
Belgium	6%	28%	22%	38%	6%
Greece	11%	32%	41%	16%	
Poland		44%	31%	25%	
Spain	6%	6%	25%	57%	6%
Switzerland		10%	40%	45%	5%

- Strongly disagree
- Disagree
- Nor agree nor disagree
- Agree
- Strongly agree

eTable 4.6. Beliefs about consequences

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
If I deprescribe BZRA to older adults with sleep problems, it will benefit the population's health in general.	4.17 (0.62)	3.74 (0.81)	4.06 (0.94)	3.56 (1.21)	3.95 (0.83)
If I deprescribe BZRA in older adults with sleep problems, it will negatively affect my relationship with these patients.	3.44* (0.86)	3.42* (0.96)	2.89* (0.83)	3.44* (1.21)	3.80* (0.77)
I believe that BZRA deprescribing in older adults with sleep problems will have negative consequences for my patient's health.	3.39* (0.92)	2.79* (0.78)	3.35* (1.11)	3.56* (1.46)	3.95* (0.61)
In general, I believe that the benefits of BZRA deprescribing in older adults with sleep problems outweigh the harms.	3.78 (1.17)	3.79 (0.92)	3.81 (1.17)	3.81 (0.98)	4.40 (0.50)

* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)
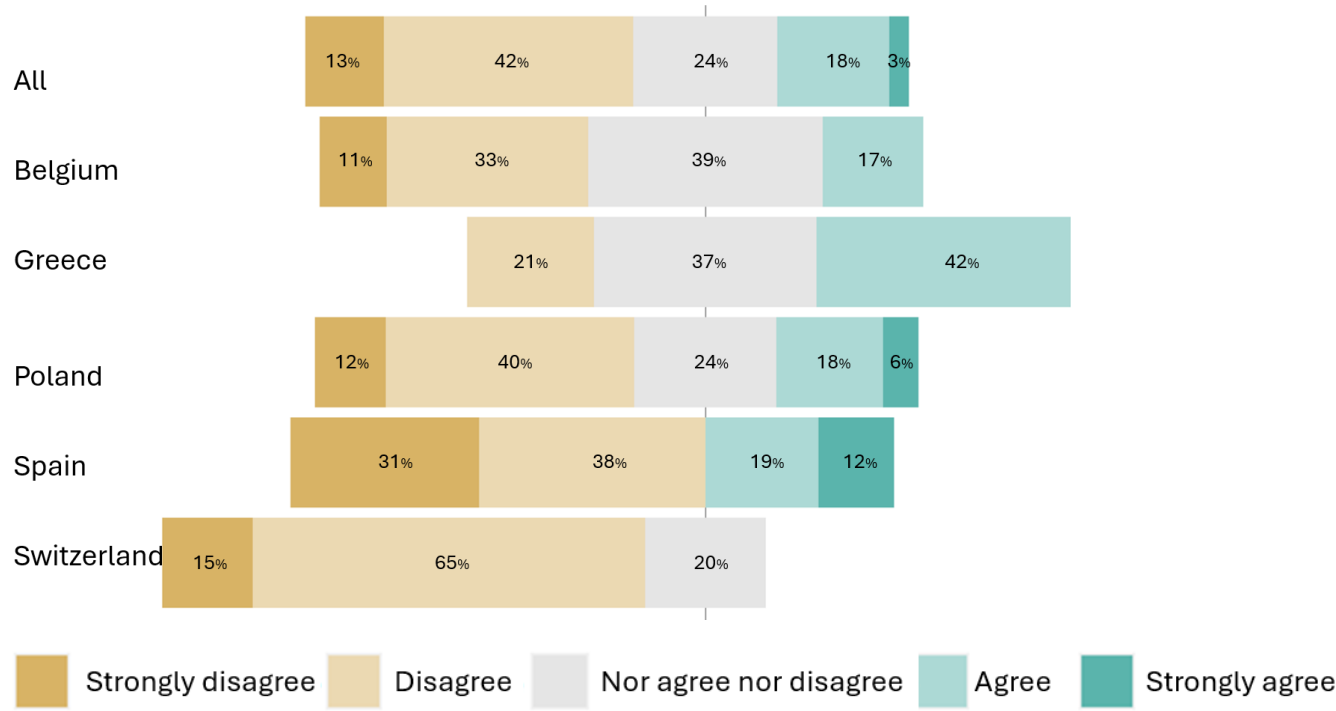
If I deprescribe BZRA to older adults, it will benefit the population's health in general.
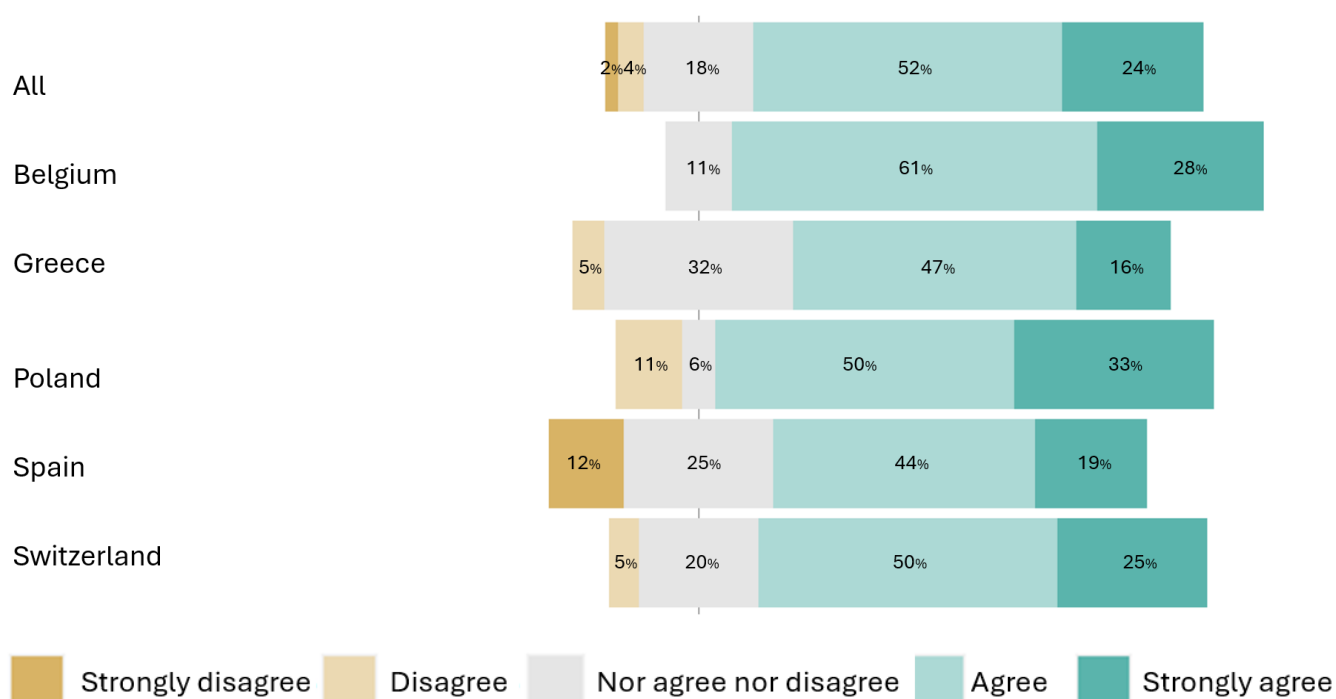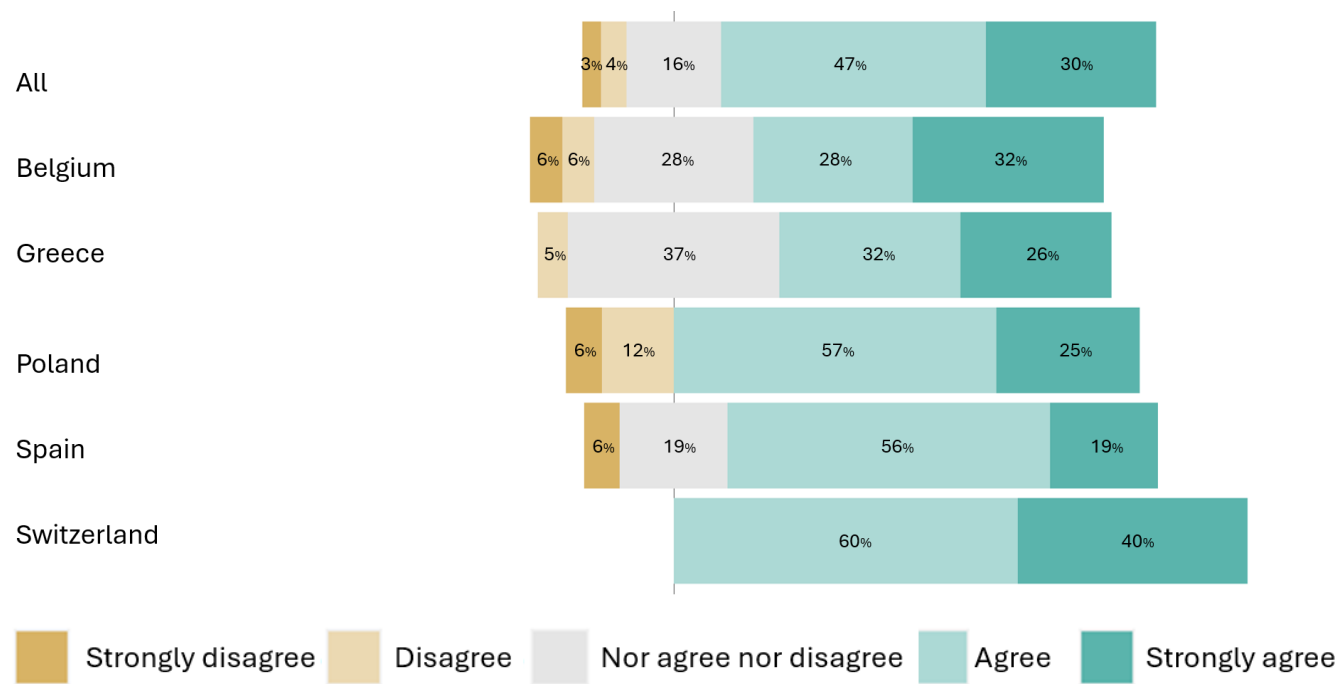
If I deprescribe BZRA in older adults, it will negatively affect my relationship with these patients.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	8%	47%	23%	20%	2%
Belgium		67%	11%	22%	
Greece	16%	26%	42%	16%	
Poland		28%	33%	39%	
Spain	6%	69%		12%	13%
Switzerland	15%	55%	25%	5%	
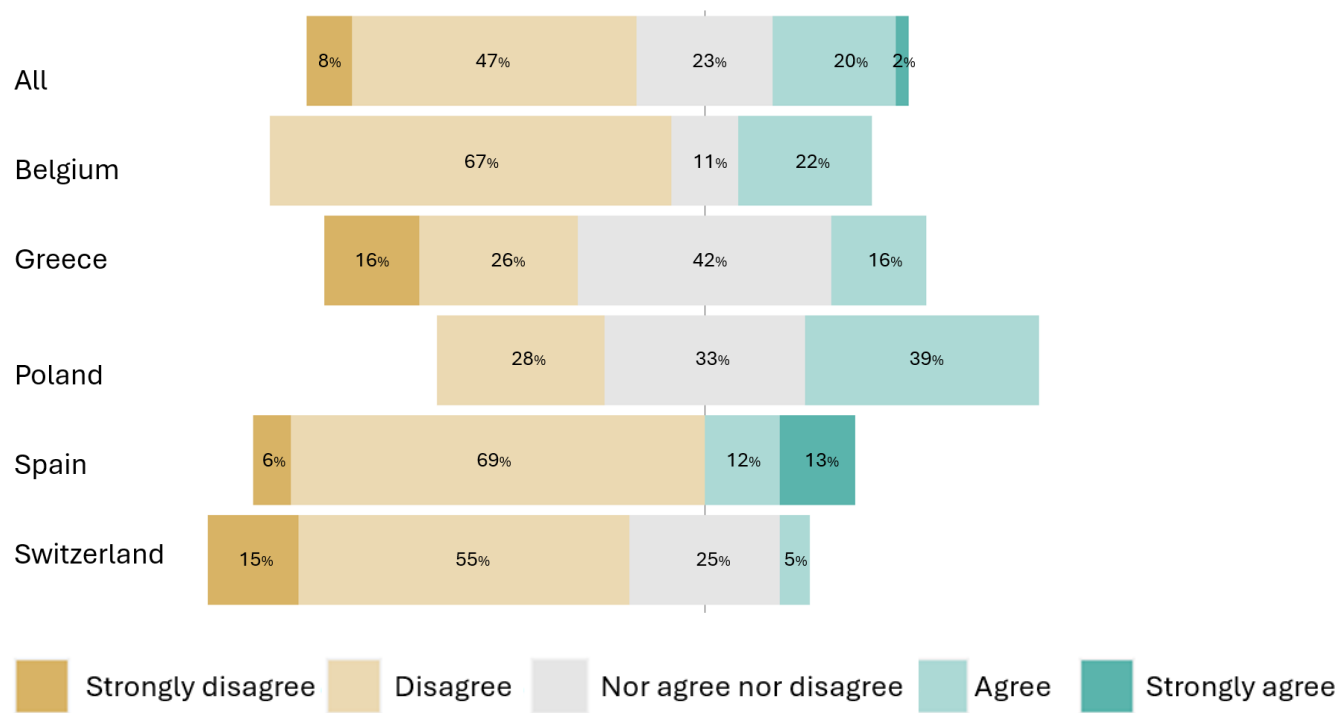
I believe BZRA deprescribing in older adults will have negative consequences for my patient's health.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	13%	42%	24%	18%	3%
Belgium	11%	33%	39%	17%	
Greece		21%	37%	42%	
Poland	12%	40%	24%	18%	6%
Spain	31%	38%	19%	12%	
Switzerland	15%	65%	20%		

In general, I believe that the benefits of BZRA deprescribing in older adults outweigh the harms.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	3%	4%	16%	47%	30%
Belgium	6%	6%	28%	28%	32%
Greece		5%	37%	32%	26%
Poland	6%		12%	57%	25%
Spain	6%		19%	56%	19%
Switzerland				60%	40%

eTable 4.7. Reinforcement

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
I am reluctant to deprescribe BZRA in older adults with sleep problems due to previous failed attempts.	2.83 (1.10)	3.37 (0.96)	3.63 (1.09)	2.63 (1.36)	3.40 (0.99)

* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

I am reluctant to deprescribe BZRA in older adults with sleep problems due to previous failed attempts.


	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	12%	33%	24%	24%	7%
Belgium	6%	22%	33%	28%	11%
Greece	11%	36%	32%	21%	
Poland	19%	50%	6%	25%	
Spain	12%	19%	6%	44%	19%
Switzerland	10%	40%	35%	10%	5%
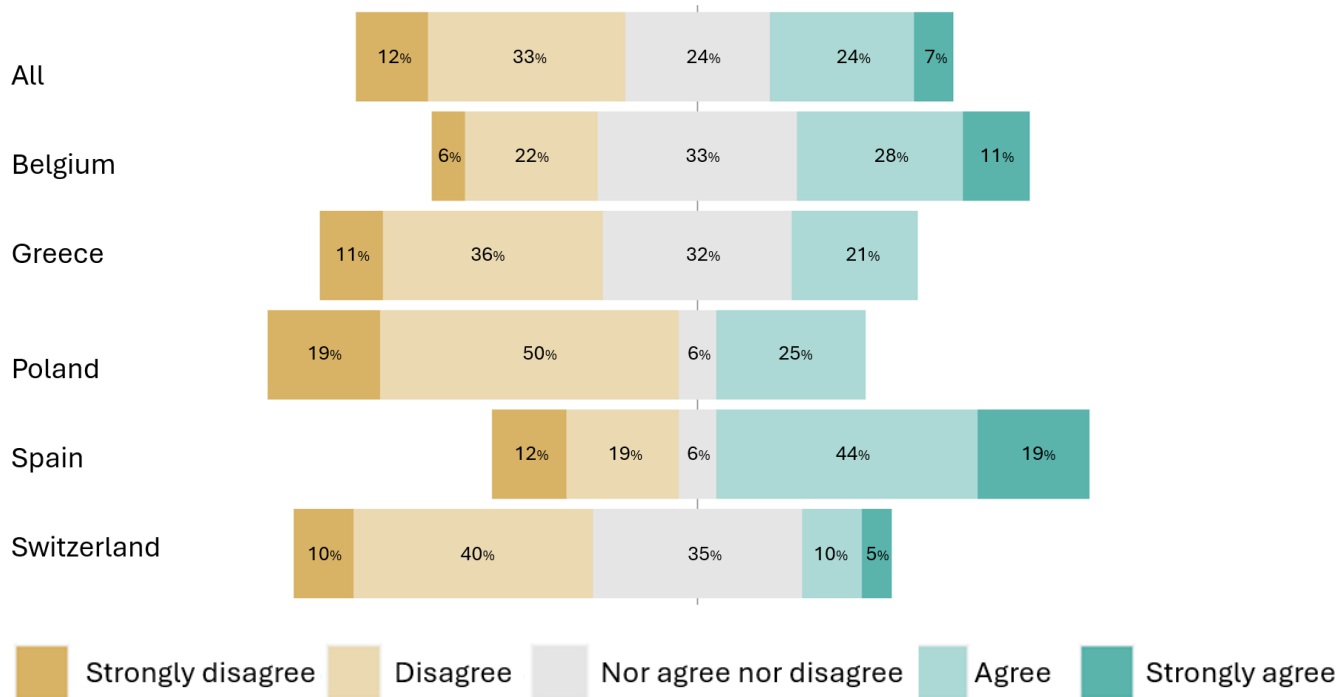
eTable 4.8. Goals

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
BZRA deprescribing in older adults with sleep problems is a priority for me.	3.33 (0.97)	2.68 (0.82)	2.76 (0.90)	3.25 (1.13)	3.25 (0.97)
My patients often have other health problems that are usually more important for me to address than the BZRA deprescribing.	3.17* (0.92)	3.63* (0.68)	3.81* (1.05)	3.25* (1.00)	3.40* (0.88)

* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

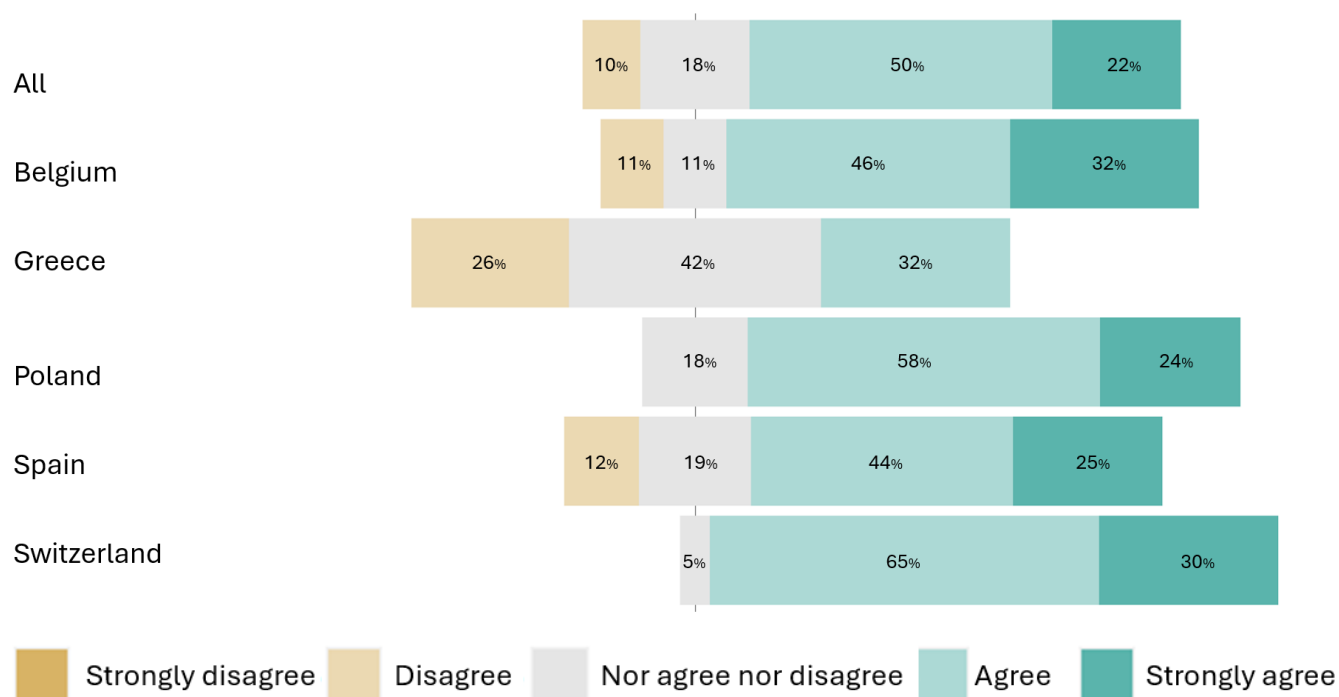BZRA deprescribing in older adults with sleep problems is a priority for me.
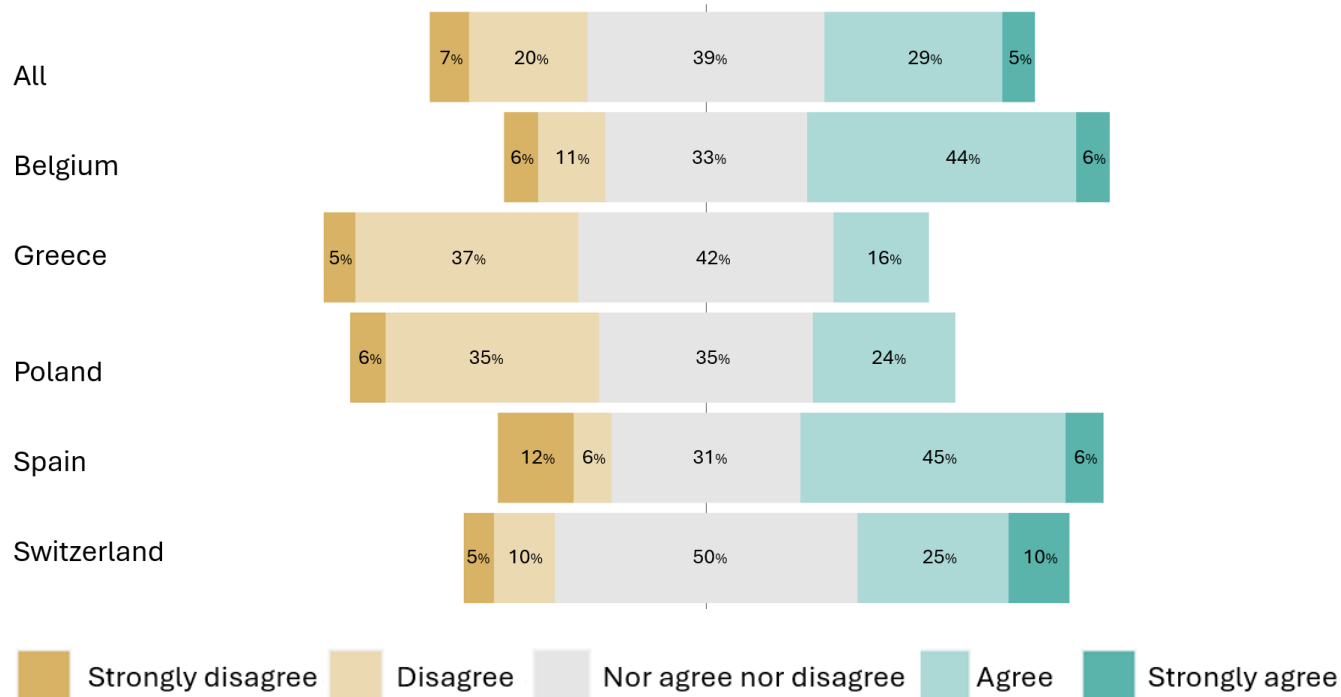
My patients have other health problems that are more important to address than the BZRA deprescribing.
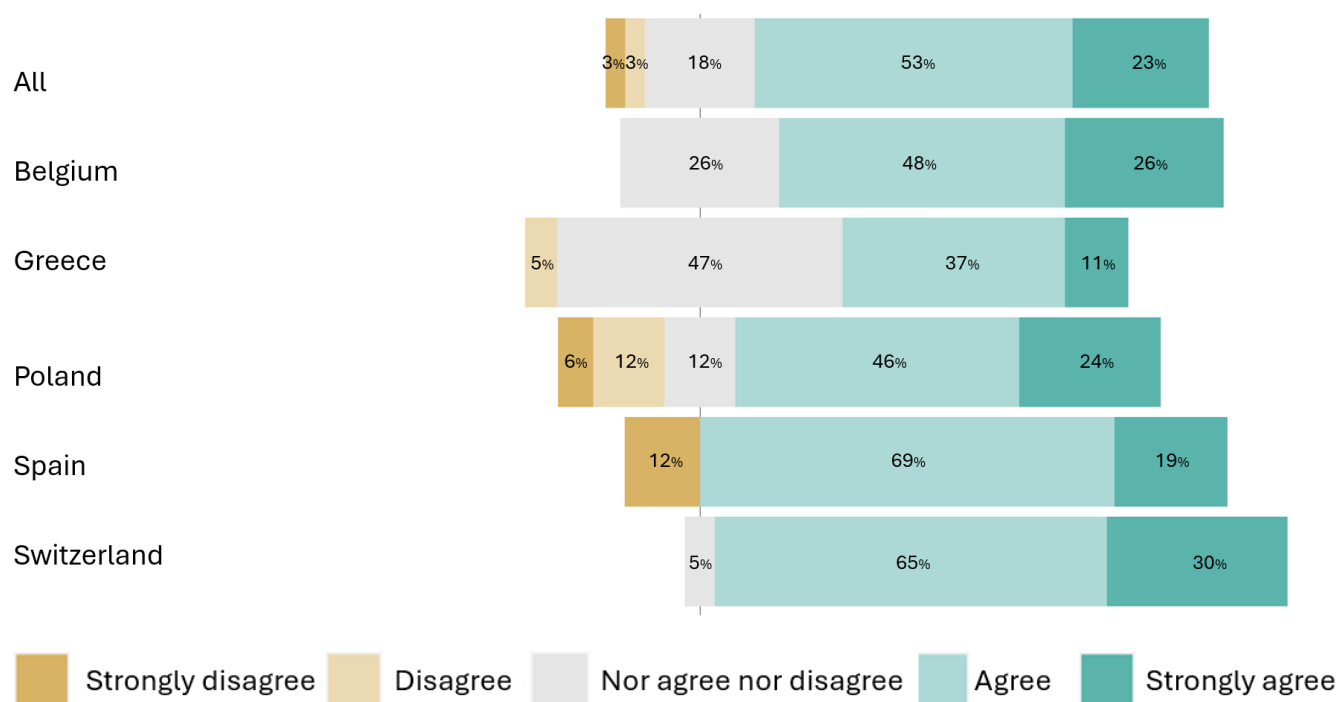

| | Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree |
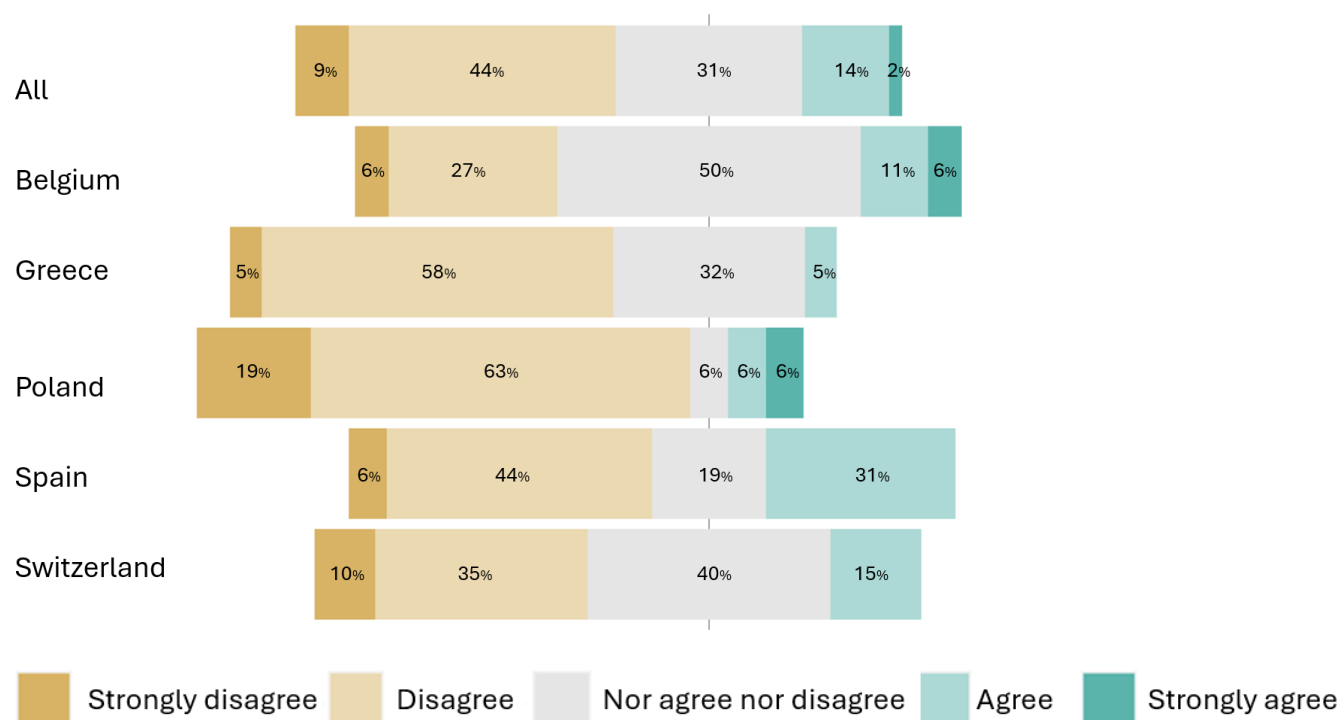
eTable 4.9. Intentions

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
I intend to deprescribe BZRA in older adults with sleep problems.	4.00 (0.94)	3.05 (0.78)	4.06 (0.66)	3.81 (0.98)	4.25 (0.55)
I intend to promote the use of alternative approaches to help older adults deal with sleep problems.	4.00 (0.76)	3.53 (0.77)	3.71 (1.16)	3.81 (1.17)	4.25 (0.55)

I intend to deprescribe BZRA in older adults with sleep problems.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All		10%	18%	50%	22%
Belgium		11%	11%	46%	32%
Greece		26%	42%	32%	
Poland			18%	58%	24%
Spain		12%	19%	44%	25%
Switzerland			5%	65%	30%

I intend to promote the use of alternative approaches to help older adults deal with sleep problems.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	3%	3%	18%	53%	23%
Belgium			26%	48%	26%
Greece		5%	47%	37%	11%
Poland	6%	12%	12%	46%	24%
Spain	12%			69%	19%
Switzerland			5%	65%	30%

eTable 4.10. Emotions

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
I feel frustrated with all the challenges of BZRA deprescribing in older adults with sleep problems.	2.61* (1.09)	2.74* (0.99)	2.25* (0.93)	2.50* (1.03)	2.70* (0.98)
I feel stressed about BZRA deprescribing in older adults with sleep problems.	3.61* (1.20)	2.68* (1.06)	2.29* (0.99)	2.94* (1.24)	3.65* (0.75)

* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)

I feel frustrated with all the challenges of BZRA deprescribing in older adults with sleep problems.

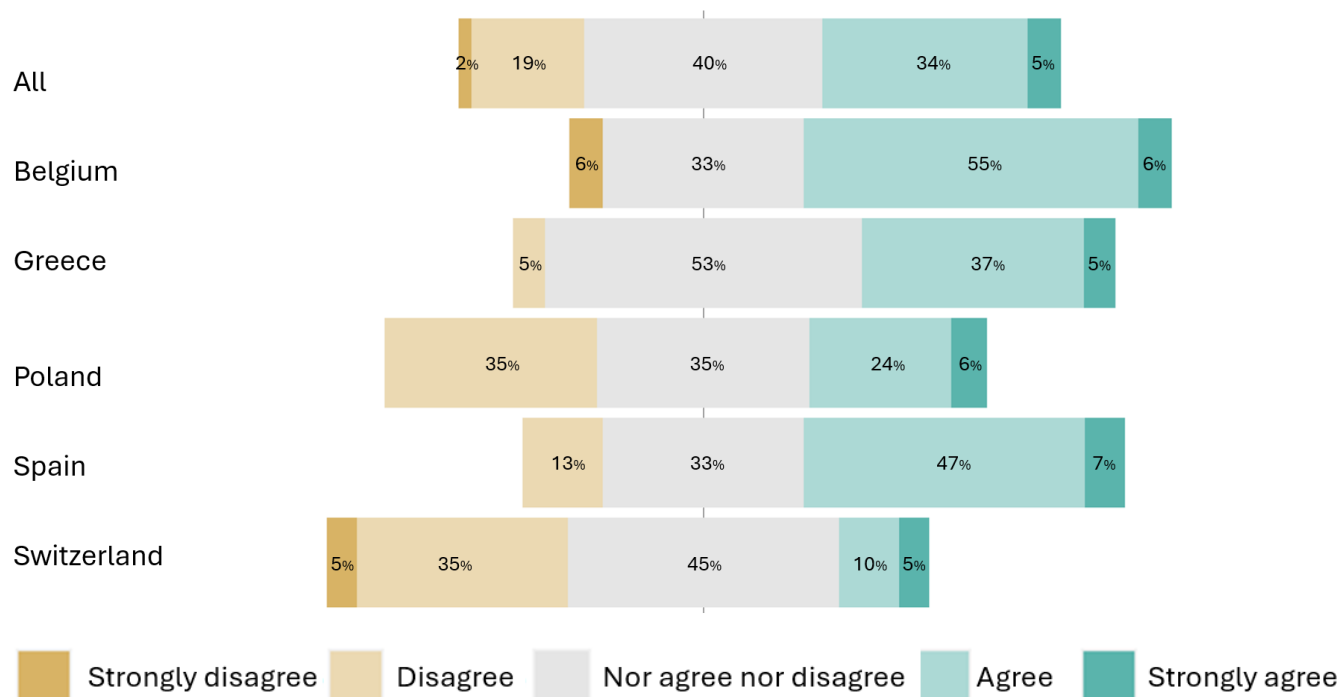I feel stressed about BZRA deprescribing in older adults with sleep problems.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	8%	36%	18%	29%	9%
Belgium	28%	28%	28%	10%	6%
Greece	5%	16%	32%	36%	11%
Poland		18%	12%	52%	18%
Spain	6%	39%	12%	31%	12%
Switzerland		80%	5%	15%	
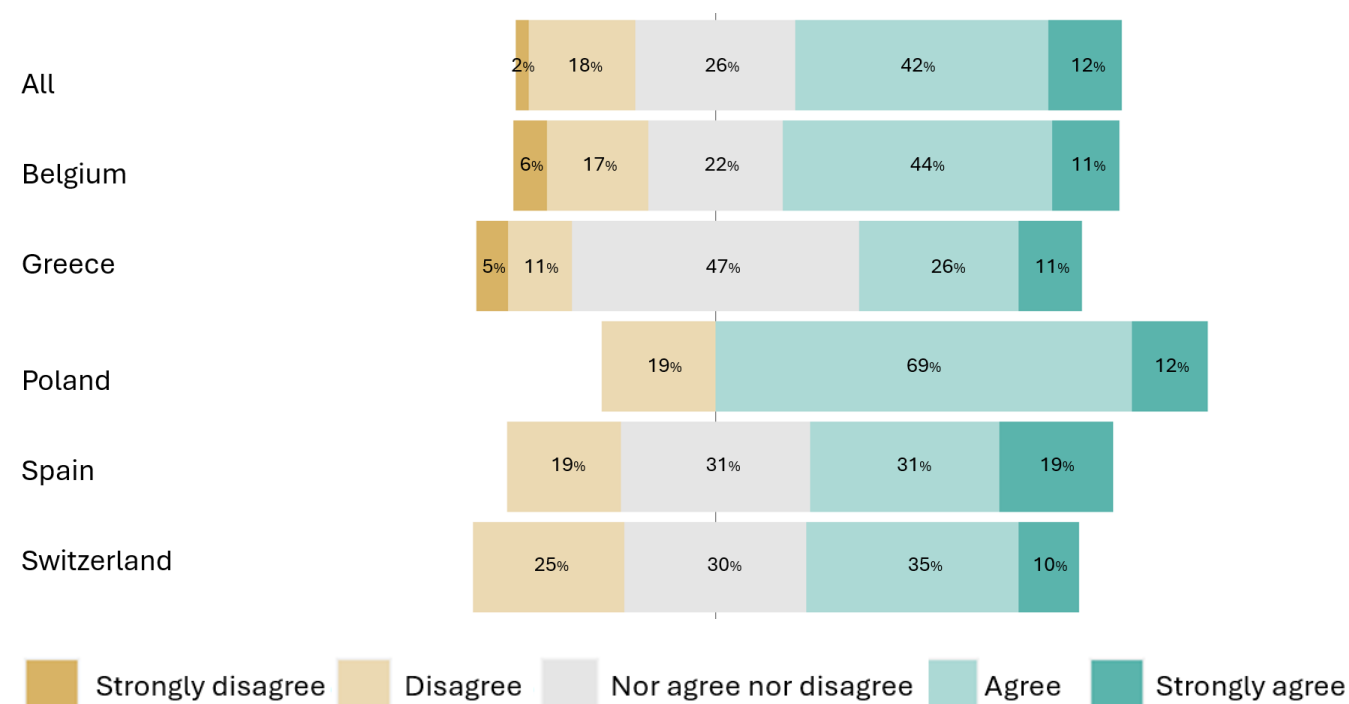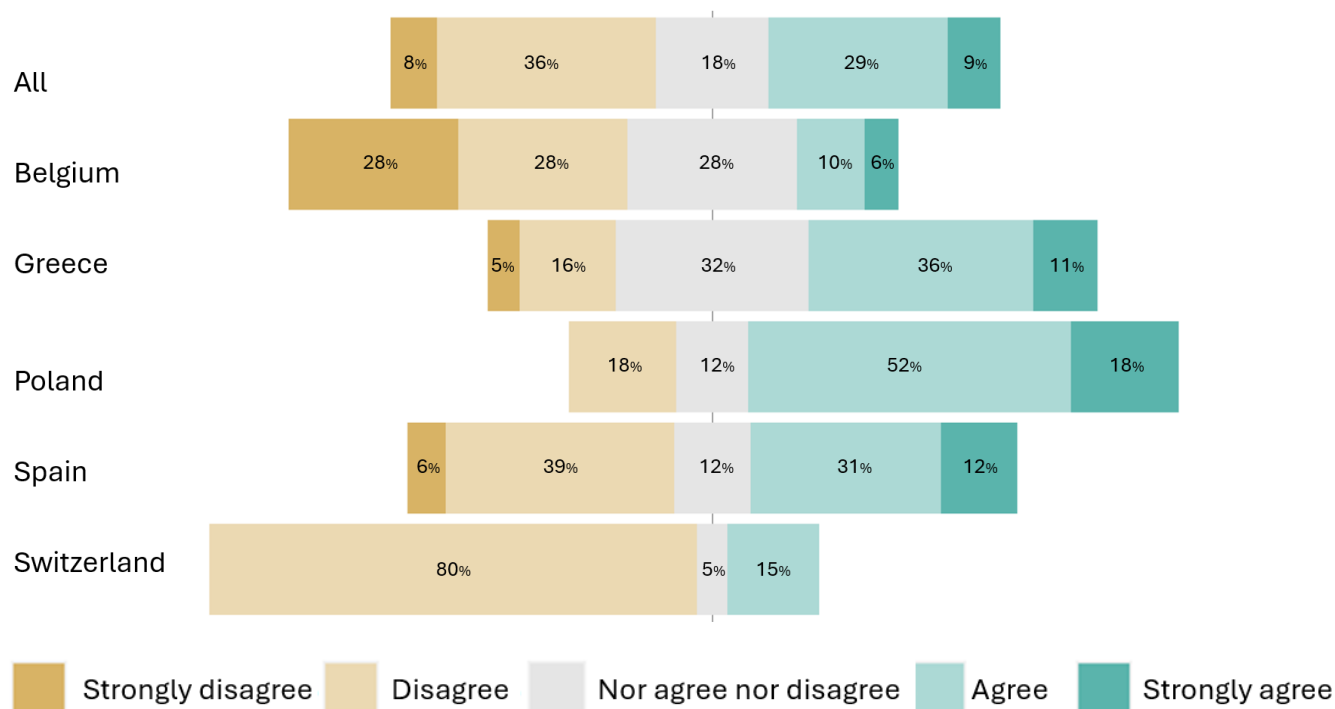
eTable 4.11. Environmental context, and resources

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
There are guidelines and tools available for BZRA deprescribing in older adults with sleep problems that are possible to implement in my practice.	3.56 (0.86)	3.42 (0.86)	3.00 (0.94)	3.47 (0.83)	2.75 (0.91)
I have enough time to educate and inform patients about BZRA deprescribing.	2.95 (1.18)	2.79 (1.18)	1.50 (0.52)	2.00 (1.15)	3.00 (1.03)
In my practice, there are enough collaborators to support BZRA deprescribing in older adults with sleep problems.	2.79 (1.03)	2.11 (1.03)	1.50 (0.63)	2.88 (1.26)	2.40 (0.82)
In my opinion, BZRA deprescribing is not prioritized by our healthcare system.	2.56* (1.42)	3.32* (1.42)	3.06* (0.99)	3.44* (1.15)	3.20* (1.20)
For general practitioners, in my area or my region, goals or policies have been set that encourage BZRA deprescribing.	2.30 (1.17)	1.84 (1.17)	1.38 (0.88)	3.63 (1.02)	2.30 (0.66)

* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)
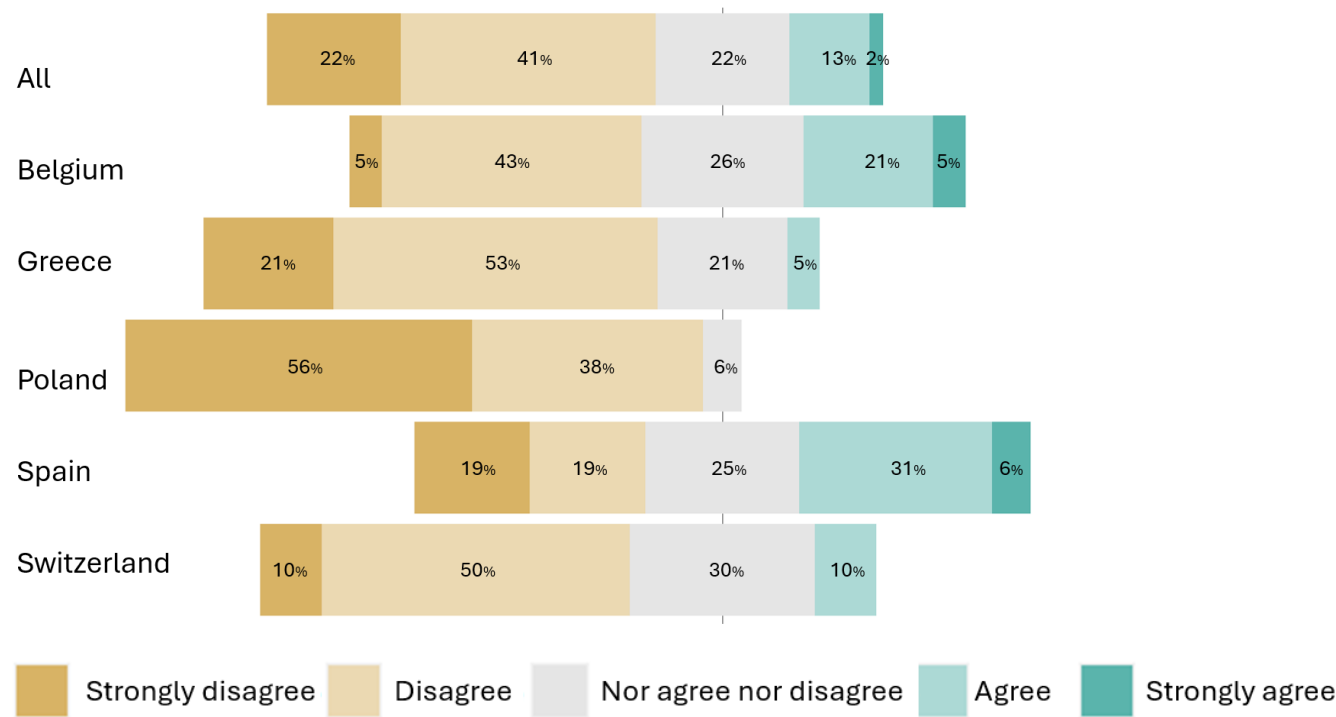
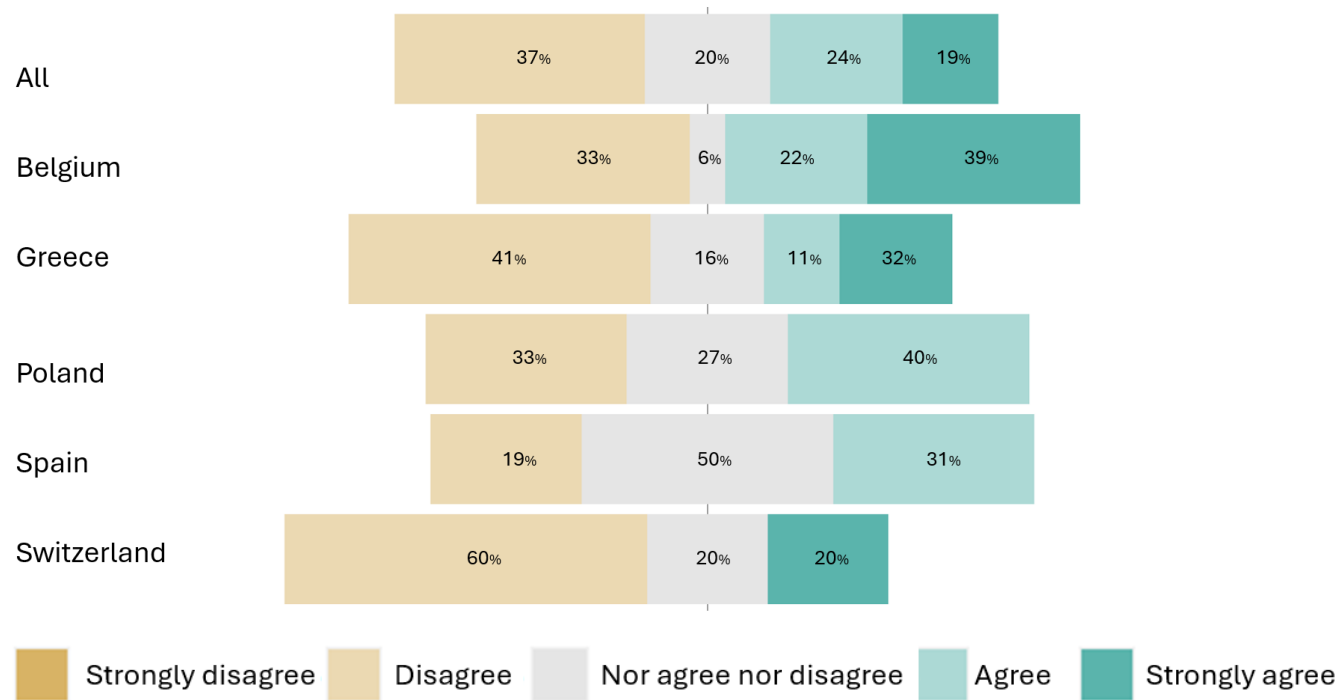There are guidelines/tools available for BZRA deprescribing in older adults implementable in my practice.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	2%	19%	40%	34%	5%
Belgium	6%		33%	55%	6%
Greece		5%	53%	37%	5%
Poland		35%	35%	24%	6%
Spain		13%	33%	47%	7%
Switzerland	5%	35%	45%	10%	5%

I have enough time to educate and inform patients about BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	22%	36%	17%	20%	5%
Belgium	5%	42%	16%	26%	11%
Greece	16%	26%	31%	16%	11%
Poland	50%	50%			
Spain	44%	31%	6%	19%	
Switzerland	5%	30%	30%	30%	5%

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In my practice, there are enough collaborators to support BZRA deprescribing in older adults.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	22%	41%	22%	13%	2%
Belgium	5%	43%	26%	21%	5%
Greece	21%	53%	21%	5%	
Poland	56%	38%	6%		
Spain	19%	19%	25%	31%	6%
Switzerland	10%	50%	30%	10%	

Strongly disagree   Disagree   Nor agree nor disagree   Agree   Strongly agree

In my opinion, BZRA deprescribing is not prioritized by our healthcare system.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All		37%	20%	24%	19%
Belgium		33%	6%	22%	39%
Greece		41%	16%	11%	32%
Poland		33%	27%	40%	
Spain		19%	50%	31%	
Switzerland		60%	20%	20%	

Strongly disagree   Disagree   Nor agree nor disagree   Agree   Strongly agree

For GPs, in my area or my region, goals or policies have been set that encourage BZRA deprescribing.

| | Strongly disagree | Disagree | Nor agree nor disagree | Agree | Strongly agree |

eTable 4.12. Social influence

TDF-based items	Mean (SD)				
	Belgium	**Greece**	**Poland**	**Spain**	**Switzerland**
I feel a lot of pressure from older adults with sleep problems and/or their relatives to renew/extend their prescriptions.	1.60* (0.75)	1.84* (0.60)	1.39* (0.50)	1.39* (0.50)	1.75* (0.77)
Most of my older patients take a BZRA for sleep problems or their relatives are reluctant to deprescribe their BZRA.	1.68* (0.58)	2.00* (0.67)	1.24* (0.44)	1.24* (0.44)	1.60* (0.59)
My colleagues/collaborators whose opinions I value support BZRA deprescribing in older adults with sleep problems.	4.00 (0.75)	2.68 (1.06)	3.41 (0.94)	3.41 (0.94)	3.75 (0.55)
My colleagues are supportive of BZRA deprescribing.	3.89 (0.68)	2.95 (1.03)	3.24 (1.15)	3.24 (1.15)	3.95 (0.61)

* reversed mean applied to negative statements (so that for all items, the lower the mean, the higher the barrier)
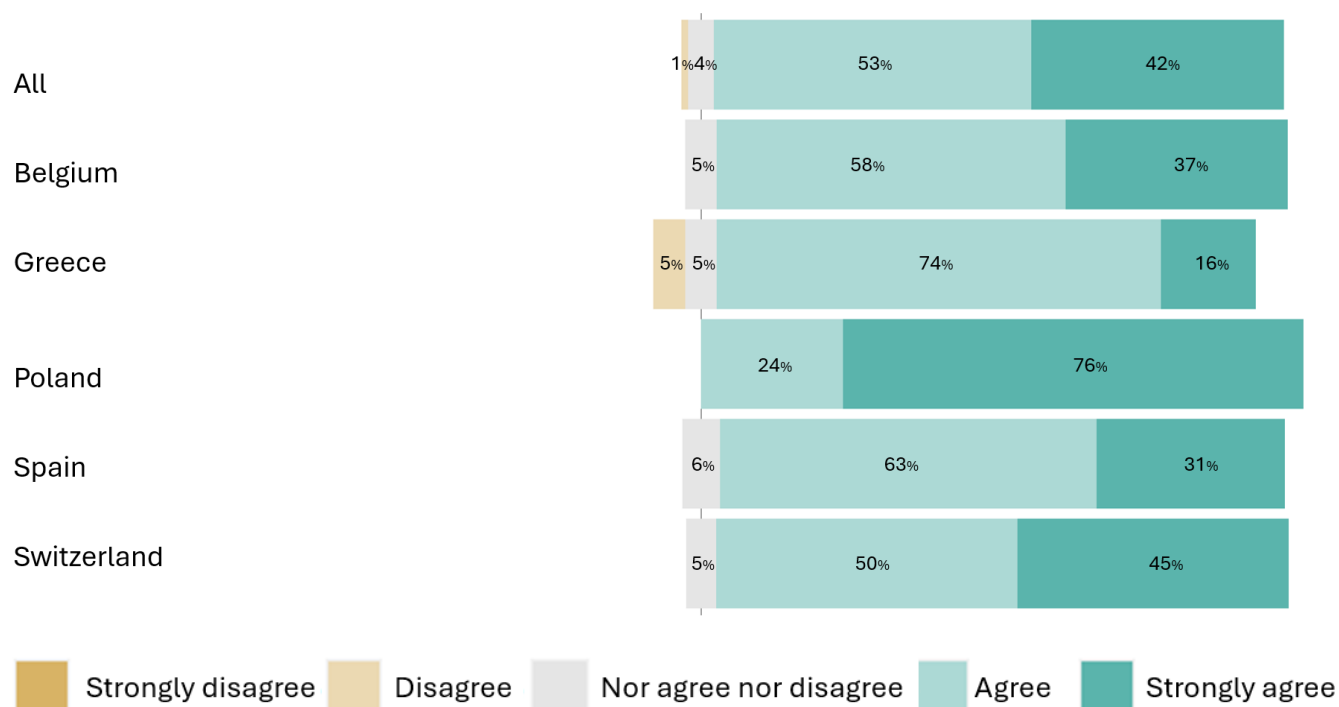
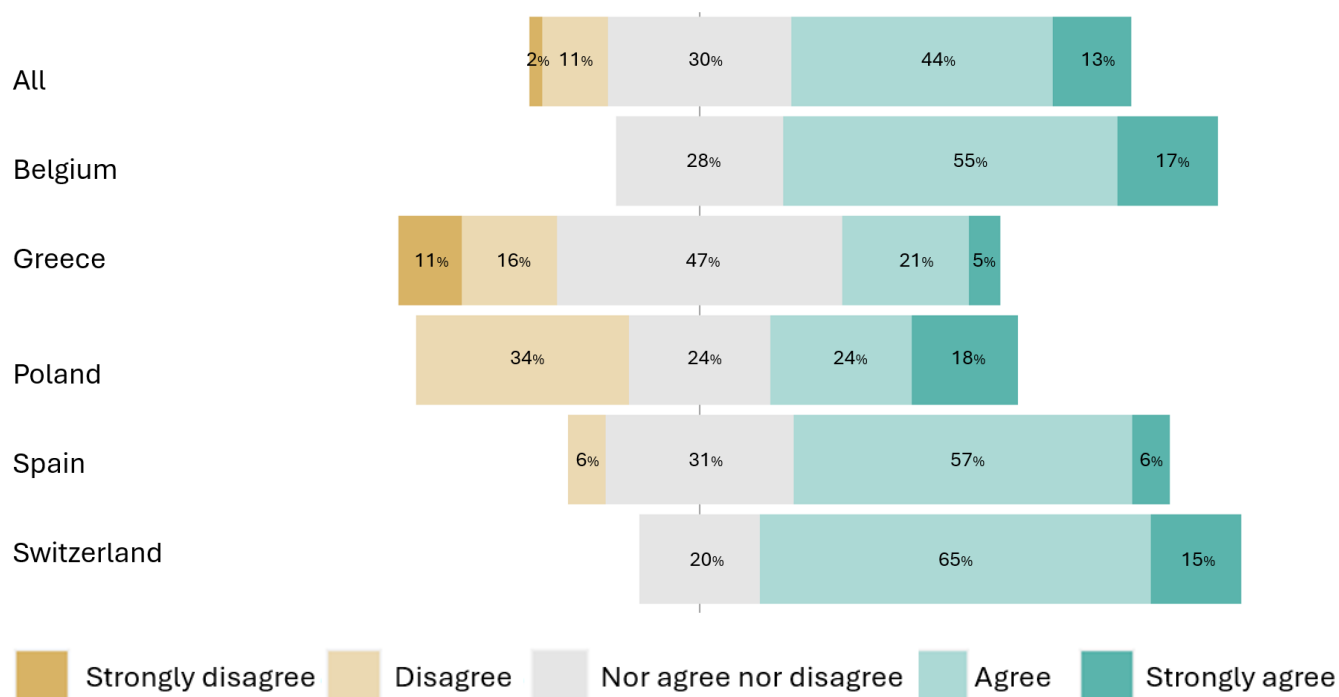## I feel a lot of pressure from older adults and/or their relatives to renew/extend their prescriptions.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	2%	5%		48%	45%
Belgium		5%		45%	50%
Greece			11%	63%	26%
Poland				39%	61%
Spain			12%	44%	44%
Switzerland	5%	5%		50%	40%

■ Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree

Most of my older patients who take a BZRA, or their relatives, are reluctant to deprescribe their BZRA.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	4%	9%	33%	44%	10%
Belgium			27%	46%	25%
Greece	16%	21%	47%	11%	5%
Poland		18%	35%	35%	12%
Spain	6%		25%	69%	
Switzerland			30%	65%	5%

■ Strongly disagree ■ Disagree ■ Nor agree nor disagree ■ Agree ■ Strongly agree

My colleagues/collaborators whose opinions I value support BZRA deprescribing in older adults.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	1%	4%		53%	42%
Belgium			5%	58%	37%
Greece	5%	5%		74%	16%
Poland				24%	76%
Spain			6%	63%	31%
Switzerland			5%	50%	45%

My colleagues are supportive of BZRA deprescribing.

	Strongly disagree	Disagree	Nor agree nor disagree	Agree	Strongly agree
All	2%	11%	30%	44%	13%
Belgium			28%	55%	17%
Greece	11%	16%	47%	21%	5%
Poland		34%	24%	24%	18%
Spain		6%	31%	57%	6%
Switzerland			20%	65%	15%
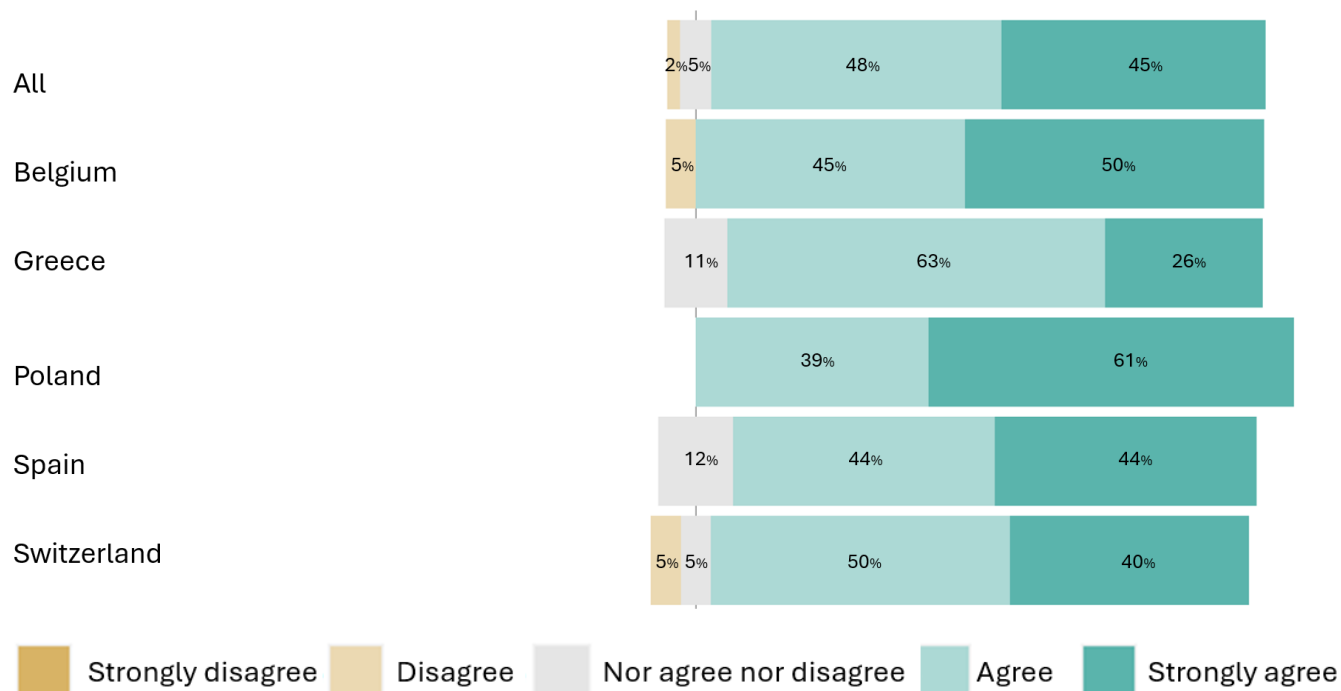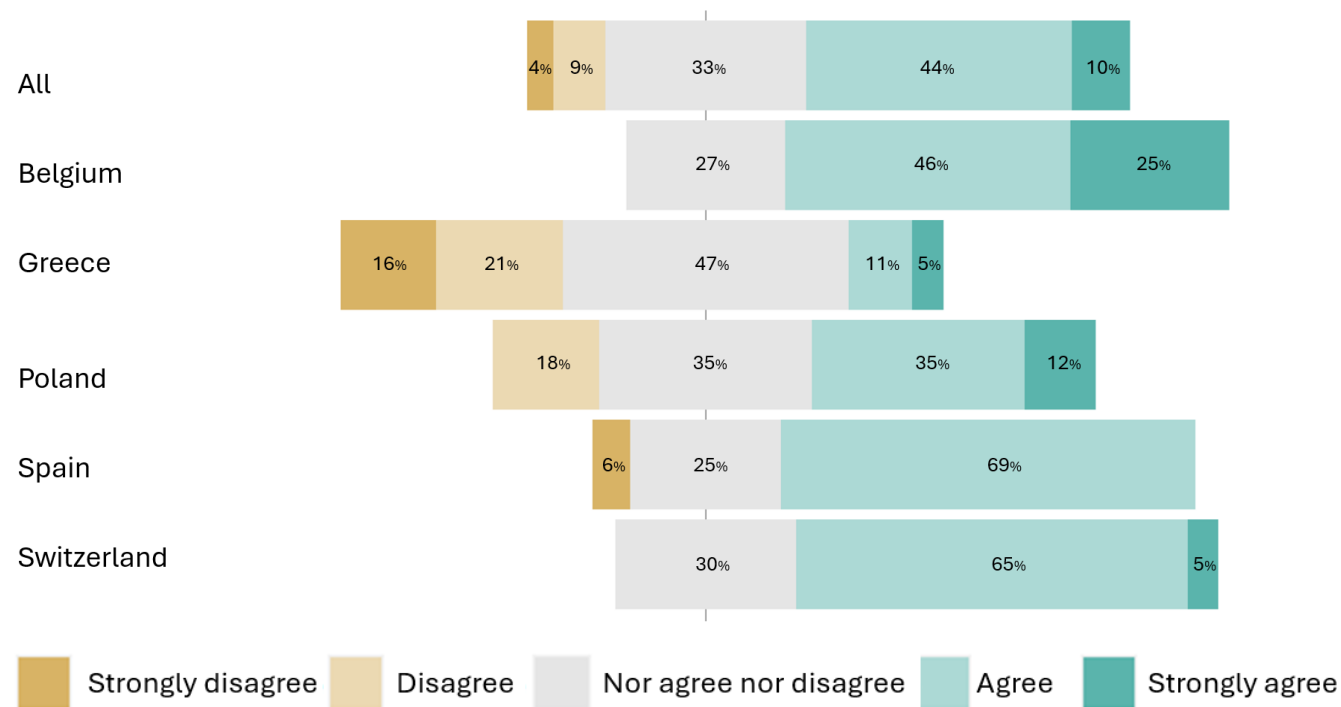
eAppendix 2. Summary of answers to open questions on barriers of and enablers to BZRA deprescribing (general practitioners.)

In collaboration with partners, the statements were translated from the local language into English and deductively coded according to the Theoretical Domains Framework.

Regarding GPs, "Social influence" was a major TDF domain across all 6 countries.

- *"Usually, the family does not agree with stopping BZRA, and often nor do the pharmacists."*
- *"Pressure from families and nursing home staff"*
- *"The patients' belief that these drugs are safe."*
- *"Patients are not motivated at all and do not see the point of the intervention. They often then take medication from relatives/neighbours/friends if I do not prescribe it."*
- *"Non-compliance of patients. Availability of prescription by other colleagues. "*
- *"Treatment with BZRA is started too "easily" from emergency services or hospital specialists, especially during admissions to acute hospitals. This makes its withdrawal difficult, although it does not prevent it outright, because "the specialist has prescribed it, he says it will not harm me and that it is for good".*

GPs also highlighted barriers in the domain of "Environmental context and resources."

- *"There are no effective alternatives."*
- *"Most important: very long appointments to psychiatrist and psychologist, for older patients almost unattainable to reach a specialist in 2 months, no clinics for the treatment of sleep disorders. Costs: sleep medications are cheaper,"*
- *"In a village or a small town, it's hard to find an alternative treatment."*

Enablers are complementary to barriers. GPs stressed that better communication, better access to alternatives, and patient education could help to reduce barriers.

- *"Propositions of feasible alternatives"*
- *"Cooperation and good communication with the patient and with a medical specialist."*
- *"Patients' tendency to prefer alternative therapies (trend of our times?)"*
- *"Written material to support deprescribing."*
- *"Training and information on the non-use of BZRA for sleep problems as a first option to other services different from Primary Care, such as Emergency and specialized hospital services. – Information"*
- *"Public education about the extreme addiction potential of these drugs."*
- *"Good doctor-patient communication. It would be helpful if BZRA would require a similar prescription as narcotic medication."*