

Factors influencing preferences and responses towards drug safety communications: a conjoint experiment among hospital-based healthcare professionals in the Netherlands

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**Supplementary table 1.** The survey (translated from Dutch)

Question	Answer categories	Follow up question
1. What is your profession within the hospital	<ul style="list-style-type: none"> <li>• Hospital pharmacist</li> <li>• Hospital pharmacist in training</li> <li>• Medical specialist; namely_____</li> <li>• Medical specialist in training; namely_____</li> <li>• Nurse specialist/Physician assistant; namely_____</li> <li>• Policlinic pharmacist</li> </ul>	
2.Are you familiar with the DHPC	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Yes, heard of it but never seen one</li> <li>• No</li> </ul>	If yes, 2b and 2c
2b.When you receive the DHPC, do you read it?	<ul style="list-style-type: none"> <li>• Never</li> <li>• Rarely</li> <li>• Sometimes</li> <li>• Often</li> <li>• Always</li> </ul>	
2c.Do you find the DHPC as a form of risk communication useful?	<ul style="list-style-type: none"> <li>• Not useful at all</li> <li>• Not useful</li> <li>• Neutral</li> <li>• Useful</li> <li>• Very useful</li> </ul>	
3.Through which channel would you like to receive the DHPC? (select all that apply)	<ul style="list-style-type: none"> <li>• DHPC letter</li> <li>• DHPC email</li> <li>• Newsletter from professional association</li> <li>• Integrated in the Pharmacotherapeutic Compass</li> <li>• Integrated in the 'Kennisbank' (KNMP)</li> <li>• Integrated in the CPOE</li> <li>• In an app (for example the adverse event app of Lareb)</li> <li>• No preference</li> </ul>	If multiple options chosen, 3b
3b.Do you like the information through 1 or more channels chosen by you?	<ul style="list-style-type: none"> <li>• Through 1 of the channels chosen by me</li> <li>• Through multiple of the channels chosen by me</li> <li>• No preference</li> </ul>	
4.Should safety issues, as described in the DHPC, be incorporated automatically in professional guidelines?	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• I don't know/no opinion</li> </ul>	
<b>8 Hypothetical DHPCs</b>		
5.How important is it to	Likert scale 0-100	

you to be informed about this drug safety issue?		
6. What would you do in response to the DHPC? (select all that apply)	<ul style="list-style-type: none"> <li>• Discontinue treatment of existing users</li> <li>• Reconsider the drug for existing users</li> <li>• Stop prescribing the drug for new patients</li> <li>• Reconsider the drug for new patients</li> <li>• Additional testing users</li> <li>• Discuss the safety issue with colleagues</li> <li>• Nothing</li> <li>• Other; namely___</li> </ul>	
7. Which moment would you like to receive the information? (select all that apply)	<ul style="list-style-type: none"> <li>• Immediate (for example in through the DHPC)</li> <li>• Periodically (for example through a newsletter of professional association)</li> <li>• When I look for drug information (for example integrated in the Pharmacotherapeutic Compass, 'Kennisbank')</li> <li>• The moment of prescribing (for example integrated in the CPOE)</li> <li>• Does not matter</li> </ul>	
<b>Question</b>	<b>Answer categories</b>	<b>Follow up question</b>
How long have you been working as a healthcare provider in a hospital	<ul style="list-style-type: none"> <li>• &lt; 5 years</li> <li>• 5-10 years</li> <li>• &gt;10 years</li> </ul>	
In what type of hospital do you work?	<ul style="list-style-type: none"> <li>• Academic</li> <li>• Top clinical</li> <li>• General</li> </ul>	
What is your age?	<ul style="list-style-type: none"> <li>• &lt;35 years</li> <li>• 35-45 years</li> <li>• 46-55 years</li> <li>• &gt;55 years</li> </ul>	
Where do you get general drug information, which sources do you use? (select all that apply)	<ul style="list-style-type: none"> <li>• Pharmacotherapeutic Compass</li> <li>• 'Kennisbank' (KNMP)</li> <li>• Medical magazines/journals</li> <li>• Clinical trials</li> <li>• Conferences</li> <li>• Summary of Product Characteristics (SmPC/previous IB text)</li> <li>• National guidelines</li> <li>• Direct Healthcare Professional Communication (DHPC)</li> <li>• Newsletters (e.g., MEB, Lareb)</li> <li>• Health Base</li> <li>• Colleagues</li> <li>• Lay media (tv programmes, newspapers, social media like Facebook/Twitter)</li> <li>• Other; namely___</li> </ul>	

CPOE: computerized physician order entry, DHPC: Direct Healthcare Professional Communications, KNMP: Royal Dutch Pharmacists Association (Koninklijke Nederlandse Maatschappij ter bevordering der Pharmacie), Lareb: the Netherlands Pharmacovigilance Centre Lareb, MEB: Dutch Medicines Evaluation Board.

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**Supplementary figure 1.** Example of a hypothetical Direct Healthcare Professional Communication.

**Clinical studies** have revealed a new risk for drug Z that is used for a chronic, slowly progressive condition within your patient population/specialty for which multiple drugs are available.

This risk occurs **very rarely (<1/10,000)**. The risk can lead to **irreversible disability** and is **potentially life-threatening**. Users should receive **additional monitoring** (for example, additional lab tests).

It is a product for which there is **more than 10 years** of experience.

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**Supplementary table 2.** Importance of the information – all HCPs

Determinant	Level	0	10	20	30	40	50	60	70	80	90	100
Frequency of the safety issue	Very rare	6 (1.1%)	18 (3.4%)	16 (3.0%)	26 (4.9%)	20 (3.8%)	51 (9.7%)	72 (13.7%)	94 (17.9%)	114 (21.7%)	57 (10.8%)	52 (9.9%)
	Rare	1 (0.4%)	3 (1.2%)	7 (2.7%)	9 (3.5%)	5 (1.9%)	22 (8.5%)	21 (8.1%)	56 (21.5%)	59 (22.7%)	43 (16.5%)	34 (13.1%)
	Uncommon	1 (0.4%)	1 (0.4%)	2 (0.7%)	9 (3.4%)	4 (1.5%)	16 (6.0%)	26 (9.7%)	36 (13.5%)	52 (19.5%)	54 (20.2%)	66 (24.7%)
Seriousness of the safety issue	Hospitalisation	9 (1.7%)	14 (2.7%)	18 (3.4%)	31 (5.9%)	20 (3.8%)	57 (10.8%)	75 (14.2%)	99 (18.8%)	110 (20.8%)	58 (11.0%)	38 (7.2%)
	Life threatening and irreversible	0 (0.0%)	8 (1.5%)	7 (1.3%)	13 (2.5%)	9 (1.7%)	32 (6.1%)	44 (8.3%)	87 (16.6%)	115 (21.9%)	96 (18.3%)	114 (21.7%)
Need to take action	Be alert	4 (0.8%)	9 (1.7%)	16 (3.0%)	23 (4.4%)	18 (3.4%)	53 (10.1%)	73 (13.9%)	96 (18.2%)	114 (21.6%)	61 (11.6%)	60 (11.4%)
	Additional monitoring	4 (0.8%)	13 (2.5%)	9 (1.7%)	21 (4.0%)	11 (2.1%)	36 (6.8%)	46 (8.7%)	90 (17.1%)	111 (21.1%)	93 (17.7%)	92 (17.5%)
Life span of the drug	<10 years	6 (1.1%)	10 (1.9%)	13 (2.5%)	19 (3.6%)	13 (2.5%)	45 (8.5%)	54 (10.2%)	95 (18.0%)	99 (18.7%)	89 (16.8%)	86 (16.3%)
	>10 years	2 (0.4%)	12 (2.3%)	12 (2.3%)	25 (4.8%)	16 (3.1%)	44 (8.4%)	65 (12.4%)	91 (17.4%)	126 (24.0%)	65 (12.4%)	66 (12.6%)
Type of evidence	Epidemiological studies and spontaneous reports	3 (0.6%)	11 (2.1%)	9 (1.7%)	22 (4.2%)	11 (2.1%)	51 (9.7%)	67 (12.8%)	79 (15.1%)	121 (23.1%)	75 (14.3%)	75 (14.3%)
	Clinical research	5 (0.9%)	11 (2.1%)	16 (3.0%)	22 (4.2%)	18 (3.4%)	38 (7.2%)	52 (9.8%)	107 (20.2%)	104 (19.7%)	79 (14.9%)	77 (14.6%)

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**Supplementary table 3.** Preferred moment of communication – All HCPs

Determinant	Level	<b>Immediate</b> (e.g. through a DHPC)	<b>Periodically</b> (e.g. through a newsletter of professional association)	<b>When I look for drug information</b> (e.g. integrated in the Pharmacotherapeutic Compass or 'Kennisbank')	<b>At the moment of prescribing</b> (e.g. integrated in the CPOE)
Frequency of the safety issue	Very rare	186 (35.1%)	249 (47.0%)	257 (48.5%)	236 (44.5%)
	Rare	118 (45.0%)	113 (43.1%)	132 (50.4%)	130 (49.6%)
	Uncommon	149 (55.6%)	103 (38.4%)	133 (49.6%)	147 (54.9%)
Seriousness of the safety issue	Hospitalisation	150 (28.1%)	261 (48.9%)	260 (48.7%)	248 (46.4%)
	Life threatening and irreversible	303 (57.6%)	204 (38.8%)	262 (49.8%)	265 (50.4%)
Need to take action	Be alert	199 (37.5%)	254 (47.9%)	255 (48.1%)	234 (44.2%)
	Additional monitoring	254 (47.9%)	211 (39.8%)	267 (50.4%)	279 (52.6%)
Life span of the drug	<10 years	235 (44.0%)	231 (43.3%)	265 (49.6%)	267 (50.0%)
	>10 years	218 (41.4%)	234 (44.5%)	257 (48.9%)	246 (46.8%)
Type of evidence	Epidemiological studies and spontaneous reports	227 (42.8%)	232 (43.8%)	264 (49.8%)	260 (49.1%)
	Clinical research	226 (42.6%)	233 (44.0%)	258 (48.7%)	253 (47.7%)

CPOE: computerized physician order entry, DHPC: Direct Healthcare Professional Communications

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**Supplementary table 4.** Intended actions – all HCPs

Determinant	Level	<b>Discontinue</b> existing users	<b>Reconsider</b> existing users	<b>Stop</b> prescribing new patients	<b>Reconsider</b> new patients	<b>Additional</b> <b>testing</b> for users	<b>Discuss</b> issue with colleagues
Frequency of the safety issue	Very rare	18 (3.4%)	205 (38.3%)	52 (9.7%)	222 (41.5%)	191 (35.7%)	281 (52.5%)
	Rare	10 (3.8%)	111 (42.2%)	33 (12.5%)	110 (41.8%)	109 (41.4%)	143 (54.4%)
	Uncommon	31 (11.6%)	139 (51.9%)	67 (25.0%)	123 (45.9%)	102 (38.1%)	172 (64.2%)
Seriousness of the safety issue	Hospitalisation	5 (0.9%)	178 (33.3%)	35 (6.5%)	214 (40.0%)	201 (37.6%)	276 (51.6%)
	Life threatening and irreversible	54 (10.2%)	277 (52.2%)	117 (22.0%)	241 (45.4%)	201 (37.9%)	320 (60.3%)
Need to take action	Be alert	19 (3.6%)	227 (42.4%)	60 (11.2%)	240 (44.9%)	89 (16.6%)	304 (56.8%)
	Additional monitoring	40 (7.5%)	228 (42.9%)	92 (17.3%)	215 (40.5%)	313 (58.9%)	292 (55.0%)
Life span of the drug	<10 years	40 (7.5%)	224 (41.9%)	93 (17.4%)	217 (40.6%)	194 (36.3%)	293 (54.9%)
	>10 years	19 (3.6%)	231 (43.4%)	59 (11.1%)	238 (44.7%)	208 (39.1%)	303 (57.0%)
Type of evidence	Epidemiological studies and spontaneous reports	31 (5.8%)	227 (42.8%)	73 (13.8%)	235 (44.3%)	209 (39.4%)	299 (56.4%)
	Clinical research	28 (5.2%)	228 (42.5%)	79 (14.7%)	220 (41.0%)	193 (36.0%)	297 (55.4%)