

**SUPPLEMENTARY MATERIAL**

Table A shows that respondents, before the implementation of the new EHR, in general were most negative about statement 3 “The documentation method is time efficient”. The statement that was found most positive was “I document data in a way that colleagues can properly use that data in providing care” (statement 6). The respondents indicate that the patient record is correct but not complete.

Table B shows the expectation that the personnel expressed before the implementation. This table shows the percentage of respondents that expected the statements, after the EHR implementation, would deteriorate, stay the same, or improve. In general the respondents had mostly positive expectations of the new EHR. On all statements respondents expected the new EHR to do the same or better, and except for the correctness of the patient record (statement 7) and “I document data in a way that colleagues can properly use that data in providing care” (statement 6) all statements were expected to improve by more than 50% of the respondents. The highest negative expectation was found with the time statement (3. “The documentation method is time efficient”) where 16% of respondents expected the required time to increase. Within the physician group this percentage was double with 32%.

After the implementation (Table C) most negative responses can be found regarding documentation time (statement 3) and the possibility to create an overview for patients or external referrers (statement 10). “I document data in a way that colleagues can properly use that data in providing care” was considered as the most positive statement (statement 6).

Table D reports the perceived effect of the EHR by comparing the perceptions of the different groups before and after the implementation. This table reports the percentage of respondents that experienced worsening, no effect, or improvement on the seven statements after the implementation of the new EHR. The largest improvement in general can be found in statement 5 “The EHR provides all types of healthcare professionals a place to document patient data, in one integrated patient file”. The largest deterioration is present in statement 2: “The documentation method directly supports me in providing good care”.

Comparing the experienced changes from table D with the expectations from table B provides an indication of whether the expectations of the respondents were met by the implementation. These outcomes (worse than expected, as expected, or better than expected) are presented in table E. In this table we can observe that the number of people for whom the expectations were exceeded is relatively small. For most respondents the expectations were either met or the effects of the implementation were worse than expected. In general, statements 9 and 10 disappointed most respondents where for more than 50% the effect was less than the expected improvement.

**Table A.** Perceptions on the thirteen statements before the implementation of the EHR; disagree (-), neutral (=), agree (+), all percentages of respondents per group.

Statement	Total			Centre A			Centre B			Physicians			Nurses			Adminstrating staff		
	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+
<b>EHR use</b>																		
1. I have a clear overview of the patients’ most important data (e.g. allergies)	23.4	27.5	49.1	21.7	27.9	50.5	25.5	27.1	47.4	24.7	20.1	55.2	25.1	21.6	53.3	14.9	42.6	42.6
2. The documentation method directly supports me in providing good care	24.9	34.7	40.4	26.5	35.3	38.1	22.9	34.0	43.1	28.7	36.3	35.1	28.6	34.3	37.1	8.8	43.1	48.0
3. The documentation method is time efficient	62.4	23.9	13.7	64.3	23.3	12.4	60.2	24.7	15.2	63.6	19.7	16.8	67.2	19.7	13.1	48.6	35.8	15.6
4. The patient data are stored and exchanged securely	18.0	34.7	47.3	9.5	33.2	57.3	27.1	36.2	36.7	15.7	34.0	50.3	20.5	29.1	50.4	15.8	37.7	46.5
5. The EHR provides all types of healthcare professionals a place to document patient data, in one integrated patient file	36.7	23.7	39.6	37.0	24.1	38.9	36.3	23.3	40.4	46.5	21.5	31.9	33.1	21.6	45.3	26.5	31.3	42.2
6. I document data in a way that colleagues can properly use that data in providing care	7.7	21.6	70.8	6.9	16.7	76.4	8.5	27.4	64.1	10.1	22.5	67.5	5.4	16.2	78.4	6.8	29.1	64.1
<b>Data quality</b>																		
7. The patient data in the file are correct	10.2	39.0	50.8	10.9	35.4	53.7	9.4	43.1	47.5	7.6	32.9	59.4	11.0	42.5	46.5	12.7	48.2	39.1
8. The patient data in the file are up-to-date	20.5	38.6	40.9	19.8	37.0	43.2	21.3	40.4	38.2	20.0	32.9	47.1	23.0	38.8	38.2	23.4	45.8	30.8
9. The patient data in the file are complete	43.8	36.8	19.4	42.9	37.3	19.8	44.8	36.1	19.0	48.2	29.5	22.3	47.0	33.9	19.1	35.5	47.7	16.8
<b>Data reuse</b>																		
10. I can easily create an overview of the patients’ data for the patient or external referrers	49.9	23.4	26.7	46.4	25.8	27.8	54.0	20.6	25.4	61.1	18.6	20.4	47.2	23.5	29.3	32.4	27.5	40.2
11. The documentation method provides me with a way of properly communicating with colleagues and external referrers.	32.8	35.1	32.1	29.3	32.3	38.4	36.9	38.4	24.7	38.8	30.0	31.2	31.8	35.1	33.1	23.2	39.4	37.4
12. The data I document on my patients provides me with an insight in the quality of the care I provide	27.9	36.4	35.7	30.5	36.1	33.4	24.7	36.8	38.5	41.9	29.3	28.7	28.2	35.6	36.2	9.9	53.8	36.3
13. The documentation method supports me or my colleagues in doing research	32.0	38.3	29.7	33.3	36.1	30.5	30.6	40.7	28.7	52.8	30.1	17.2	24.8	43.4	31.8	14.1	40.4	45.5

**Table B.** Expectations of the effects of the EHR before the implementation of the EHR on the thirteen statements; will deteriorate (-), will stay the same (=), will improve (+), all percentages of respondents per group.

Statement	Total			Centre A			Centre B			Physicians			Nurses			Administrating staff		
	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+
<b>EHR use</b>																		
1. I have a clear overview of the patients' most important data (e.g. allergies)	1.3	25.4	73.3	1.5	30.7	67.8	1.0	20.5	78.4	2.6	29.9	67.5	1.8	26.7	71.4	0.0	26.1	73.9
2. The documentation method directly supports me in providing good care	2.7	37.9	59.3	2.5	44.7	52.9	3.0	31.9	65.2	6.8	39.3	53.8	1.5	38.5	60.0	1.6	16.4	82.0
3. The documentation method is time efficient	15.7	32.2	52.1	14.9	34.6	50.6	16.5	29.9	53.6	31.7	27.6	40.7	10.5	36.4	53.1	11.8	26.5	61.8
4. The patient data are stored and exchanged securely	3.0	44.4	52.6	2.1	56.1	41.8	3.9	33.6	62.5	4.6	53.2	42.2	1.7	43.8	54.5	5.8	36.2	58.0
5. The EHR provides all types of healthcare professionals a place to document patient data, in one integrated patient file	2.5	29.3	68.2	3.3	28.7	67.9	1.7	29.8	68.5	4.2	33.7	62.1	1.1	30.3	68.6	0.0	24.0	76.0
6. I document data in a way that colleagues can properly use that data in providing care	0.7	50.5	48.8	0.4	59.6	40.1	1.0	42.6	56.4	1.6	46.0	52.4	0.9	53.5	45.5	0.0	47.8	52.2
<b>Data quality</b>																		
7. The patient data in the file are correct	0.7	67.5	31.8	0.0	72.0	28.0	1.4	63.3	35.2	2.5	75.0	22.5	0.5	68.0	31.4	0.0	41.4	58.6
8. The patient data in the file are up-to-date	0.4	48.6	51.0	0.4	58.8	40.9	0.3	39.8	59.9	0.0	54.9	45.1	0.5	49.0	50.5	0.0	37.7	62.3
9. The patient data in the file are complete	0.9	33.5	65.6	0.8	39.9	59.3	1.0	27.8	71.1	1.6	42.3	56.1	0.5	32.8	66.7	1.4	22.2	76.4
<b>Data reuse</b>																		
10. I can easily create an overview of the patients' data for the patient or external referrers	1.8	18.3	79.9	1.3	23.1	75.6	2.2	14.2	83.6	3.5	19.5	77.0	1.1	18.0	80.9	3.3	15.0	81.7
11. The documentation method provides me with a way of properly communicating with colleagues and external referrers.	1.8	20.7	77.5	1.7	26.8	71.5	1.8	15.4	82.7	6.8	18.8	74.4	0.5	22.3	77.2	0.0	14.3	85.7
12. The data I document on my patients provides me with an insight in the quality of the care I provide	1.5	47.6	50.9	0.9	54.5	44.6	2.0	41.4	56.6	2.9	46.6	50.5	0.6	51.1	48.3	3.9	29.4	66.7
13. The documentation method supports me or my colleagues in doing research	2.1	27.7	70.2	1.6	34.6	63.8	2.5	22.3	75.2	4.2	13.5	82.3	1.4	33.8	64.9	1.7	30.0	68.3

**Table C.** Perceptions on the thirteen statements after the implementation of the EHR; disagree (-), neutral (=), agree (+), all percentages of respondents per group.

Statement	Total			Centre A			Centre B			Physicians			Nurses			Administrating staff		
	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+
<b>EHR use</b>																		
1. I have a clear overview of the patients' most important data (e.g. allergies)	26.6	20.4	53.0	28.7	18.3	53.0	24.1	23.0	52.9	44.6	17.5	37.9	29.4	16.4	54.2	4.7	44.7	50.6
2. The documentation method directly supports me in providing good care	35.6	30.7	33.8	40.0	29.5	30.5	30.4	32.0	37.6	55.5	27.7	16.8	35.0	30.4	34.7	15.5	46.5	38.0
3. The documentation method is time efficient	74.8	14.6	10.6	78.2	12.6	9.2	70.8	16.9	12.3	92.7	3.0	4.3	76.8	15.8	7.4	59.1	22.6	18.3
4. The patient data are stored and exchanged securely	6.5	42.1	51.4	6.5	44.9	48.6	6.4	38.9	54.7	12.2	42.4	45.3	4.7	39.1	56.2	5.2	54.1	40.7
5. The EHR provides all types of healthcare professionals a place to document patient data, in one integrated patient file	10.9	30.8	58.3	11.5	30.3	58.2	10.1	31.3	58.5	9.6	29.5	60.9	10.2	25.2	64.6	8.8	61.8	29.4
6. I document data in a way that colleagues can properly use that data in providing care	5.0	13.6	81.4	7.0	12.0	81.0	2.6	15.5	81.9	11.1	20.5	68.4	4.3	12.1	83.6	1.3	20.0	78.7
<b>Data quality</b>																		
7. The patient data in the file are correct	15.2	37.6	47.2	16.1	38.8	45.2	14.2	36.2	49.6	17.3	39.9	42.8	18.0	31.1	50.9	15.7	54.3	29.9
8. The patient data in the file are up-to-date	17.9	32.6	49.5	18.2	33.5	48.3	17.5	31.6	50.9	19.4	29.7	50.9	20.8	29.9	49.2	18.4	45.6	36
9. The patient data in the file are complete	40.2	37.5	22.3	41.7	38.1	20.2	38.3	36.8	24.8	51.4	32.2	16.4	43.7	35.5	20.8	36.1	44.3	19.7
<b>Data reuse</b>																		
10. I can easily create an overview of the patients' data for the patient or external referrers	52.3	27.4	20.3	55.9	25.7	18.3	47.9	29.4	22.7	60.8	19.9	19.3	49.0	29.9	21.0	48.1	31.2	20.8
11. The documentation method provides me with a way of properly communicating with colleagues and external referrers.	36.1	33.9	30.0	39.9	33.4	26.7	31.5	34.4	34.1	44.6	27.4	28.0	36.5	36.1	27.4	27.9	39.3	32.8
12. The data I document on my patients provides me with an insight in the quality of the care I provide	41.1	29.5	29.4	43.3	28.6	28.1	38.4	30.7	31.0	67.6	17.3	15.0	40.4	28.9	30.7	19.6	53.6	26.8
13. The documentation method supports me or my colleagues in doing research	25.2	37.9	37.0	28.3	37.4	34.3	21.3	38.5	40.2	49.7	30.7	19.6	13.6	41.2	45.1	18.6	45.8	35.6

**Table D.** Change in perception on the thirteen statements after the EHR implementation; became worse (-), stayed the same (=), became better (+), all percentages of respondents per group.

Statement	Total			Centre A			Centre B			Physicians			Nurses			Administrating staff		
	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+
<b>EHR use</b>																		
1. I have a clear overview of the patients' most important data (e.g. allergies)	27.5	43.0	29.5	27.7	44.3	28.0	27.3	41.4	31.3	37.9	43.2	18.9	30.5	42.7	26.8	17.5	56.1	26.3
2. The documentation method directly supports me in providing good care	37.7	36.9	25.4	37.0	40.5	22.5	38.5	32.6	28.9	49.7	32.5	17.8	33.3	40.1	26.6	41.2	33.3	25.5
3. The documentation method is time efficient	28.0	54.3	17.7	26.8	57.6	15.5	29.4	50.3	20.3	33.3	61.5	5.1	26.1	55.5	18.4	32.9	45.7	21.4
4. The patient data are stored and exchanged securely	21.9	44.4	33.7	27.0	50.3	22.7	16.4	38.1	45.5	29.7	40.0	30.3	19.0	45.7	35.3	28.6	43.9	27.6
5. The EHR provides all types of healthcare professionals a place to document patient data, in one integrated patient file	14.7	41.4	43.9	11.4	44.1	44.5	18.6	38.3	43.2	11.8	37.0	51.2	14.1	43.7	42.2	40.0	22.5	37.5
6. I document data in a way that colleagues can properly use that data in providing care	12.5	66.4	21.1	14.0	68.6	17.4	10.7	63.7	25.7	21.1	57.8	21.1	11.6	71.8	16.7	13.0	51.9	35.2
<b>Data quality</b>																		
7. The patient data in the file are correct	28.0	49.9	22.1	30.3	49.1	20.6	25.2	50.8	24.0	40.4	40.4	19.3	24.4	52.3	23.3	29.0	46.2	24.7
8. The patient data in the file are up-to-date	24.7	43.0	32.3	26.2	45.1	28.7	23.0	40.5	36.5	28.4	42.0	29.6	26.0	40.6	33.3	24.4	34.9	40.7
9. The patient data in the file are complete	27.9	42.7	29.4	30.6	42.2	27.2	24.8	43.3	31.9	30.6	43.1	26.2	29.0	42.4	28.6	31.4	40.7	27.9
<b>Data reuse</b>																		
10. I can easily create an overview of the patients' data for the patient or external referrers	29.7	44.5	25.7	34.1	43.8	22.1	24.5	45.4	30.1	27.6	44.9	27.6	31.8	43.6	24.6	40.0	43.6	16.4
11. The documentation method provides me with a way of properly communicating with colleagues and external referrers.	32.2	38.7	29.0	38.9	39.8	21.3	23.8	37.4	38.9	33.1	40.6	26.2	33.1	42.3	24.6	35.7	14.3	50.0
12. The data I document on my patients provides me with an insight in the quality of the care I provide	33.9	43.8	22.4	34.6	42.4	23.0	33.0	45.5	21.5	38.5	44.1	17.4	35.8	40.6	23.5	29.4	47.1	23.5
13. The documentation method supports me or my colleagues in doing research	23.3	41.2	35.5	24.1	42.9	33.1	22.4	39.2	38.4	27.2	42.9	29.9	18.4	42.1	39.5	39.0	41.5	19.5

**Table E.** Effects of the EHR implementation on the thirteen statements compared to the expectations of respondents; effect worse than expected (-), effect as expected (=), effect better than expected (+), all percentages per group.

Statement	Total			Centre A			Centre B			Physicians			Nurses			Administrating staff		
	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+	-	=	+
<b>EHR use</b>																		
1. I have a clear overview of the patients' most important data (e.g. allergies)	37.0	59.7	3.3	36.1	58.8	5.0	37.9	60.5	1.6	52.2	46.0	1.8	38.5	60.0	1.5	34.9	58.1	7.0
2. The documentation method directly supports me in providing good care	47.8	45.1	7.0	48.6	42.9	8.5	47.2	47.2	5.7	58.9	33.9	7.1	44.8	47.5	7.7	50.0	50.0	0.0
3. The documentation method is time efficient	49.6	43.6	6.9	51.7	40.9	7.4	47.5	46.2	6.4	50.5	44.0	5.5	53.1	40.6	6.2	46.5	48.8	4.7
4. The patient data are stored and exchanged securely	23.5	67.0	9.5	28.9	61.8	9.3	18.6	71.7	9.7	31.0	61.0	8.0	19.0	69.6	11.4	31.5	61.1	7.4
5. The EHR provides all types of healthcare professionals a place to document patient data, in one integrated patient file	18.4	77.6	4.1	15.9	79.3	4.9	20.7	76.0	3.4	16.2	77.5	6.2	17.6	79.7	2.7	42.1	57.9	0.0
6. I document data in a way that colleagues can properly use that data in providing care	11.9	81.8	6.3	10.9	82.5	6.6	12.9	81.0	6.0	22.7	68.9	8.4	10.2	86.3	3.6	11.4	77.1	11.4
<b>Data quality</b>																		
7. The patient data in the file are correct	31.5	56.5	12.1	33.8	52.4	13.9	29.3	60.2	10.4	38.7	47.7	13.5	28.3	60.0	11.7	41.1	51.8	7.1
8. The patient data in the file are up-to-date	31.9	61.3	6.7	29.7	62.9	7.4	33.8	60.0	6.2	31.3	63.5	5.2	36.9	57.5	5.6	32.8	58.6	8.6
9. The patient data in the file are complete	52.5	42.2	5.3	53.4	40.1	6.5	51.6	44.1	4.3	56.5	37.4	6.1	55.9	38.7	5.4	53.6	44.6	1.8
<b>Data reuse</b>																		
10. I can easily create an overview of the patients' data for the patient or external referrers	58.7	39.3	2.0	63.4	33.9	2.7	54.5	44.1	1.4	55.2	41.0	3.8	60.4	39.0	0.6	66.7	33.3	0.0
11. The documentation method provides me with a way of properly communicating with colleagues and external referrers.	48.5	46.5	5.0	52.8	42.5	4.7	44.4	50.2	5.3	49.1	47.2	3.7	53.5	41.8	4.7	30.8	61.5	7.7
12. The data I document on my patients provides me with an insight in the quality of the care I provide	45.4	45.9	8.8	45.0	44.5	10.5	45.7	47.2	7.1	54.1	37.8	8.2	48.8	41.4	9.9	40.9	50.0	9.1
13. The documentation method supports me or my colleagues in doing research	40.1	54.3	5.6	39.9	54.5	5.6	40.4	54.0	5.6	54.8	41.7	3.6	31.8	61.8	6.4	42.3	57.7	0.0