**APPENDICES**

**Appendix I: Chapters and items on the CMR reporting form**

| | Items | Multiple choices and remarks |
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| **Administrative information** | | |
| | Identification number of the healthcare practice | - |
| | Date of reporting | - |
| | Date on which the medication event occurred | - |
| **Data of patient** | | |
| | Year of birth of the patient | - |
| | Sex of the patient | o Male<br>o Female |
| **Information about the medication event** | | |
| | Please describe what happened | Open ended question |
| | Which medication was involved? | - |
| | What was the error type | o Prescribing error<br>o Transcription error<br>o Assembling the prescription and medication surveillance error<br>o Compounding error<br>o Dispensing error<br>o Administration error<br>o Patient monitoring error<br>o Storage and logistic error |
| | Did the medication event take place during a transfer of the patient (shared care)? | o Yes, during admission to hospital<br>o Yes, during discharge of hospital<br>o Yes, between the wards in one hospital<br>o Yes, during out-of-hours services in the primary care<br>o Yes, with the intensive care for thrombotic patients<br>o Yes, namely:<br>o No |
| | What are the causes of the medication event? | o Technical<br>o Organisation<br>o Behaviour<br>o Communication<br>o Patient |
| | Who makes the first error in the medication event? | List of healthcare providers. There are three different lists for the hospitals, community pharmacies and mental healthcare. |
| | Which ward is this person involved? | List of wards in a hospital. This question exists only in the form for hospitals. |
| | Did the medication event reach | o Yes |

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| | the patient? | o No |
| | What is the harm of the medication event to the patient? | o No discomfort<br>o Minimal/mild harm<br>o Seriously temporary harm<br>o Seriously permanent harm<br>o Death<br>o Unknown |
| | What could be the potential harm to the patient? | o Scale from 1 to 5 or unable to estimate |
| **Questions to notify an alert** | | |
| | How much is the risk of recurrence? | o Unlikely, less than 1 times a year<br>o Rare, less than 5 times a year<br>o Possible within a few months<br>o Probably within a few days<br>o Almost sure within a few hours/days<br>o Unable to estimate |
| | Can other healthcare providers learn from this reported medication event? | o Scale from 1 to 5of unable to estimate |
| | Is this reported medication event suitable for an alert? | o Yes, this is an alert, CMR organisation will contact the informant for detailed information.<br>o No, this is not an alert.<br>o Please let the CMR organisation contact the informant. |

**Appendix II: classification of type of medication errors**

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| Type of medication error | o Prescribing error<br>  o Prescription or medication order is not confirmed in writing<br>  o Prescription does not comply with the requirements<br>  o Wrong patient<br>  o Wrong counselling to the patient<br>  o Errors related to the choice of medicine<br>  ▪ Obsolete medicine<br>  ▪ Off label / unlicensed use of medicine<br>  ▪ Absent of essential medicine<br>  ▪ Wrongful choice of medicine<br>  ▪ Erroneous exchange of medicine<br>  ▪ Over treatment<br>  ▪ Formulation of medicine<br>  ▪ Administration route<br>  o Errors related to dosing, frequency and duration of therapy<br>  ▪ Dose / frequency<br>  ▪ Strength<br>  ▪ Therapy duration / quantity<br>  ▪ Administration time<br>  o Errors related to the medication surveillance<br>  ▪ Allergy / intolerance<br>  ▪ Side effect<br>  ▪ Contra indication<br>  ▪ Double medication<br>  ▪ Interaction<br>  o Others, namely:<br>o Transcription error<br>  o Prescription of medication order did not arrive<br>  o Wrong patient<br>  o Exchange of medicines<br>  o Wrong administration formula<br>  o Wrong route of administration<br>  o Wrong dose / frequency<br>  o Wrong strength<br>  o Wrong therapy duration /amount<br>  o Wrong time of administration<br>  o Other, namely:<br>o Assembling the prescription and medication surveillance error<br>  o Prescription or medication order is not processed<br>  o No or wrong information of the patient available<br>  o Wrong patient<br>  o Wrong counselling to the patient<br>  o Errors related to the choice of medicine<br>  ▪ Obsolete medicine<br>  ▪ Off label / unlicensed use of medicine<br>  ▪ Absent of essential medicine |

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| | ▪ Not prescribed medicine<br>▪ Erroneous exchange of medicine<br>▪ Over treatment<br>▪ Formulation of medicine<br>▪ Administration route<br>o Errors related to dosing, frequency and duration of therapy<br>▪ Dose / frequency<br>▪ Strength<br>▪ Therapy duration / quantity<br>▪ Administration time<br>o Errors related to the medication surveillance<br>▪ Allergy / intolerance<br>▪ Side effect<br>▪ Contra indication<br>▪ Double medication<br>▪ Interaction<br>o Others, namely:<br>o Compounding error<br>o Wrong method of preparation<br>o Wrong patient<br>o Wrong counselling to the patient<br>o Exchange / missing of medicines<br>o Wrong administration formula<br>o Wrong route of administration<br>o Wrong strength of medicine, component, additive<br>o Wrong duration of therapy<br>o Expiry date of medicine, component, additive<br>o Condition of storage<br>o Pharmaceutical quality of medicine, component, additive<br>o Wrong packing<br>o Other, namely:<br>o Dispensing error<br>o Medicine is not dispensed<br>o Wrong patient<br>o Wrong counselling to the patient<br>o Exchange of medicine, component, additive<br>o Wrong administration formula<br>o Wrong dose / frequency<br>o Wrong strength<br>o Wrong duration of therapy<br>o Wrong time of administration<br>o No reckon with interaction<br>o Expiry date of medicine<br>o Condition of storage<br>o Pharmaceutical quality of medicine<br>o Other, namely:<br>o Administration error<br>o Medicine is not administrated / used |

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| | o Error with infusion machine<br>o Wrong patient<br>o Wrong counselling to the patient<br>o Administrating a not prescribed medicine<br>o Exchange of medicine, component, additive<br>o Wrong administration formula<br>o Wrong route of administration<br>o Wrong dose / frequency<br>o Wrong strength<br>o Wrong duration of therapy<br>o Wrong time of administration<br>o No reckon with interaction<br>o Expiry date of medicine<br>o Condition of storage<br>o Pharmaceutical quality of medicine<br>o Other, namely:<br>o Patient monitoring error<br>o Patient is monitored not enough<br>o No reckon with the results of monitoring<br>o Other, namely:<br>o Storage and logistic error<br>o Expiry date of medicine, component, additive<br>o Condition of storage for medicine, component, additive<br>o Pharmaceutical quality of medicine, component, additive<br>o Other, namely: |

**Appendix III: alerts of CMR**

| Period | Alert topics |
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| 2005 | **Administration of Durogesic® 75 instead of Durigesic® 12**<br>Physician write down on prescription 'Durogesic 12 milligram' instead of Durogesic 12 microgram/hour' and pharmacy dispended Durogesic® 75 because Durogesic® 75 contains 12.6 mg of fentanyl. |
| | **Administration of medical air instead of oxygen**<br>The couplings for medical air and oxygen are look alike and in an urgent situation the nurse mixed up the couplings. |
| | **Lethal metformin intoxication in a patient who had just received iodine contrast fluid**<br>Patient didn't receive any message to interrupt the metformin use. During X-ray diagnostics there was an accumulation of metfomin and the patient died from the effects of lactate acidosis and failing organs. |
| 2006 | **Administration of Risperdal® liquid 25 mg instead of 0.25 mg**<br>Due to a miscalculation the nurse administered 25 ml of Risperdal® liquid. |
| | **Administration of undiluted Addiphos® concentrate**<br>On the prescription the nurse read '1 phial Addiphos® once-only intravenous' and the nurse injected the undiluted Addiphos®. Within a few minutes the patient died from a cardiac arrest caused by high dose of potassium. |
| | **Administration of methotrexate with a labelled dosage of once a day instead of once a week**<br>During admission the nurse entered in the CPOE methotrexate once a day instead of once a week. |
| | **Fatal administration of methotrexate in a dosage of once a dag instead of once a week**<br>A nurse entered in the CPOE methotrexate once a day instead of once a week. |
| 2007 | **Administration of glucose 50% instead of glucose 5%**<br>A resident received on the telephone from a cardiologist an order of 1 litre glucose 5%, but the resident hear wrong and he commissioned the nurse to administer 1 litre glucose 50%. |
| 2008 | **Administration of Fungizone® instead of Abelcet®**<br>Both Fungizone® and Abelcet® consist amphotericin B, with the difference that Abelcet® is amphotericin B lipid complex. On the prescription the physician only put on the generic name amphotericin B. |
| | **Administration of Fungizone® instead of Ambisome®**<br>In the same ward one patient used Fungizone® and a new patient was prescribed Ambisome®. The nurse erroneously switched both medicines because the generic names were the same. |

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| 2009 | **Wrong conversion of the dosage of methotrexate during computerised exchange of medical information between pharmacy systems**<br>During interface between two pharmacy systems the dosage of methotrexate had been changed from once a week to once a day. |
| | **Administration of Paronal® instead of Oncospar®**<br>Paronal® is E. coli asparaginase and Oncospar® is PEG asparaginase. On the prescription the physician put down 'asparaginase' and the pharmacy deduced from the prescription that the patient needed E. coli asparaginase. |
| 2010 | **Dispensing Co-trimoxazole to patient on methotrexate**<br>An interaction between co-trimoxazol and methotrexate was caused by an incomplete medicine record of the patient due to miscommunication between the hospital that has dispensed the methotrexate injections and the community pharmacy that has dispensed the co-trimoxazol. |
| | **Using melphalan for longer period than prescribed**<br>There was a prolonged use of melphalan because of a wrong text about the duration on the list of administration. The pharmacist assistant made a mistake and typed in the free text space of the list of administration a duration of 7 days instead of 4 days. The patient lives in nursing home and the nurses administrate medicine according to the list of administration. |
| | **Using Capecitabine for longer period than prescribed**<br>A patient in a nursing home was using capecitabine for 14 days according to the prescription from the oncologist. After 14 days the staff of the nursing home thought capecitabine was for chronic use and they order a repeat prescription from the general practitioner. |