

# Developing drug formularies for the “National Medical Holding” JSC

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**BACKGROUND:** One of the main problems of drug provision of multidisciplinary hospitals is the necessity to improve the efficiency of budget spending. Despite the efforts undertaken in Kazakhstan for improving the mechanism of drug distribution (creation of the Kazakhstan National Formulary, Unified National Health System, the handbook of medicines (drugs) costs in the electronic register of inpatients (ERI), having a single distributor), the number of unresolved issues still remain.

“National Medical Holding” JSC (NMH) was established in 2008 and unites 6 innovational healthcare facilities with up to 1431 beds (700 children and 731 adults), located in the medical cluster – which are “National Research Center for Maternal and Child Health” JSC (NRCMC), “Republic Children’s Rehabilitation Center” JSC (RCRC), “Republican Diagnostic Center” JSC (RDC), “National Centre for Neurosurgery” JSC (NCN), “National Research Center for Oncology and Transplantation” JSC (NRCOT) and “National Research Cardiac Surgery Center” JSC (NRCSC). The main purpose of NMH is to create an internationally competitive “Hospital of the Future”, which will provide the citizens of Kazakhstan and others with a wide range of medical services based on advanced medical technology, modern hospital management, international quality and safety standards. These services include emergency care, outpatient diagnostic services, obstetrics and gynecology, neonatal care, internal medicine, neurosurgery, cardiac surgery, transplantation, cancer care for children and adults, as well as rehabilitation treatment.

**OBJECTIVE:** To create a program of development of a drug formulary of NMH and its subsidiaries.

**METHODS:** In order to create drug formularies of NMH, analytical, software and statistical methods were used.

All subsidiary organizations of NMH (5 out of 6) except for the NRCOT have been accredited by Joint Commission International (JCI) standards, which ensure the safety of patients and clinical staff, by improving the technological infrastructure, management systems, production environments, and developing program for medications management and use (MMU), etc.

MMU is the Chapter 7 of the 5th edition of the standard JCI [1] which is an up-to-date recognized international standard for hospital drug supply and includes 7 points of medication management lifecycle for inpatient hospitals: drug management and organization; selection and procurement; storage; prescription; preparation and distribution; administering medications; monitoring.

Due to the developed MMU program of subsidiary organizations the drug provision system was rationalized, starting from defining the individual therapy of a patient and ending with the drug procurement strategy. The practical activity was introduced to the use of drugs committees with reliable evidence-based performance with obligatory consideration of cost-benefit analysis for each diagnosis-related group.

**RESULTS:** Pre-collected applications for drugs for the year 2015 were submitted in a uniform format in accordance with the structure of the Republican form of the drug [2]. In view of the evidence-base physicians-clinical pharmacologists performed discussions and review of 851 drugs included on the uniform format of the list. Totally 51 (6%) positions were excluded from the list; it was suggested that the format of the application for Paracetamol and Ibuprofen in injectable form be revised; the committee revised the sections on the list for “Antianaemia drugs”, iron preparations and methods of prevention of venous thromboembolism with oral anticoagulants.

On the basis of this work, the new format, consisting of 449 international nonproprietary names was developed, representing 795 positions with pediatric formulations. In view of the existing data and the move to bring to the common standards and uniformity prices of drugs purchased for 2016, the NMH program of clinical pharmacology content with on-line and open access to physicians was created. Within 60 days the DSCHC work was carried out with consultations, selection, definition of requirements of generic and therapeutic substitution.

**CONCLUSIONS:** Summing up, drug applications for 2016 with dosage forms include 802 positions and the total bid in monetary terms was by 4,7% lower than in 2015.

For the establishment of NMH rational and balanced system of medicine provision to patients and in order to increase availability of quality, safe and effective drugs, we need to have an open and transparent program of the MMU, developed in accordance with the standards of JCI, with the NMH drug formulary, indicating the reference price values of the lower units (tablet, capsule, ampoule, vial, etc.), including the drug lists for a single distributor.

To improve drug supply of the NMH DSCHC we have to further cooperation with clinical pharmacologists for the rational use of medicines, guided by the principles of evidence-based medicine.

Keywords: drug formularies, drug safety, efficacy, availability, rational drug use, monitoring

**Conflict of interest statement:** None.

## References

- [1] Joint Commission International Accreditation Standards for Hospitals, Fifth Edition. Oakbrook Terrace, 2013 Sep, ISBN: 978-1-59940-787-6, P.314
- [2] On approval of the republican form of the drug (rev. 12.29.2014) Ministry of Health of the Republic of Kazakhstan dated September 9, 2011 Order № 593