COST-EFFICIENCY OF NATIONAL DRUG INFORMATION CENTER THROUGH MINISTRY OF HEALTH HOTLINE CALLING SERVICES (937) IN SAUDI ARABIA: APPLICATION OF A MERCIAN MODEL
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Background
National Drug Information Hotline was established in December 2013 and it’s a 24/7 active service throughout the year covering holidays as well, receiving calls from public and professional health care providers all around the Kingdom, this service was operated with only 11 Clinical Pharmacist and trained Pharmacist whom providing Drug Information to public as Phase I, this service expand to have providers throughout the Kingdom (Riyadh, Jeddah, Almadinah, Tabouk, Eastern Region, Northern Region, Jazan, Hail, Alqayarat & Alhassa ), having 47 Clinical Pharmacist and trained pharmacist answering public and professional calls Phase II on 2015.

Objectives
National Drug Information Center (NDIC) has started providing services since January 2013; and answering public and professional inquiries through MOH-Hotline Calling Services (937) since December 2013. The objective of this study was to estimate cost-efficiency of NDIC in Saudi Arabia using American model of drug information cost avoidance.

Methods
Simulation including all 12-month 2014 of receiving adults and pediatrics drug information inquiries through MOH-Hotline Calling Services (937). Ten on-call clinical Pharmacists and expert trained pharmacists were receiving calls from public and professional asking about drug information, through manual documentation system of drug information inquiries by data collecting form. Using International Study Model (Kinky et al, Ann Pharmacotherapy 1999), the cost considered were the expected results of drug related problems sequel of drug information inquiries if not existing drug information services and were not answered; starting from Physician visit, additional treatment, hospital admission to death stage.

Results
The total number answered calls were 976 calls, with 264 (27%) answered calls were documented; the average costs avoidance per each answered call was (415.78 USD), and total cost was (109,768 USD) with partial documentation, the estimated total cost with complete documentation was (405,801 USD) per year. The cost avoidance of answering public inquiries was (80,806.5 USD) and Professional inquiries was (28,961.5 USD). The highest cost avoidance based on type of inquiries was dose standardization (34,195 USD), drug administration (21,324 USD) followed by drugs in pregnancy (15,826 USD) and Adverse a Drug reaction (12,793 USD). The highest cost avoidance was Antibacterial expected related problem (33,454.5 USD).

Discussion
In this study we tried to estimate cost-efficiency of NDIC in Saudi Arabia during 12 months, the most frequent question was about dose standardization (27.77% and 25.83%) for public and professional respectively while in Loghman-Hakim drug and poison information center in Iran, Drug identification was the most frequent question by (23.9%), in Southern Illinois University and College of Pharmacy and Nutrition, University of Saskatchewan the most frequent question was related to Drug therapy by (24.19%, 13%) Respectively.
we encountered some limitations during our evaluation as the rate of documentation was just (27%), online network of Drug information around the kingdom was not activated and finally the number of the hotline staff was inadequate in the first year of operation.
Online documentation was activated and the staff was increased by 30%.

CONCLUSIONS
In this National Drug Information Center cost-efficiency simulation for Saudi Arabia, hotline line calling services - Drug Information associated with cost savings per each receiving call, expanding the answering drug information services with electronic documentation, and available e-library resources considering the associated preventing drug related problems and Healthcare Improvement and better care, better patient outcomes, and reduced costs.

Reference: