Therapeutics Today

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***Ask the NMIC* – the results for 2017 are in!** As readers are aware, the National Medicines Information Centre (NMIC) was established to provide independent, evidence-based information to healthcare professionals (HCPs) in order to promote the safe and effective use of medicines in Ireland. In addition to our regular publications and educational activities, we provide a **clinical enquiry answering service (CEAS).** Statistics for the CEAS activities in 2017 are now available. Primary care accounted for just over 77% of enquiries answered, with community pharmacists and GPs the most common users of our service.

The CEAS provided information on many different types of enquiries during 2017. We noted an increase in enquiries about:

- **administration/dose of a medicine**
- **choice of therapy**
- **adverse effects of medicines** and
- **use of medicines in lactation.**

Other frequently answered enquiries related to:

- **drug interactions**
- **use of medicines in pregnancy**, and
- **availability of medicines**.

We continually monitor the quality of our CEAS by asking HCPs for their views on the information provided by the NMIC. From the **preliminary results of our NMIC user survey for 2017**, 98% of respondents confirmed that the information provided by the CEAS answered their question; 100% respondents said that the data provided helped with the care of a specific patient. All respondents stated that they had confidence in the information provided and that they would use the CEAS again.

We would like to thank all users of the CEAS who provided feedback to us in 2017. We intend to expand our user survey during the coming months to ensure that our service continues to meet the needs of our users – **see below for full details of our forthcoming impact survey**. So if you're trying to solve a therapeutic dilemma, just ask the NMIC (Tel: 01 4730589 or nmic@stjames.ie) and we will do our best to help!

How does the NMIC enquiry answering service help you manage your patients? As already noted above, our **clinical enquiry answering service (CEAS)** is valued by our healthcare professional (HCP) users. However, it is not known whether (or how) the information provided impacts on patient care, outcome or medication safety. Over a three month period in early 2018, we will be conducting an anonymous online survey asking all of our CEAS users for their opinion on how the medicines information, provided by us in response to a specific clinical enquiry, may have contributed to the care of their patient. Please note that a HCP may be contacted more than once during the study period because **an invitation to participate will be automatically issued for each enquiry**. HCPs will be reminded of the nature of their enquiry but, since the survey is completely anonymous, **responses will not be linked back to the enquiry or to the enquirer**. We, in the NMIC, want to ensure that we are meeting your needs; we very much welcome your participation and feedback if and when your invite arrives! Thank you in advance for your co-operation. [**Editor's note**: we will keep our readers updated on the progress of the survey and the results will be published in a forthcoming TT]

Update on national initiatives to beat the bugs! Antimicrobial resistance (AMR) has been described by the WHO as "a crisis that must be managed with the utmost urgency". Two important initiatives have been implemented in recent months in Ireland.

The **National Action Plan on Antimicrobial Resistance** 2017 – 2020 (**iNAP)** was published in Oct 2017, with the aim of implementing policies and actions to prevent, monitor and combat AMR across the health, agricultural and environmental sectors in Ireland. The plan outlines the **priority activities for Ireland** over the next 3 years. The plan is available to download at **http://health.gov.ie/national-patient-safety-office/patient-safety-surveillance/antimicrobial-resistance-amr-2/.**

The second initiative relates to **Carbapenemase Producing Enterobacteriaceae (CPE)** a superbug resistant to most or all antibiotics. It can cause sepsis in vulnerable groups, including the elderly and immunosuppressed patients**. Infections with CPE are associated with poorer patient outcomes, increased morbidity and mortality (rates exceeding 40-50%)**. Ireland has seen an increase in the number of cases of CPE infection in recent years and **CPE was declared a Public Health Emergency in Ireland in October 2017**. A National Public Health Emergency Team (NPHET) on CPE has been established to oversee an enhanced response to CPE on a weekly basis (similar to the emergency plan activated in the past in response to pandemic influenza preparedness). **For further information** on CPE and the NPHET (including membership and all meeting reports) check out: **http://health.gov.ie/national-patient-safety-office/patient-safety-surveillance/antimicrobial-resistance-amr-2/public-health-emergency-plan-to-tackle-cpe/**

Drug-related deaths in hospital inpatients. Adverse drug reactions (ADRs) are an important cause of morbidity that occur in approximately 10% of primary care settings, in up to 20% of hospital in-patients and account for 5% of hospital admissions. **ADRs are also associated with increased risk of mortality** with one study estimating fatal ADRs to be between the 4th and 6th leading cause of death in the USA. There is a paucity of data in relation to fatal ADRs in hospitalised patients, with the reported incidence of **drug-related death (DRD)** in tertiary hospitals ranging from 0.02 to 0.95%. A retrospective study in Spain determined the DRD incidence in a tertiary care hospital (n= 511 beds) during 2015 ***(Br J Clin Pharmacol 2018;doi:10.1111/bcp.13471)***. Inpatient fatalities were assessed as potential DRD cases (using a pre-defined list of potentially drug-related diseases) from the hospital records. The ATC classification was used to classify medications; polypharmacy was defined as use of ≥10 medications. Potential cases of DRD were reviewed by the hospital Drug Safety Committee using the WHO-Uppsala Monitoring Centre (WHO-UMC) and the Naranjo causality criteria. ***Results:*** There were 21,483 hospital admissions in 2015 and 1135 inpatient deaths (the diagnosis of death was available in 1036 patients), of which 73 deaths were determined to be DRD cases**; the DRD occurrence rate of all hospital admissions was 0.34% and the rate of all inpatient DRD deaths was 7.05%**. The median age of DRD cases was 72 years (range 19-94 yrs.), 73% were males, the median number of drugs per patient was 7 (range 2-14) and ADR was the cause of hospital admission in 92% of cases. The most frequent DRD were haemorrhage (47%) and sepsis or infections in immuno-compromised patients (44%); other DRDs included atrioventricular block, acute renal failure and interstitial pneumonitis. The most commonly involved drugs were acetylsalicylic acid (17%), prednisone (13%) and acenocoumarol (9.5%); the most common medical indications were atrial fibrillation (20.5%) and solid tumours (20.5%). Up to 47% of the DRDs were assessed as being preventable. The study was limited by the fact that it was retrospective and based in a single centre. However, the authors conclude that the **findings suggest that ADRs are a significant cause of death in hospitalised patients, many of which may be precipitated by drug-drug interactions**.

Every effort has been made to ensure that this information is correct and is prepared from the best available resources at our disposal at the time of issue. References are available on request. This ***newsletter is produced by the National Medicines Information Centre, St. James's Hospital (SJH) Dublin 8 and Dept of Therapeutics Trinity College, Trinity Centre, SJH.*** *Tel: Direct Line (01) 473 0589 or 1850 727 727 Email: nmic@stjames.ie*