ROUND TABLE

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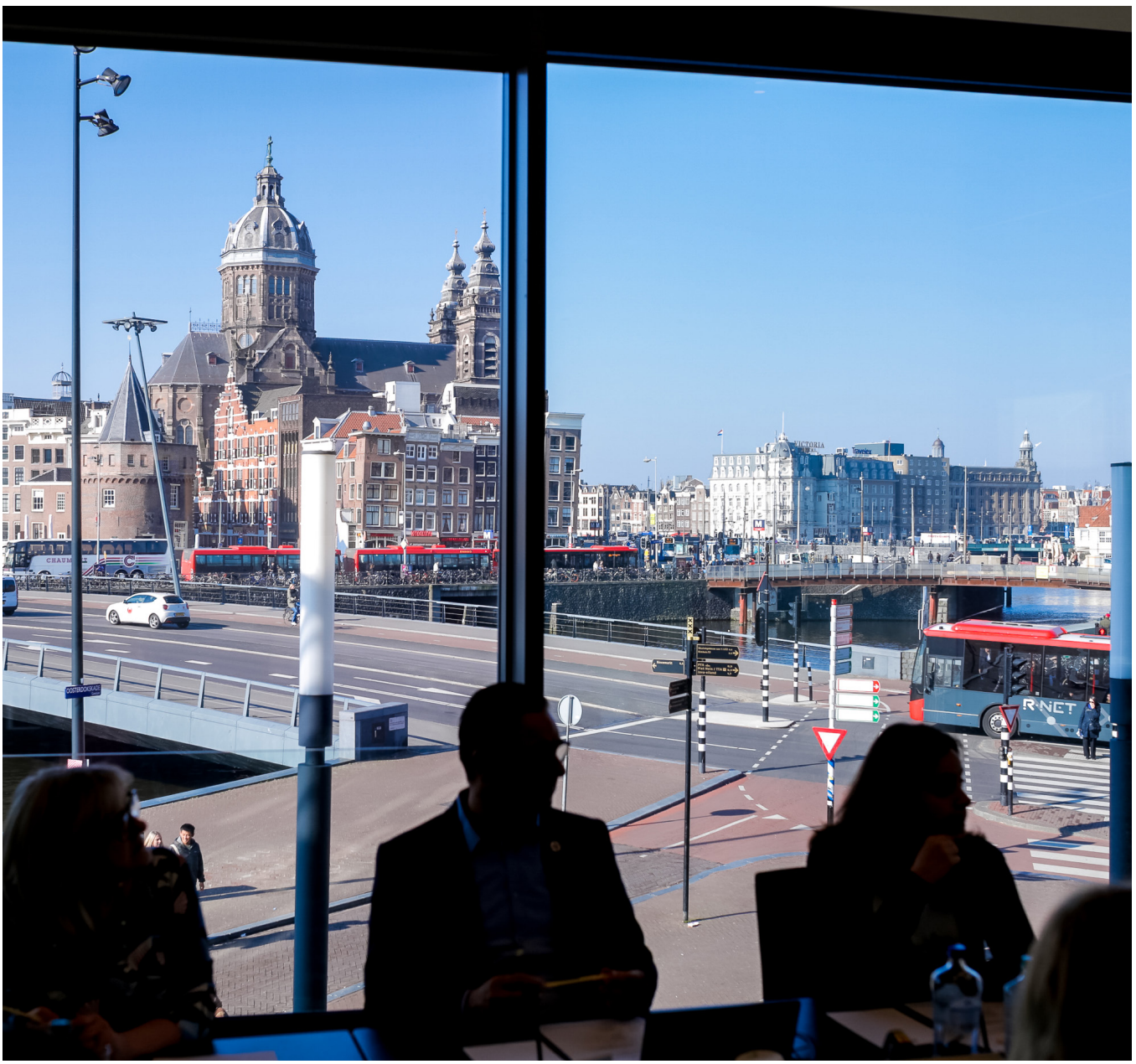
How safe do you feel in the administration of hazardous drugs?

Media partner: hospital pharmacy europe



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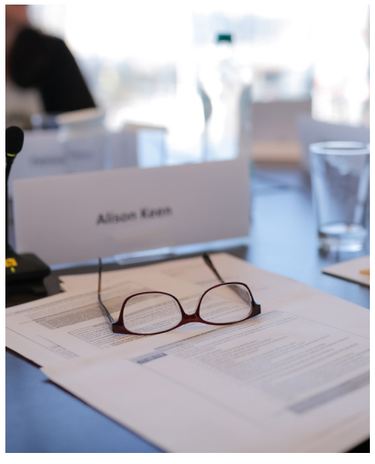
A roundtable was recently convened to sound out European senior oncology nurses on their awareness of risk of exposure and processes for the handling and administration of hazardous drugs. Even the most senior participants were surprised by the disparity in working practices, and the delegates responded with a Call to Action to map a common way forward.

How safe do you feel in the administration of hazardous drugs?

Principles underlying the handling and transfer of cytostatic drugs and their liquid solutions have been clearly set out (Occupational exposure to cytostatic compounds: safe systems for their preparation. National Institute of Safety and Hygiene at Work. Technical Prevention Note 740. 2016) and are summarised as follows:

Non-contamination of the air and the worker
The generation of aerosols from pressure equalisation is one of the causes of contamination, and the safe handling and transfer of product is predicated on its elimination. The effectiveness of filters for equalising pressures in transfer is subject to debate, which is why, under the latest definitions of 'closed system', equipment with filtering of the air to the outside is not included.



Asepsis of solution
Inhibiting the entry of contaminants into the solution to be administered is of fundamental and paramount importance.

Safe usage
The design of the equipment must ensure safe, easy-to-handle usage, transportation and storage.

Emptying capacity
Total solution transfer is necessary to 1. ensure essential adjustment of established dose, 2. avoid loss of product and 3. minimise waste contamination.

Precise transfer
The capacity of the syringe must be consistent with the value to be transferred, and graduation must be clearly visible.

Universality of utilisation
Adjustable sizes in all connections, resistance of septums to perforation and compatibility between materials and solutions being transferred must be guaranteed. Occupational exposure to cytotoxic drugs can occur when control measures are inadequate and, in the case of nurses, are most likely to occur through direct contact (skin, eye and mucosal), aerosol and drug particle inhalation, ingestion (eating and drinking) and needlestick injuries, when preparing and administering drugs, handling, transporting and disposing of patient waste, and cleaning spills.

While employees are obliged (Control of Substances Hazardous to Health; COSHH) to take suitable precautions

to protect those exposed to potential contamination, employees also have a legal duty to take care of their own health and safety, and that of others affected by their actions, by making proper use of control measures put in place by the employer, and by working with their employer in complying with legal duties.

In the UK, the Health and Safety Executive (HSE) recommends that totally closed systems be used when reasonably practicable (http://www.hsc.gov.uk/healthservices/safe-use-cytotoxic-drugs.htm).

Awareness of risk and processes

While knowledge of these recommendations and principles may or may not be universal in the European oncology nursing community, what is far more concerning is the absence of a common awareness of the risk of contamination.

Looking more closely, there would seem to be four levels of awareness:

1. Those who are not aware, trusting that they would not be asked to do their jobs in any conditions that would put them at risk of contamination. They may or may not have an established process to follow, putting trust in 'protective' gloves for hours on end, spreading contamination to everything they touch, or in potentially contaminated hospital ward clothing, that is worn/taken home for laundering.

Definition of Closed System Transfer Device

The National Institute for Occupational Safety and Health (NIOSH) and The International Society of Oncology Pharmacy Practitioners (ISOPP) define a closed system drug transfer device as:

'A drug transfer device that mechanically prohibits the transfer of environmental contaminants into the system and the escape of hazardous drug or vapor concentrations outside the system.'

ISOPP further stipulates that a product described as a closed system must be leak-proof and airtight, and that, therefore, filtered devices are not closed.

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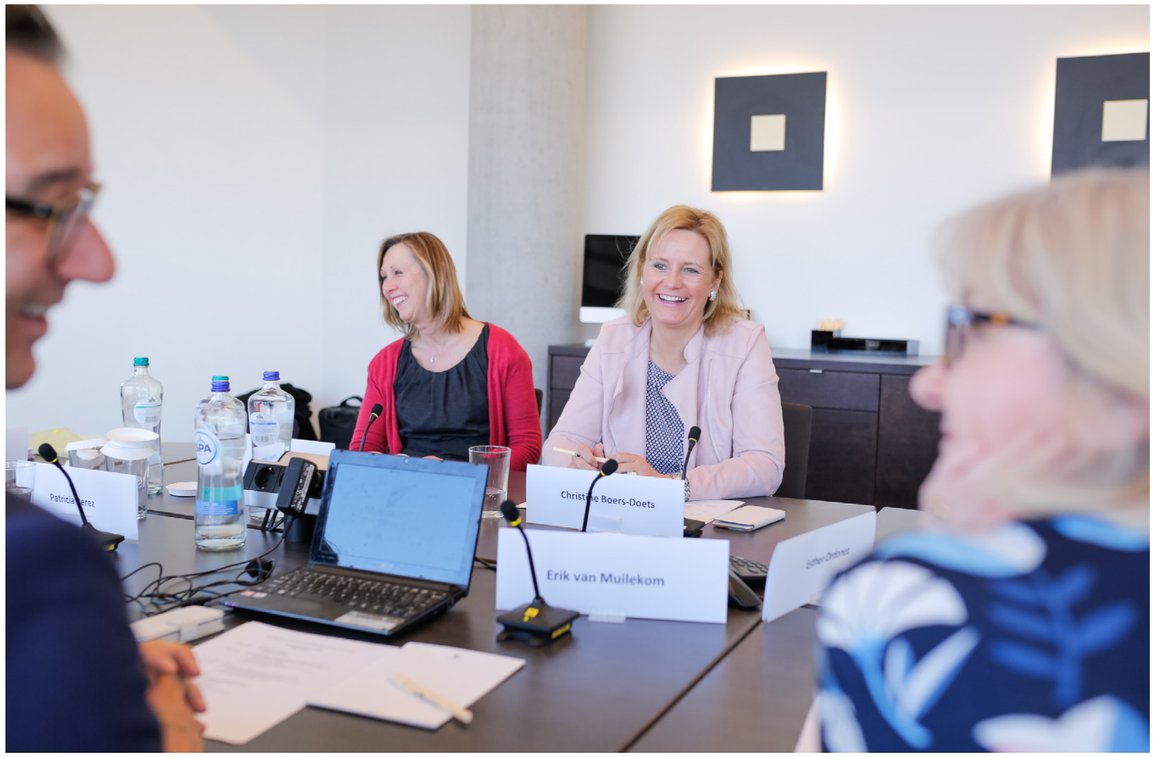


2. Those who are aware of the risks they and their colleagues are running, but who fear for their positions should they speak out.

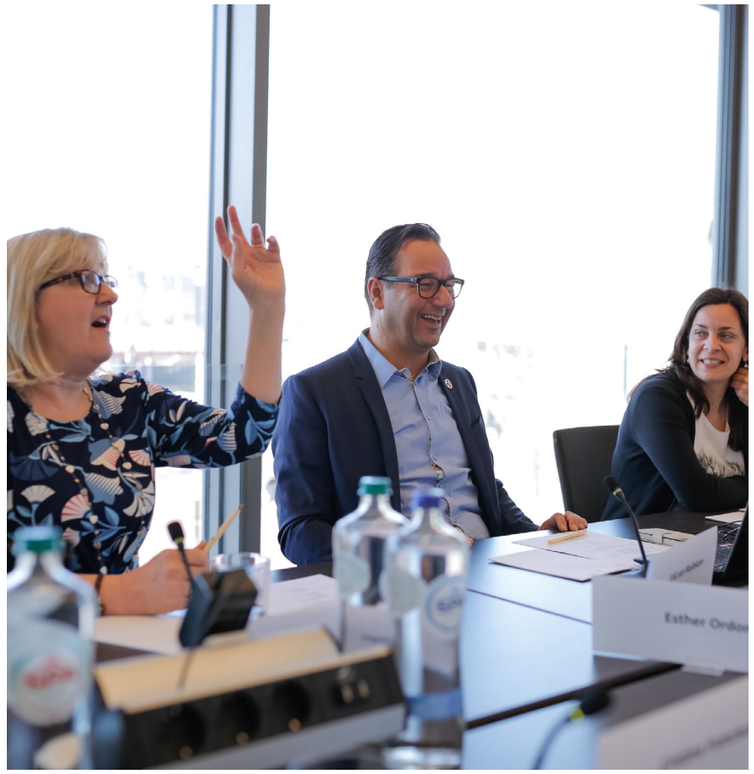
3. Those who are fully aware, but assume that peers in other hospitals (let alone in other European countries) share Best Practice procedures.

4. Those who are fully aware, but not necessarily of the best possible protection offered by closed systems.

Furthermore, there is the perception that, whereas those healthcare professionals involved in the preparation of cytotoxics are made aware of the inherent risk of contamination (if not the risk of the consequences of contamination), and may take precautionary measures accordingly, nurses are not made similarly aware, even though they are almost exclusively responsible for drug administration. That being said, neither have nurses hitherto been adequately organised and vocal in their demands for more information on the drugs, more evidence of risks, or greater standardisation across all of their profession in the handling and administration of hazardous drugs. This forum was convened to gauge

Key points

- **It is often due to the mechanical nature of nurses' jobs that they either do not think about risk, or accept that decisions have been taken by others that are in the best interest of their safety.**
- **There is a sense of unfairness: whereas healthcare professionals working in preparation are operating in a closed, protected environment, those who work in the administration of drugs on the ward or in the clinic are less well protected. Either nurses are not valued enough, or they have not adequately raised safety issues.**
- **People have relied very much on looking for evidence that a drug is not safe, rather than for evidence that it is safe.**
- **Standard 'acceptable' protection ranges from gloves (that are worn for hours at a time, contaminating everything touched, from mobile telephones to pens) to plastic aprons ('totally useless') to contaminated lab coats that are worn/taken home to launder.**
- **The bedside is not a controlled environment, making the process of administration particularly hazardous.**
- **Only Northern European countries have specialised cancer nursing training.**
- **While it is generally the responsibility of the Head of Patient Safety (or equivalent) to monitor and assess safety procedures on the ward/clinic, nurses are in fact responsible for themselves and their colleagues. This responsibility, however, is more easily exercised in some countries/environments than in others.**
- **Senior European oncology nurse associations are in a position to standardise and disseminate best practice in the safe handling and administration of hazardous drugs.**
- **Potential hotspots of contamination on the ward/in the clinic are numerous, and existing national Best Practice guidelines might best be translated into English for Europe-wide adoption.**
- **Owing to the great diversity of working practices in the handling and administration of hazardous drugs, the safety interests of oncology nurses might be best served by the preparation and dissemination of a study that establishes baseline practices across Europe, reviews the evidence base for safer practices, identifies the pressure points of who needs to be influenced with what arguments, proposes Best Practice and maps the dissemination route.**



'I do not know whether we are not valued enough or whether we have not raised the issue well enough. But there now exists a resolve to do something about it'

awareness of the risk of contamination as it is now, as a result of current work processes.

A very simple example of how awareness might be raised was shared: it relies on the power of visual proof of contamination, rather than a mire of evidence of whether or not a product is safe. A unit in The Netherlands used a very quick and simple test using a solution to show nurses the extent of 'contamination' resulting from standard practice, an effective and practical learning tool for raising awareness.

The issue of awareness is surely made complex by the fact that, unlike the controlled facilities in preparation units, wards and clinics and, above all, the bedside, are as unpredictable as they are uncontrolled.

It is not possible to separate awareness of risk of contamination from awareness of processes that result in risk of contamination, and in a single exercise that mapped the progress of a cytotoxic drug from the time of its arrival on the ward from the pharmacy, even a room full of experts were taken aback by the number of hotspots at which nurses are potentially exposed to hazardous product.

'Only Northern European countries have specialised cancer nursing training'

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With allowances for regional variation, the process structure would not be dissimilar to that illustrated in the Box below, with hot spots of potential contamination present at every stage.

The care continuum

The cytotoxic drug is prepared in the pharmacy, and is double-bagged and boxed. The outer bag is brown (for photosensitive protection) and appropriately labelled to indicate the nature of the drug. The inner bag is clear. The drug is checked by the prescriber and by the pharmacist.

The porter delivers the box to the ward.

↓

The double bag is removed from the box.

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The outer bag is removed and the nurse verifies the drug within the clear inner bag.

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The inner bag arrives at the bedside and the drug is verified by two nurses.

↓

The inner bag is removed and the IV bag containing the cytotoxic is spiked by a chemo-trained nurse at the bedside.

↓

The drug is infused (with intermittent risks, including spillages).

↓

The chemo nurse unspikes the IV bag containing the cytotoxic.

↓

The IV bag containing the cytotoxic is disposed of.

Only in The Netherlands (of the countries represented at this roundtable), and only in Dutch, does there exist a detailed, evidence-based, fully referenced Best Practice guidance for nurses handling cytotoxic drugs on the ward/clinic. The action following from this revelation is that this guidance might factor into a more comprehensive report organised, supervised and disseminated by senior national and European oncology nurse associations.

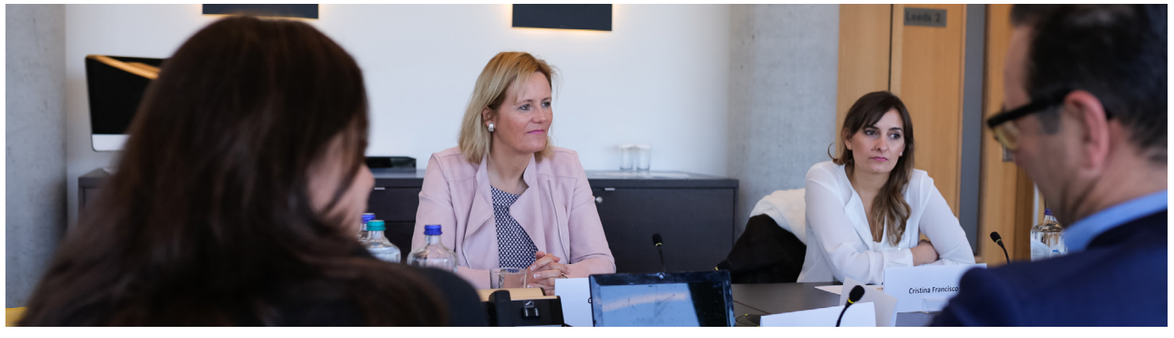
Call to Action

In a perfect world, the risk of contamination of nurses would be best managed through the use of CSTDs, especially in light of the fact that a lot of hospital ward practice is currently very poor and very risky, as regards nurses.

What to do? There has hitherto been no co-ordinated, nurse-led initiative to establish a baseline of drug administration practice, from which to build the case for standards of Best Practice. From those attending this roundtable, the following proposal was put forward: to appoint a funded position within a European oncology nurse association, whose responsibility it would be to establish a steering committee with a EU-wide remit to

- Establish the baseline of current practice
- Review the literature for evidence-based reports of risk
- Assemble the body of evidence of units/hospitals that have changed practice to improve nurse safety
- Re-work, in English, existing Best Practice guidelines that include reference to the optimal safety afforded by closed system devices
- Construct the brief argument defending cost, based on cost savings overall from vial share-driven minimised waste
- Identify and invite input from national bodies (eg. The National Chemotherapy Advisory Group (NCAG) in the UK)
- Write the Position Statement that defines the recommendations for standardising best practice for European nurses for the handling and administration of hazardous drugs
- Identify which decision makers need to be influenced, those best placed to do the influencing and what materials are needed.
- Map a programme of dissemination, including but not restricted to presentations at relevant national and European Congresses, satellite symposia, publication in journals that raise awareness (eg. European Journal of Oncology Nursing) and influence decision makers (eg. The Commissioning Review (in the UK))

'If you want to influence people, you should act on many fronts – those who are in charge and those who are involved. They all have to be approached with different arguments'



Definitions

COSHH	**Control of Substances Hazardous to Health**
CSTD	**Closed system transfer device**
ECCO	**European Cancer Organisation**
EONS	**European Oncology Nursing Society**
HSE	**Health and Safety Executive**
ISOPP	**International Society of Oncology Pharmacy Practitioners**
NCAG	**National Chemotherapy Advisory Group**
NIOSH	**National Institute for Occupational Safety and Health**
UKONS	**UK Oncology Nursing Society**

'In a perfect world, would we like to have the sort of system that manages risk for our nurses? Absolutely, yes.'

Conclusion

The site of administration of hazardous drugs is the bedside, on the ward or the clinic - a highly uncontrolled and unpredictable environment.

Nurse awareness of the risk of contamination when administering hazardous drugs ranges from those who do not question the possibility of not being adequately protected by their employer, to those who are fully aware and who are in a position to influence the raising of awareness of the hazards, and the crystallising and dissemination of Best Practice Guidelines, both nationally and on a European scale.

There persists in many European countries the perception that the wearing of protective gloves (for hours on end) and the use of plastic aprons

(and protective gowns that may be worn home) constitute acceptable levels of protection.

While it is generally the responsibility of Heads of Patient Safety (or equivalent) to ensure safety procedures on the ward, nurses are themselves responsible for their own and their colleagues' safety. But, of course, it is not always that easy to challenge the status quo.

Only in the countries of Northern Europe is there found specialist cancer nursing training - in the UK, where there exist university-accredited courses for the administration of hazardous drugs, the UK Oncology Nursing Society (UKONS) is looking at a generic skills set, incorporating a practical workbook that people can work through with their mentor.

What is absent in this fractured landscape of nurse awareness/protection is the initiative (which can most effectively come from nurses themselves) to collate and disseminate, through its European professional societies, a thoroughly researched and referenced recommendation for Best Practice for EU nurses in the handling of hazardous drugs.

The responsibility for the maximum protection of all nurses who handle hazardous drugs rests with those who are best placed to challenge and influence the decision makers.
At the most fundamental level, the gathering of European oncology nurses with the remit of sharing their perceptions of risk of contamination with hazardous drugs resulted in take-home lists of learning tools.

At its most constructive, it resulted in a Call to Action to do something about the present state of affairs: 'there now exists a resolve to do something about it'.

The roundtable 'How safe do you feel in the administration of hazardous drugs?' was convened in Amsterdam on 17th March 2016, with the support of BD, and was attended by senior hospital oncology nurses from The Netherlands, Spain and the UK.

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