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WEBINAR SERIES#4

# MD Reprocessing Efficiency impact in Healthcare: AN OVERVIEW

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WEBINAR 1


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## intro

Efficiency is a fundamental issue for all healthcare institutions worldwide and must be a commitment for all professionals and hospital managers. Its impact on infection prevention and control is a key issue and an efficient MD reprocessing can surely contribute to decrease in HAIs and specifically SSIs which are a major burden of not only hospital budgets but also in terms of patient mortality rates.

Efficiency is directly connected to value-based healthcare which promotes value against volume rush and influences performance for all professionals dealing with both diagnostic and therapeutic procedures. Value based healthcare puts its focus on the value chain and a wise integration of all steps is the goal for future implementation of optimization strategies of MD reprocessing procedure as a key factor in reducing the incidence of HAIs and SSIs contributing to quality and patient safety.

## 01. Impact of HAIs in healthcare

HAIs have a strong impact on healthcare systems worldwide and its effects are clearly seen in terms of patient safety, hospital stay, financial impact on management costs, malpractice issues and reputation.[1,2,3] A survey of the state of the art on dealing with HAIs and how to lower incidence rate is the core issue of hospital quality and patient safety programs along with the role of HAIs prevention and control related to MD Reprocessing.[11]

> *"HAIs affect hospital stay and impact on costs."*

**HAIs are core issues in healthcare systems worldwide and their impact is serious... Efficiency must be improved...**

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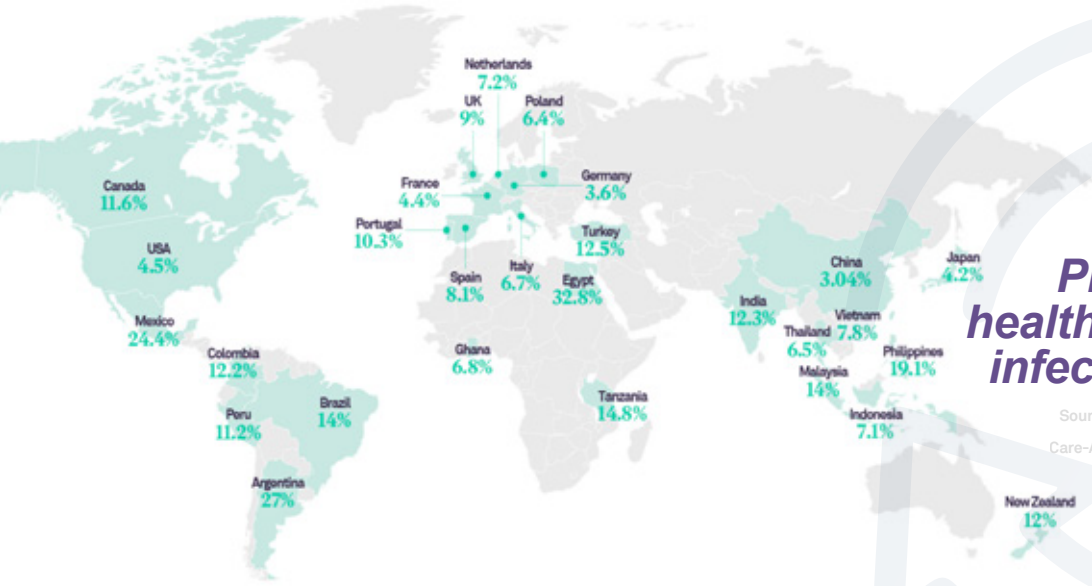


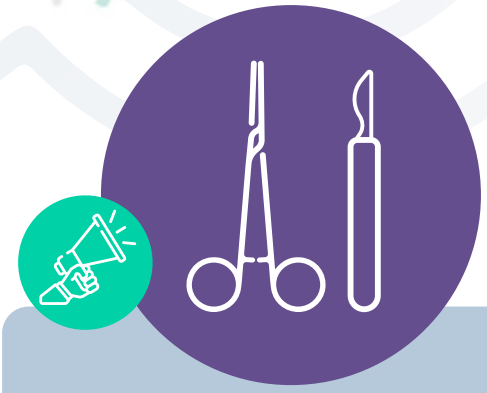

## *Prevalence of healthcare-associated infection, 1995-2010*

Source: 2. WHO 2011 - Report on the Burden of Endemic Health Care-Associated Infection Worldwide - accessed 20210218

# 02. The importance of MD reprocessing in the prevention of SSI

MD reprocessing has cost-efficacy measurable parameters which yield results on the entire process of diagnostics & treatment, and it is important to underline the precise effect of each reprocessing phase under an economic impact and its key goal in patient safety and risk management.[4,5,6] One of the areas of impact is surely the reduction in SSI incidence.[13]

> *"Each reprocessing phase has an effect on SSI prevention."*



**MD reprocessing effectiveness has a high impact on reducing incidence of SSIs... play an important role in reprocessing improvement..."**


| Category | Definition | Level of microbicidal action | Method of decontamination | Example of common items/equipment |
|---|---|---|---|---|
| **High** (critical) | Medical devices involved with a break in the skin or mucous membrane or entering a sterile body cavity. | Kills all microorganisms | Sterilization (usually heat if heat-stable or chemical if heat-sensitive). | Surgical instruments implants, prostheses and devices, urinary catheters, cardiac catheters, needles and syringes, dressing, sutures, delivery sets, dental instruments, rigid bronchoscopes, cystoscopies, etc |
| **Intermediate** (semi-critical) | Medical devices in contact with mucous membranes or non-intact skin. | Kills all microorganisms, except high numbers of bacterial spores. | High-level disinfection by heat or chemicals (under controlled conditions with minimum toxicity for humans). | Respiratory therapy and anaesthetic equipment, flexible endoscopes, vaginal specula, reusable bedpans and urinals/urine bottles, patient bowls, etc |
| **Low** (non-critical) | Items in contact with intact skin. | Kills vegetative bacteria, fungi and liped viruses. | Low level disinfection (cleaning). | Blood pressure cuffs, stethoscopes, electrocardiogram leads, etc. Enviromental surfaces, including the OR table and other environmental surfaces. |

Source: 17.WHO Global Guidelines for the Prevention of Surgical Site Infection (2018), Risk Assessment of Contaminated Instruments, pag.50, Table 3.3.3

# 03. Efficiency in healthcare: definitions and perspectives: affordability, sustainability and value based healthcare

Healthcare systems will be measured in the future according to three major parameters impacting efficiency[10] which are affordability: a major concern for social acceptance; sustainability: an economical challenge for many services worldwide and value-based healthcare which is a fundamental parameter in understanding outcomes on a added value basis and address implementation towards giving healthcare a measurable value to be actually seen and felt by all stakeholders[14].

> ***"Affordability and value-based healthcare are challenges we must face immediately."***

**Today outcomes are measured on a value-based healthcare profile... be safe be sure...**

Free photos accessed on 20210528 at: https://br.freepik.com/fotos-gratis/doutores-que-examinam-paciente-senior-com-estetoscopio_8236656.htm#page=1&query=hospital%20patient%20oxygen&position= | https://br.freepik.com/fotos-gratis/medico-de-vista-frontal-usando-roupas-de-protecao-no-hospital_10752807.htm#query=10752807&position=0&from_view=search

## Importance of patient safety issues

HUMAN COSTS
PROFESSIONAL COSTS
ECONOMICAL REASONS
POLITICAL COSTS

Source: 22. Center for Patient Safety – Tuscany – Italy

> ***"Every system is perfectly designed to get the results it gets."***
>
> W. EDWARDS DEMING

Attribution disputed, see source link > Source: 23. quotes.deming.org/10141

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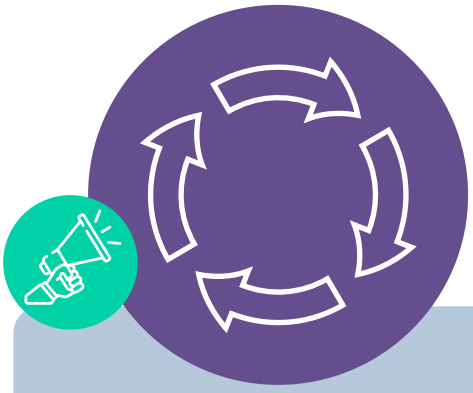
# 04. Efficiency of MD reprocessing: impact and optimization strategies

The efficiency of MD reprocessing has an impact on all healthcare systems beginning from patient safety to professionals' well-being.[15,16] A consequence of a strong impact factor as efficiency is seen on the end-results of the entire process up to the patients' end. These goals are to identify optimization strategies among both industry and healthcare decision makers; among these strategies a major role is represented by accreditation and certification of the entire process.[13,16] Accreditation agencies around the world such as JCAHO are focusing their main evaluation processes on the goals of reducing HAIs impact and effects on patient safety and retaining of medical malpractice claims and lawsuits.[16] These measures are achieved through the assessment of specific requisites of HAI prevention and control such as hand hygiene measures for both workers and visitors and patients as well; microbiological surveillance and diagnostic and antimicrobial stewardship as milestones for incidence reduction[6,7].

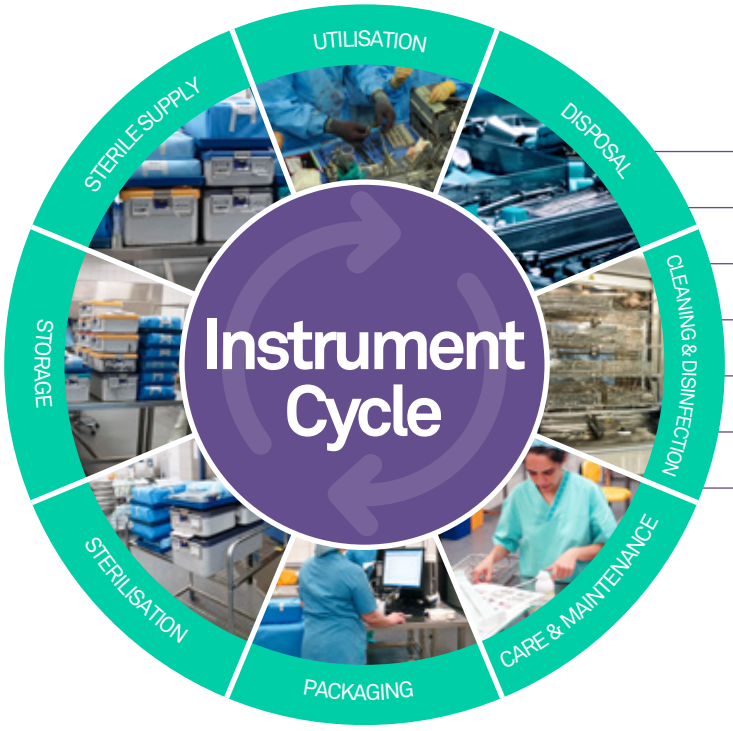


**Accreditation and certification of quality and safety... help to make them optimization strategies...**

***"Efficiency and affordability are together with sustainability and value-based healthcare the pillars of tomorrow and outline Circular Economy in the filed of MD reprocessing."***

## THE STEPS OF MD REPROCESSING

**Reprocessing is a multistep process that includes**




- cleaning
- inspection and assembly
- functional testing
- disinfection (if applicable)
- packaging and labelling
- sterilization (if applicable)
- storage

Source: 30. WHO Global Guidelines for the Prevention of Surgical Site Infection (2018), The cycle of decontamination of a reusable surgical instrument, pag. 49 31. NSW Government – Clinical excellence Commission: Reprocessing of Reusable Medical Devices: https://www.cec.health.nsw.gov.au/keep-patients-safe/infection-prevention-and-control/Reprocessing-of-Reusable-Medical-Devices#:~:text=Reprocessing%20is%20a%20multistep%20process,(if%20applicable)%20and%20storage

# Resume

HAIs have a strong impact on healthcare systems worldwide and hospital quality and patient safety programs are cantered on HAIs prevention and control related to MD Reprocessing.[2] MD reprocessing has cost-efficacy measurable parameters which yield results on the entire process and one of the areas of impact is surely the reduction in SSI incidence as these are frequently underestimated and sometimes difficult to avoid.[6,7,8,9] These are to be considered complications and all professionals working in the surgical filed should pay a particular attention to this. Healthcare systems will be measured in the future according to three major parameters impacting efficiency which are affordability, sustainability and value-based healthcare.[11,16] All of these are a major concern for stakeholders in the healthcare field and partners in reaching these goals.

A consequence of a strong impact factor as efficiency is seen on the end-results of the entire process up to the patients' end. The identification of optimization strategies among both industry and healthcare decision makers are represented by accreditation and certification of the entire process. These may contribute to implement awareness among professionals all over the healthcare field to pay major attention to practices and behaviours which may have a direct influence on outcomes.[11]

# Take home MESSAGES

**01** Optimization of MD reprocessing through training and increase in awareness among all healthcare workers is the main goal of the upcoming future.

**02** Strategies are to be supported and among these accreditation and quality certification surely may be an added value.

**03** Outcomes are to be measured on a value-based healthcare basis.

**04** Circular economy and its links to the fields of HTA, Medical Device reprocessing and economy in healthcare are key topics for future implementations.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