

Change to Single-use Sterile Sets To Eliminate Blood-borne Contamination to Patients & Healthcare Staff



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Children's Hospital**
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INTRODUCTION

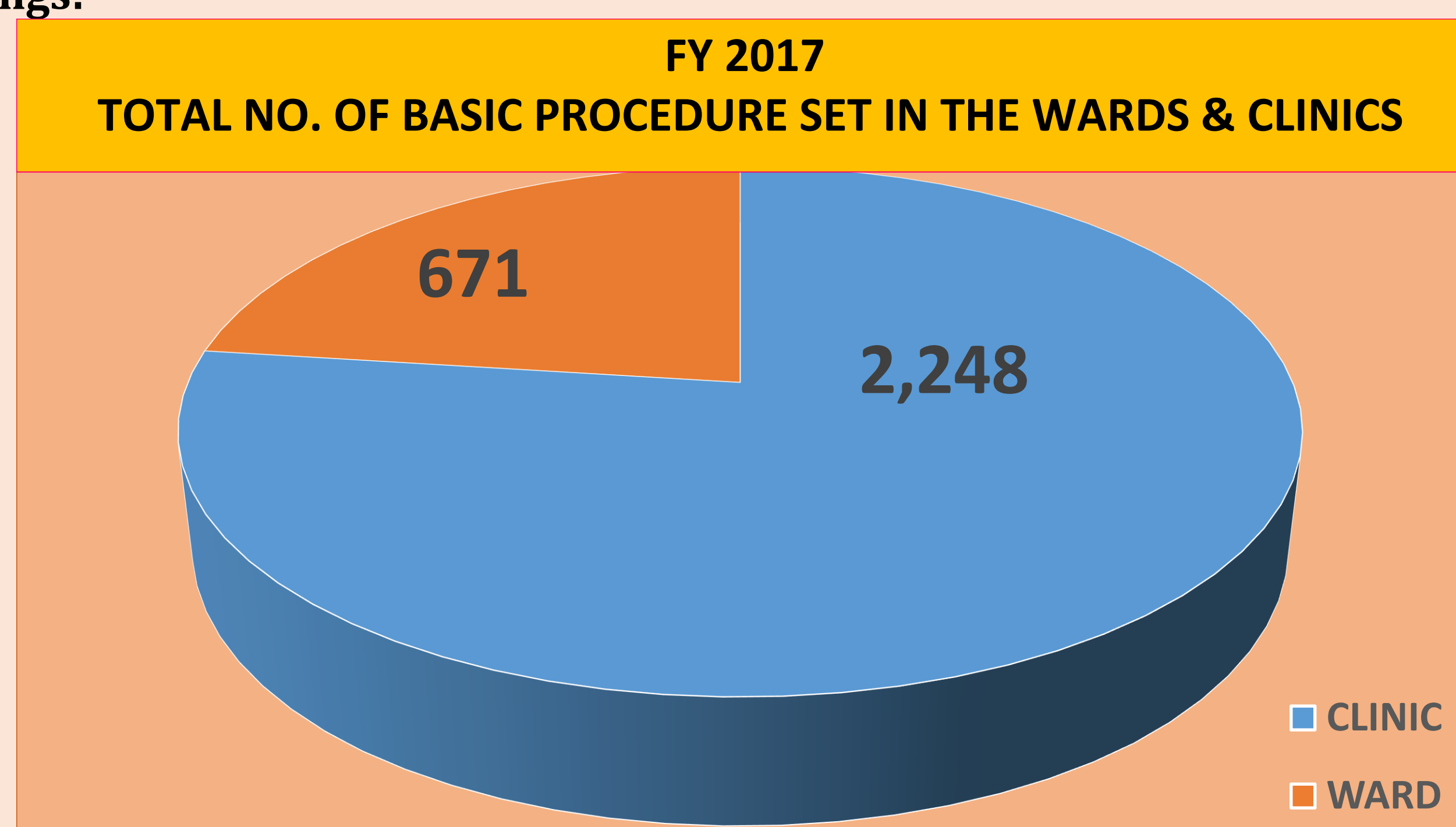
KK Women and Children Hospital leads in excellent, holistic and compassionate care for Women and Children in Singapore. Safety is important for core processes involving patient and healthcare staff. A review was done in 2017 and 2018 of the many patient care procedures that exposed healthcare workers to the risks of blood borne diseases through accidental contamination. One such area is when staff in the clinical areas decontaminate instruments and sets that is used in patient procedures before sending to the Central Sterilization Supply Unit (CSSU) for further decontamination, re-packing and to be sterilized under high pressure. This review to change to single use instruments and sets for patients and healthcare staff is of utmost importance to uphold hospital safety standards and infection control. By minimizing these risks to patients and healthcare staff any accidental exposure to infectious contaminants and hospital acquired diseases can be avoided and the benefit outweighs questions of rising healthcare costs and the environmental impact of using single use medical consumables (Mazetti, 2015).

AIM

1. Reduce risks of patients and healthcare staff exposure to Infectious diseases and blood borne pathogens
2. Optimize Manpower utilization – Do More with Less
3. Reduce/Eliminate risk of using sets, not autoclaved /sterilized according to protocol

METHOD

Identification of the most commonly use instruments & sets was done in both Children & Women services, involving Inpatient and Outpatient settings. A commonly used set was the basic procedure set in the Women Services which consisted of a thermoplastic tray, a sponge forceps, swabs, sterile drape, hand towel & gauze. It was used in the consultation clinics, Urgent O&G center and in-patient adult wards. The sets were used for many procedures involving vaginal examination which entailed heavy vaginal bleeding as in Mid-Trimester Pregnancy Termination or Post-partum Hemorrhage. Close to 3,000 sets were sent to CSSU from the ward & outpatient settings:



The nurse assisting the doctors after a procedure; would have to remove the excess thick blood clots or body fluid discharges from the instruments, spray the enzymatic 'ANIOSYME' disinfectant and place the complete set into a plastic bag to be sent to the Central Sterilization supply unit. Occasionally, the blood clots would adhere to the surface of the instruments. The nurses unconsciously attempt to remove the clots. This raises the risks of injury as stainless steel scissors; are sometimes used in these procedures.

IMPLEMENTATION

A trial of single use fully disposable sets were fabricated and given to the high utilization areas namely Ward 44, Clinic C and UOGC and medical doctors in these areas were asked to evaluate the sets as a means to replace the autoclave set.



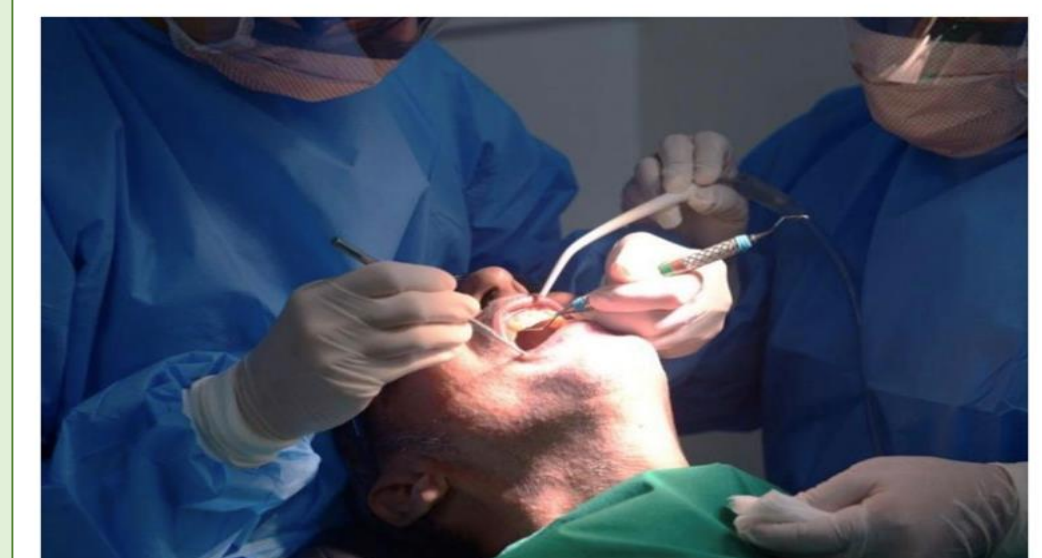
RESULT

1. The medical and healthcare workers were happy about time saving for each patient procedure.
2. The medical doctors were able to perform simple procedures without the attending nurse or patient care assistant in the consult rooms.
3. Review in work processes of staff involved in cleaning and re-autoclaving sets is completely reduced in both clinical & CSSU and the risks of contamination of these staff is eradicated
4. Safety for patient and staff is enhanced as the risks of exposure to infectious pathogens is greatly reduced
5. Re-designate nursing hours for in-patient nurses to better engage with patients and for outpatients, the clinic assistant can focus on their other tasks.

FINDINGS

- 1) Nurses do not need to check the validity of the autoclave tape and expiry date of each set or instruments from the CSSD supply unit with the use of single use items.
- 2) Eliminated the steps to remove excess body fluid on instruments, spray disinfectant and pack to send to CSSU for decontamination and re-packing to be sterilized under high pressure.
- 3) Avoid / Eliminate the risk of using instrument and sets that were not sterilised.
- 4) Coincidentally, there was the reported case in Singapore Straits times in Oct 2018 that featured the National Dental Center lapse in using sets on patients that did not complete the sterilization according to protocol.
- 5) This prompted the review of practices across the hospitals on process of monitoring sterilization practices of sterilization supply units. KKH also reviewed practices and communicated with staff on the steps to identify sets and instruments that met the standards of sterilization.

Safety lapse at TTSH Dental Clinic: Disciplinary action taken against 18 staff

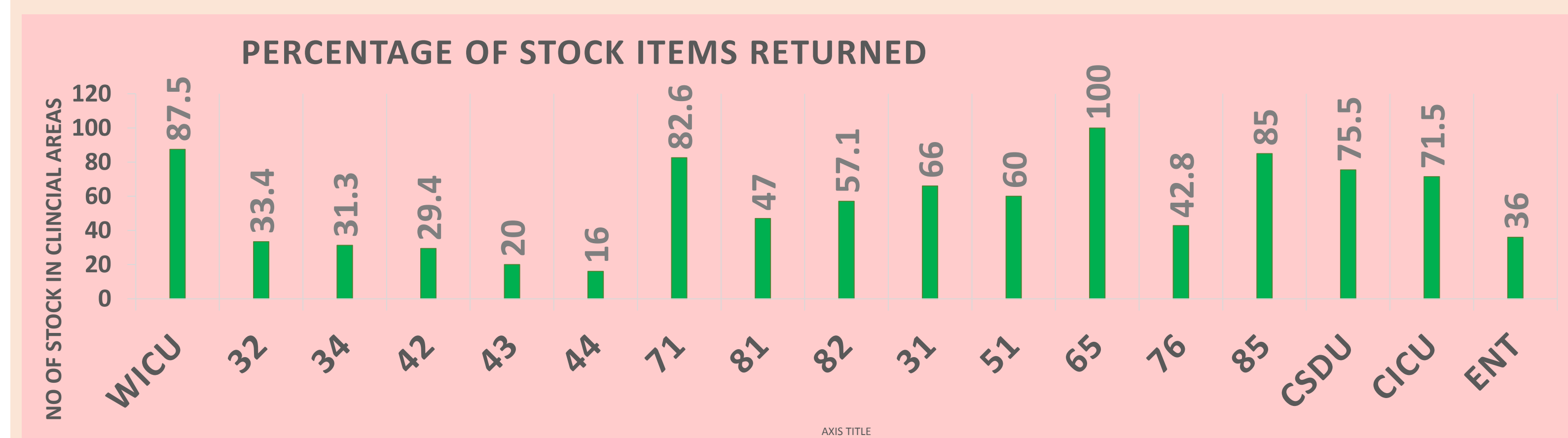


Up to eight patients may have been treated with equipment that had not undergone the final stage of a sterilisation process between Nov 28 and Dec 5 in 2018.
PHOTO: ST FILE

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THE WORKGROUP EMBARKED ON ANOTHER TASKS WITH THE CSSU TEAM TO REVIEW THE HOSPITAL STERILE STOCKS FROM CSSU AND THE MONITORING PROCESS BY NURSES.

Hoarding of large quantities of sterile sets in clinical areas can impede effective stock checks for expiry dates rendering a sterile sets unsafe to use. The nurses need to check the autoclave tape, expiry date and other key indication of a sterile pack due to the short shelf life of 3-6 months.



A total of 55.2% of sterile sets and instruments supplied to the clinics and wards as readily available stock were returned to the central sterile unit by the departments after a review of under utilized sets and instruments was presented to the departments by the workgroup spanning a 2 year period from FY 2017 and FY 2018.

CONCLUSION

With the positive results and feedback from this review of the process of utilizing single use sterile items for patient care procedures, the nursing team will embark to review the use of more single use sterile sets and instruments in all procedures where the risks of exposure to body fluids is high.

Most importantly the healthcare workers health and well being is addressed to minimize their risks to infectious diseases when assisting patient care 'procedures' that involve exposure to any body fluids.

Though the reprocessing of medical devices and consumables is vital to keep healthcare costs affordable, this change in practice is an important safety aspect for some consumables that will help prevent any lapses in proper sterilization due to human error (Moduga, 2010).

OUTCOME:

Advocating the change to single use medical consumables products in healthcare guarantees safe, reliable and consistent delivery of care for patients by healthcare workers and optimizes better utilization of valuable manpower hours. In KKH, we have changed the Basic Procedure Sets in clinics and wards to be single use fully disposal at the site of utilization after each procedures.

References :

Moduga, A., 2010. Project reprocessing medical devices and single use items is expected to change the face of the medical device industry. Hospital mgt. net.
Mazetti. 2015. Reprocess Approved Single-Use Devices. Sustainability Roadmap for Hospitals. A guide to achieving your sustainability goals. American Hospital Association. Sustainability roadmap.org