Sustainability in practice: A dental case study Rose Park Dental

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Government of South Australia

Green Industries SA

This case study was prepared by Rawtec and 2XE for the Australian Dental Association, South Australia, with support from Green Industries SA through the Lead-Educate-Assist-Promote grant program.

It is one of 3 case studies developed to inspire dental practices to strengthen their sustainability and realise the potential cost, efficiency, and environmental benefits.

Rose Park Dental, located in Rose Park, South Australia, is a medium-sized practice with 7 dental chairs and treats between 25 and 80 patients a day. The practice delivers a wide range of both traditional and innovative dental services.

This case study highlights 3 of the many sustainability initiatives Rose Park Dental has implemented, demonstrating their commitment to reducing their environmental impact while maintaining high quality patient care.

To view other case studies and access useful checklists and resources visit the ADA SA website.

Green Industries SA [GISA] acknowledges the Traditional Custodians of Country throughout Australia and their connections to land, water, sky and community. We pay our respect to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

We acknowledge and respect Aboriginal peoples as the state's first peoples and nations and recognise them as traditional owners and occupants of land and waters in South Australia. Further, we acknowledge that the spiritual, social, cultural and economic practices of Aboriginal peoples come from their traditional lands and waters, that they maintain their cultural and heritage beliefs, languages and laws which are of ongoing importance, and that they have made and continue to make a unique and irreplaceable contribution to the state.

We acknowledge that Aboriginal peoples have endured past injustice and dispossession of their traditional lands and waters.

GISA is committed to supporting an inclusive society that recognises the rich histories, cultures and contributions of Aboriginal and Torres Strait Islander Australians. We acknowledge that environmental, social and economic sustainability objectives cannot be separated. The transition to a circular economy needs to be just, and our objective of advancing a just transition to a circular economy will be strengthened by platforming the voices of Australia's First Peoples in this change.

Artist - Karen Briggs

Reusable and washable instrument trays

Instrument trays are an essential part of most dental procedures, used to hold the instruments needed for treatment or surgery. While trays can be made from different materials, many dental practices still rely on single-use trays, or wrap reusable trays in plastic film.

Rose Park Dental is committed to reducing waste by using reusable, washable trays with fitted lids instead of disposable trays or plastic coverings. Each tray is prepared in advance with the required equipment and supplies. The trays are colourcoded according to the procedure type to improve efficiency. Trays are cleaned with hospitalgrade disinfectant and washed after use, ready to be circulated again.

Each reusable tray costs $36 and lasts around 8 years. The lids cost around $47 and last around 6 months before needing replacement. This approach streamlines clinical workflows and eliminates significant amounts of single-use plastic waste, supporting more sustainable and costeffective practice operations.

Rose Park Dental saves the production of more than 7,000 single-use plastic trays each year by prioritising reuse.

Separation of autoclave sleeves

Rose Park Dental sterilises instruments onsite using an autoclave. This process requires sterilisation sleeves made from a combination of paper and plastic, which are single-use. To improve their waste management, Rose Park Dental has introduced a simple but effective waste-separation system.

Staff at Rose Park Dental carefully separate the 2 components of the sterilisation sleeves for recycling instead of placing them in general waste.

The soft plastic component is recycled through a private service, and the paper component is placed in the comingled recycling (yellow) bin.

The process is quick and easily integrated into daily routines:

1. The sterilisation sleeve is opened and instruments removed.
2. The plastic side is gently pulled away from the paper side until fully separated.
3. Plastic and paper are placed in separate piles on the counter.
4. At the end of service, the plastic pile is added to soft plastics recycling, and the paper pile is added to the comingled recycling bin.

This straightforward practice diverts a significant volume of waste from landfill and demonstrates how small, routine actions can contribute to more sustainable dental operations.

Shutdown procedures & air con update

Dental practices operate a wide range of equipment, including compressors, medical suction, hot water systems, and air conditioning, which consumes significant amounts of energy. Rose Park Dental have established a clear endof-day procedure for switching off equipment, helping to reduce electricity use and lower business costs.

At the end of each day, the staff follow a simple routine – all major systems are shut down through a central switch located next to the staff exit.

This ensures that hot water, lighting, medical suction and compressed air are not left running overnight. The practice estimates that this process saves around $3,000 each month compared to when equipment is accidentally left on.

Building on energy reduction initiatives, Rose Park Dental upgraded its air conditioning system after the previous one couldn't meet the needs of the practice.

Working with a local provider, they installed a more energy-efficient ducted system with individual room controls, enabling targeted energy use. The system is programmed to an automatic schedule, with staff asked to communicate any changes, which ensures continued staff and patient comfort as well as operational efficiency.

In addition, a large amount of Rose Park Dental's electricity is supplied directly by rooftop solar panels. This further reduces their reliance on grid power while lowering operating costs and environmental impact.

Other sustainability initiatives

Beyond the initiatives detailed in this case study, Rose Park Dental has also adopted a range of additional measures, including:

- using reusable uniforms instead of disposable uniforms
- limiting promotional giveaways to reduce unnecessary waste
- transitioning to digital patient records to minimise paper use
- using reusable nitrous oxide nose inhalers instead of disposables
- installing LED lighting throughout the practice to lower energy consumption.

Rose Park Dental demonstrates that practical, everyday changes can deliver meaningful sustainability outcomes for dental practices. From reducing plastic waste through reusable trays and autoclave sleeve separation, to lowering energy use with structured shut-down procedures, efficient air conditioning, and rooftop solar, the practice has shown that sustainability and patient care can go hand-in-hand.

Their example highlights how medium-sized practices can reduce costs, improve efficiency, and minimise environmental impact by embedding simple, effective initiatives into daily operations.

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