Aga Khan Health Services

Afghanistan: Aga Khan Health Service, Afghanistan- Bamyan and Faizabad Provincial Hospitals Shifting from printed X-ray films to digital imaging

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The Aga Khan Health Service, Afghanistan (AKHS, A), is committed to reducing carbon emissions and achieving net zero by 2030. As part of this journey, means to reduce waste and decrease plastic usage have been priorities. In Bamyan and Faizabad Provincial Hospitals, AKHS, A started transitioning from X-ray radiology images printed on plastic films to digital radiology images due to cost and accessibility issues. AKHS, A recently intensified these efforts to improve progress towards achieving net zero.

With each patient who required radiology typically requiring an average of 1.5 printed films, and each film estimated to cost around USD 1.6, financial costs were significant. Annual X-ray film printing usage was estimated at approximately 12,000 and 24,000 films at the Bamyan and Faizabad Provincial Hospitals respectively at a cost of around USD 57,000 and generating roughly 1000 kg of plastic release annually.

To minimise printing costs, increase data accessibility, and reduce plastic usage, AKHS, A, adopted a digital reporting model. Faizabad Provincial Hospital implemented the picture archiving and communication system in 2018. In 2021, the Bamyan Provincial Hospital developed an in-house computed radiography system through its existing IT team. This shared database allows authorised doctors to access X-ray images directly from the server, enabling faster image acquisition, superior image quality (allowing zooming in and out), enhanced diagnostic capabilities, and remote access.

In 2022, AKHS, A committed to strengthening existing efforts in digital X-ray reporting and set a target to reduce film printing by 95% annually as part of its net zero target. Within this target, by mid-2025 the Bamyan Provincial Hospital reduced annual film printing by 99%, and Faizabad Provincial Hospital has achieved a 67% reduction, with more work ongoing to ensure staff monitoring and use of digital X-ray reporting. This change has resulted in annual savings of around USD 45,000 in total in both hospitals, and a reduction of 820 kg of plastics. The payback time was achieved in less than one year.

Carbon emissions were calculated using the AKDN carbon management tool.

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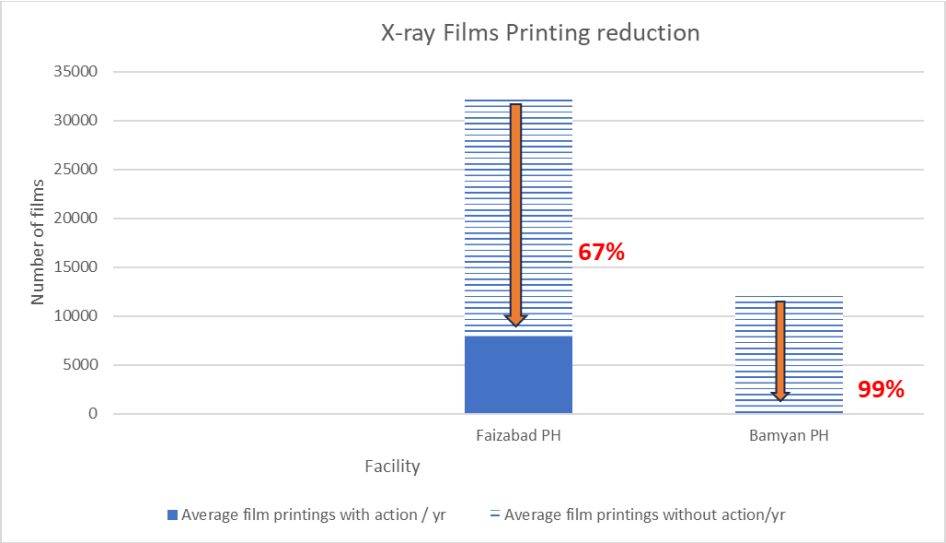


Figure1: Reduction in film printing at AKHS, A at Bamyan & Faizabad Provincial Hospitals