

Prison tobacco ban significantly reduces secondhand smoke

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Dr. Sean Semple, Associate Professor at the ISM, led the work -- which is part of the broader Tobacco in Prisons Study (TIPS) -- alongside Ruaraidh Dobson, Research Assistant. Credit: University of Stirling

Levels of second-hand smoke in Scotland's prisons fell by more than 80

percent in the week after smoking was banned, according to new University of Stirling research.

The study—published in the British Medical Journal's *Tobacco Control*—is the first of its kind to examine second-hand tobacco smoke (SHS) concentrations across an entire prison estate where smoking is prohibited in all establishments.

Led by Stirling's Institute of Social Marketing (ISM), the study—involving the University of Glasgow and conducted in partnership with the Scottish Prison Service—confirms the positive impact of the smoke-free policy, introduced in November 2018, on the [air quality](#) within Scotland's 15 prisons.

Dr. Sean Semple, Associate Professor at the ISM, led the work—which is part of the broader Tobacco in Prisons Study (TIPS) - alongside Ruairaidh Dobson, Research Assistant.

Dr. Semple said: "We collected more than 110,000 minutes of second-hand smoke measurements from across the prison estate in the week that the [smoking ban](#) was introduced—and we compared these readings with measurements taken as part of the TIPS research in 2016.

"Our study shows improvements in the levels of second-hand smoke in every prison in Scotland, with an average fall of 81 percent. This is similar to the scale of change observed when pubs became smoke-free in 2006—and the concentrations of fine particles in prison air has now reduced to levels similar to those measured in outdoor air in Scotland.

"This research confirms that exposure to second-hand smoke has been drastically reduced and, ultimately, this will have a positive impact on the health of prison staff and prisoners."

A serious indoor air pollutant, SHS is linked to many illnesses, including cardiovascular disease, cancer, and chronic obstructive pulmonary disease.

Since 2006, smoking has been banned in most enclosed public spaces in Scotland, however, prisoners continued to be permitted to smoke in their cells, with the doors closed. This situation changed on November 30, 2018, when smoking was banned in all prisons in Scotland.



Professor Kate Hunt, Acting Director of ISM and Principal Investigator of TIPS.
Credit: University of Stirling

Despite the change in policy, experts were unsure if smoking would immediately cease as it was believed that prisoners could have stockpiled tobacco ahead of the ban. Therefore, the TIPS team was keen to measure the impact of the new policy immediately after its introduction.

The team have been using air quality monitors to measure fine particulate matter, which is widely used as a proxy measurement for SHS, in each prison since 2016 and did so again during the week when the ban came into force—allowing observation of the periods immediately before and after the introduction of the ban.

The results showed that airborne levels of fine particles declined substantially in every prison between 2016 and December 3, 2018, the first full working day following the introduction of the ban. The overall median reduction in particle concentrations was 81 percent across all prisons.

Professor Kate Hunt, Acting Director of ISM and Principal Investigator of TIPS, said: "This study is the first evaluation of changes in SHS concentrations across all prisons within a country that has introduced nationwide prohibition of [smoking](#) in prisons.

"It demonstrates widespread improvements in prison air quality as a result of the smoke-free policy with all 15 prisons reporting substantial and statistically significant reductions in [fine particulate matter](#) concentrations in the week when the smoke-free policy was implemented, compared to previous directly comparable measurements made in 2016.

"The exposure of prison staff and prisoners to SHS is likely to be considerably reduced as a result of implementation of this policy."

An SPS spokesman said "All Scottish prisons went Smoke Free on

November 30, 2018 and there have been no significant incidents as a result. This amazing achievement is a testament to the contribution made by all of our staff, especially those on the front line, and the cooperation of those in our care. Having data from the TIPs research helped in our planning and collaboration with the NHS, and has been key to ensuring people in our care were prepared for going smoke free and were offered help to quit in advance, similar to the support people in the community can access through their local pharmacy or GP."

Debbie Sigerson, Organisational Lead for Tobacco in NHS Health Scotland said: "Smoking rates in prisons were much higher than they are outside. It was anticipated that creating a smoke free environment in [prison](#) would contribute to addressing this health inequality, and that the health of people who live and work there would be improved.

"We are delighted that the results from this study, early on in the implementation of smoke free prisons, shows that one factor that impacts on that harm—exposure to second hand smoke—has significantly reduced. Everyone has a right to live in a smoke free Scotland and today's results show that we are one step further along the way to getting there."

More information: The impact of implementation of a national smoke-free prisons policy on indoor air quality: results from the Tobacco in Prisons Study, *Tobacco Control* (2019). [DOI: 10.1136/tobaccocontrol-2018-054895](https://doi.org/10.1136/tobaccocontrol-2018-054895)

Provided by University of Stirling

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