



# A Case Study on the Impact of a Clean Air Action Plan on Paediatric Asthma Hospitalisation Rates in Casablanca's Industrial Zone, 2016

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## Abstract

Industrial zones in major cities are significant sources of air pollution, a known trigger for paediatric asthma exacerbations. Casablanca's industrial zone has historically reported elevated levels of particulate matter and other pollutants. This case study aimed to determine the impact of a targeted clean air action plan on hospitalisation rates for childhood asthma within Casablanca's industrial zone. The primary objective was to analyse trends in paediatric asthma admissions before and after the plan's implementation. A retrospective case study design was employed. It analysed anonymised paediatric hospital admission records from the zone's primary healthcare facility. Data from a period prior to the action plan were compared with data from a period after its full implementation. The intervention comprised measures including stricter industrial emissions monitoring and the promotion of cleaner fuels. Following implementation, a marked reduction in paediatric asthma hospitalisations was observed. Analysis indicated a decrease of approximately 22% in the average monthly admission rate for asthma-related emergencies among children in the study area. The findings suggest that a targeted, multi-faceted clean air action plan in an industrial urban setting can be associated with a significant reduction in severe paediatric asthma outcomes requiring hospitalisation. It is recommended that such action plans be sustained and their regulatory components rigorously enforced. Further studies should investigate the long-term health benefits and cost-effectiveness of the interventions. Similar approaches should be considered for other industrial urban areas in the region. air pollution, paediatric asthma, public health intervention, industrial emissions, hospital admissions, Morocco This case study provides empirical evidence from a North African context on the potential public health benefits of localised air quality interventions for child respiratory health.

**Keywords:** *Paediatric asthma, Air pollution, Environmental policy evaluation, Hospitalisation rates, North Africa, Case study, Industrial emissions*

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