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# Evaluation of Microfibre, No Touch Cleaning and Electrostatic Disinfection System in Schools

The impact on Absenteeism at  
Southview Public School  
Limestone District School Board



**Purpose**



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## Purpose

The proposed study will measure the results in utilizing Microfibre, No Touch cleaning procedures and Electrostatic disinfection procedures for effectiveness and time necessary for cleaning and disinfection activities in Southview public school for the Limestone District School Board. The attitudes and behaviors of custodial staff and supervisors regarding conventional cleaning and disinfection practices in comparison with conventional cleaning in combination with the Microfibre, No Touch cleaning and Electrostatic disinfection technology will be examined. The effect of cleaning and disinfection methods on student absenteeism rates will be measured.

**Background**



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## Background

Schools are home to many harmful pathogens. Common viral respiratory illnesses, such as coughs, colds, and influenza are responsible for the majority of absenteeism in K-12 schools. Effective cleaning and disinfection of schools can prevent the spread of these pathogens amongst school children as well as their families and society.



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## The Study

This proposed study will determine the effect of the introduction of Microfibre, No Touch Cleaning and Electrostatic Disinfection systems on the time needed to clean and disinfect classrooms. There is the need to generate cleaning time benchmarks for cleaning and disinfection which incorporates the Microfibre, No Touch Cleaning and Electrostatic Disinfection technology. Are cleaning and disinfection times, the result of the time allotted for the task or the time needed to clean to standards? Only cleaning audits can answer this.

The proposed study will assess whether classrooms are cleaned and disinfected to standards when Microfibre, No Touch Cleaning and Electrostatic Disinfection procedures are added to the cleaning regime. Does the addition of these cleaning procedures influence the effectiveness and time necessary for cleaning and disinfection tasks? Do cleaners clean as effectively as before the introduction of Microfibre, No Touch Cleaning and Electrostatic Disinfection procedures?

# Methods



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## On-site Assessment of Room Cleaning Efficacy

The cleaning of classrooms will be audited to determine if cleaning was up to standards and whether the use of the Microfibre, No Touch Cleaning and Electrostatic Disinfection systems result in differences in cleaning behavior. In addition, cleaning effectiveness will be audited with glow gel. The gel marks will be placed in the same 5 key locations in classrooms prior to cleaning.

In order to determine the disinfection effectiveness of the Microfibre, No Touch Cleaning and Electrostatic Disinfection systems there will be testing for determining the total amount of micro-organisms (general hygienic state) pre and post cleaning and disinfection for 3 key classroom locations in school in the study. There will be a total of 40 pretests and 40 post cleaning and disinfection tests.



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## Student Absentee Rates

Absentee rates will be collected from school administrators for the school for 2017-18 school calendar year and compared to the absentee rates for 2018-19 where the Microfibre, No Touch Cleaning and Electrostatic Disinfection have been implemented.

# Results



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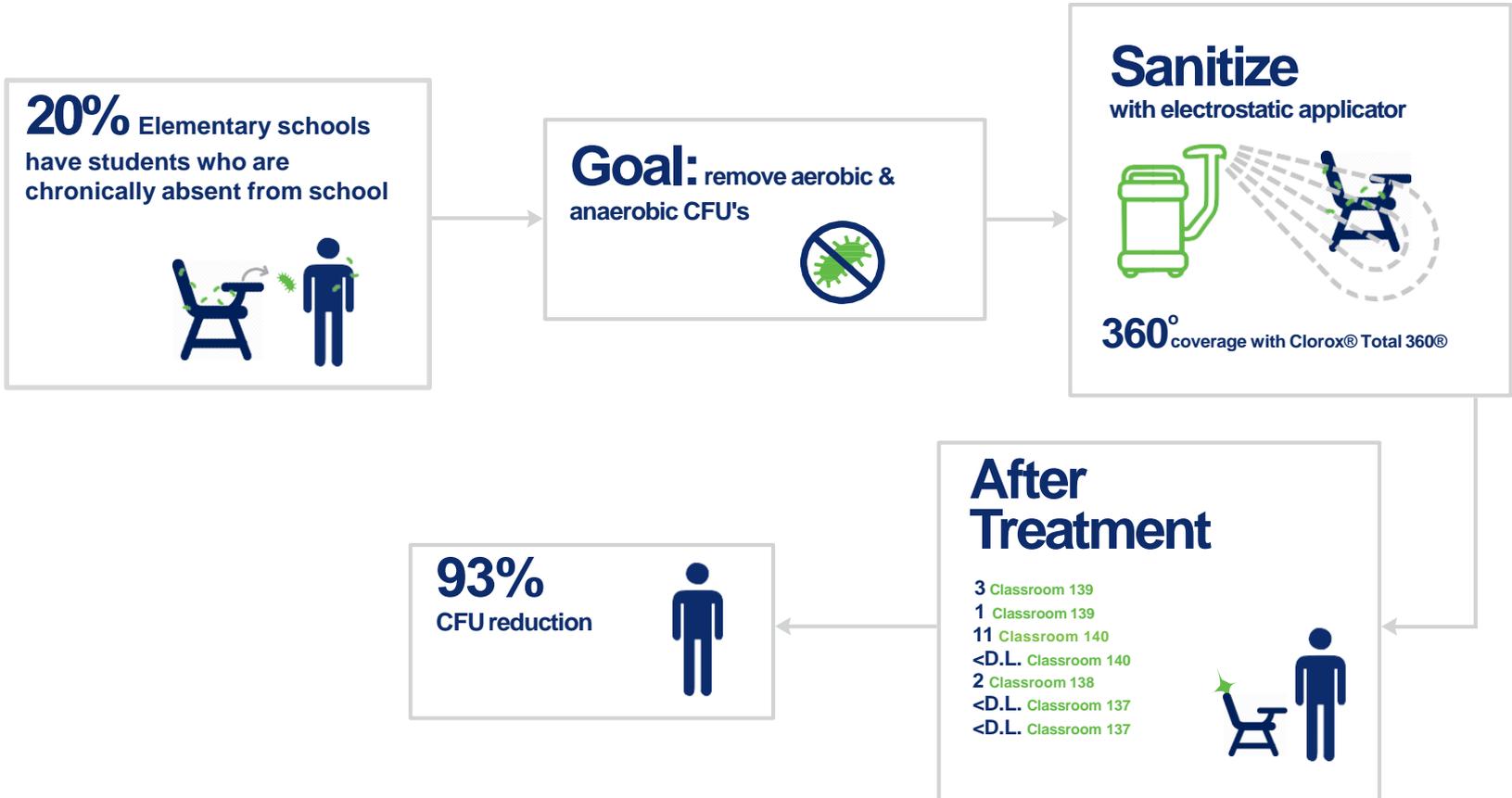
## Results

We will report on cleaning effectiveness and disinfection effectiveness for conventional cleaning in combination with the Microfibre, No Touch Cleaning and Electrostatic Disinfection systems.

The attitudes and behaviors of custodial staff and supervisors regarding conventional cleaning in combination with the Microfibre, No Touch Cleaning and Electrostatic Disinfection systems will be examined.

Comparisons of absentee rates for schools using conventional cleaning and disinfection practices in comparison with conventional cleaning in combination with the Microfibre, No Touch Cleaning and Electrostatic Disinfection systems will be reported.

# Reduce school-associated infections with electrostatic disinfecting.





# Results

## INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by The Clorox Company of Canada Ltd. (Client) to conduct bacteria swab sampling within the Southview Public School located at 18 Golf Course Lane, Napanee, Ontario. The sampling was undertaken to determine the aerobic and anaerobic bacteria counts in multiple rooms throughout the building before and after treatment with Clorox T360 solution. The sampling was performed by Nathan Cartmell of Pinchin on January 30, 2019.

## METHODOLGY

Pinchin collected bacteria swab samples from surfaces before and after with Clorox T360, as directed by the Client's product distributor on site. Two field blanks were collected for quality control purposes. The bacteria analysis was performed at the Pinchin Environmental Microbiology Laboratory, located in Mississauga, ON. The laboratory is independently accredited to ISO/IEC 17025:2005 for mould analysis by the American Industrial Hygiene Association Laboratory Accreditation Program LLC (AIHA LAP LLC) (Lab ID 158835),<sup>1</sup> and the Quebec government (Lab ID 495)<sup>2</sup>.

## RESULTS

Table I – Aerobic Sample Results

Sample # - Location	Before Treatment (CFU/swab)	After Treatment (CFU/swab)
BS1, BS9 – CLR139	70	<D.L.
BS2, BS10 – CLR139	50	10
BS3, BS11 – CLR140	160	40
BS4, BS12 – CLR140	<D.L.	<D.L.
BS5, BS13 – CLR138	390	<D.L.
BS6, BS14 – CLR137	10	<D.L.
BS7, BS15 – CLR137	20	<D.L.
BS8, BS16 – Blank	ND	ND

Table II – Anaerobic Sample Results

Sample # - Location	Before Treatment (CFU/swab)	After Treatment (CFU/swab)
BS1, BS9 – CLR139	26	3
BS2, BS10 – CLR139	27	1
BS3, BS11 – CLR140	120	11
BS4, BS12 – CLR140	18	<D.L.
BS5, BS13 – CLR138	19	2
BS6, BS14 – CLR137	19	<D.L.
BS7, BS15 – CLR137	20	<D.L.
BS8, BS16 – Blank	ND	ND

## CONCLUSIONS

The majority of bacteria swab sample results for aerobic and anaerobic bacteria analysis identified lower colony forming units per swab (CFU/swab) after the treatment with Clorox T360, with the exception of the bathing handle in the second floor bathing room.

# Custodial Behavior



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## **Custodial Behaviour / Comments**

CPI Microfibre

“ the microfibre cloths and dusters are trapping the dirt and removing it from area”

Kaivac Autovac

“ it actually removes the dirt instead of spreading it around with the mop “

Clorox T360 Electrostatic

“ I can disinfect my classrooms in a quarter of the time it use to take me “

**The End Result Is A More Consistent  
Outcome And A Cleaner School**

# Student Absenteeism



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## **Student Absenteeism Results**

**Southview Public School**

**2017-18 Enrolment -560 Students**

**2017-18 Days Absent – 3426.5**

**2018-19 Enrolment – 528 Students**

**2018-19 Days Absent – 2913**

**513.5 Less Days Absent**

**Represents a 15% Reduction in Absenteeism**



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## **For More Information**

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