Limiting the spread of community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) through community-based educational programs:

the Northern Antibiotic Resistance Partnership (NARP).

Limiter la propagation du *Staphylococcus aureus* résistant à la méthicilline (SARM) acquis dans la collectivité au moyen de programmes éducatifs communautaires :

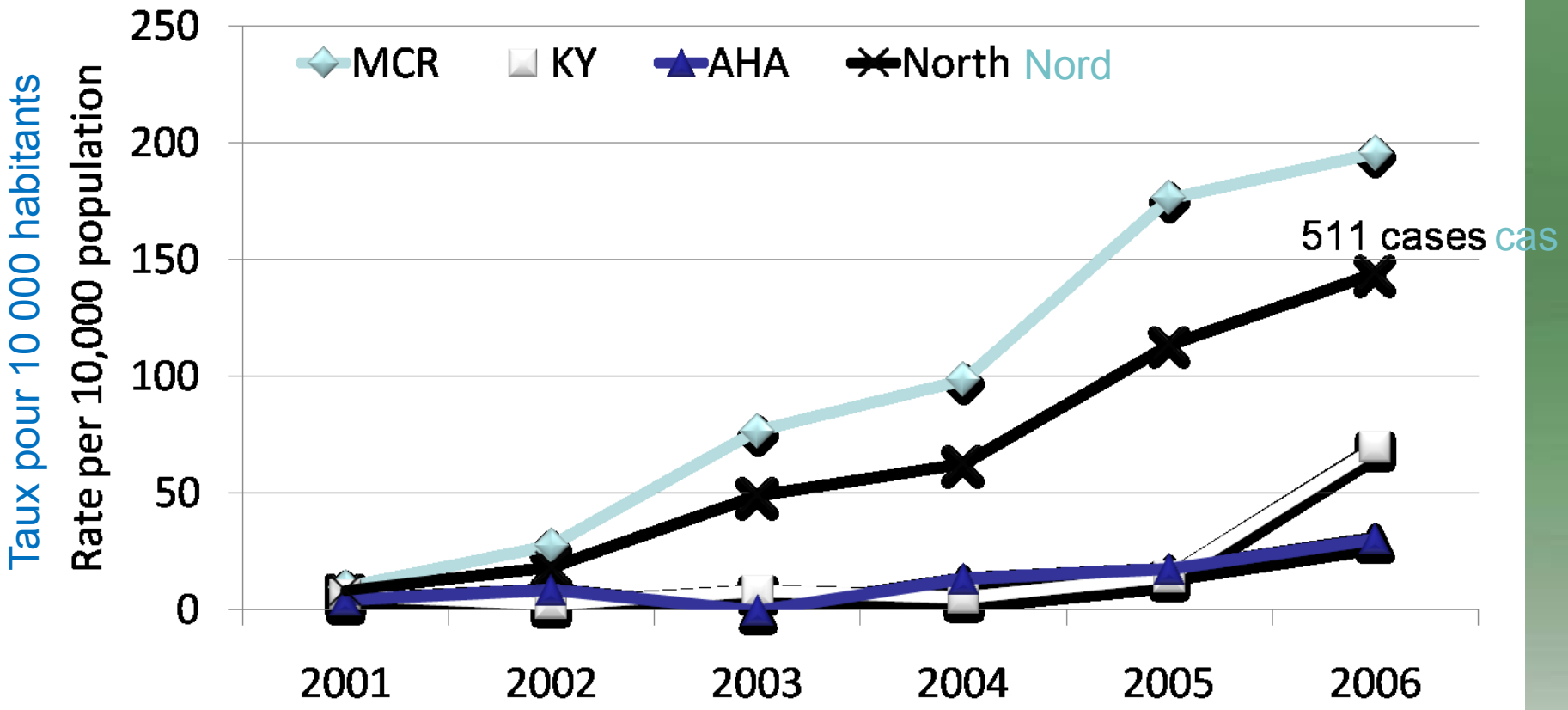
le Northern Antibiotic Resistance Partnership

Community-Associated MRSA
SARM acquis dans la collectivité

- MRSA infections in people without risk factors for hospital-acquired infections
- Predominantly Skin & soft tissue infections
- Associated with increased morbidity and mortality
- Genetic differences: different strains, PVL toxin, SCC*mec*IV and V
- Generally susceptible to other classes of antibiotics

- Infections à SARM chez les personnes sans facteur de risque pour les infections hospitalières
- Principalement des infections de la peau et des tissus mous
- Associé à des taux accrus de morbidité et de mortalité
- Différences génétiques : différentes souches, leucocidine de Panton-Valentine (PVL), cassette chromosomique mec du staphylocoque (SCC*mec*) IV et V
- Généralement sensible à d'autres classes d'antibiotiques

CA-MRSA Rates Northern Saskatchewan



Source: PHU & NITHA 2001-2006, **Prepared** by PHU Jan 2008

Source : Bureaux de santé publique et Northern Inter-Tribal Health Authority (2001-2006). **Préparé** par les bureaux de santé publique, janvier 2008.

Irvine, AMMI-CACMID F5
Mulvey et al. 2005 EID 11:844-50

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Welcome to the Northern Antibiotic Resistance Partnership (NARP) web site.

The emergence of antimicrobial resistant organisms in our hospitals and communities is of major concern since they limit treatment options for infections involving common bacterial pathogens. Very little attention has been directed at this problem in northern communities as compared to hospital-acquired or common community-acquired pathogens in large urban communities in southern Canada. The factors influencing the emergence and spread of antibiotic resistance may be different in the north as compared to factors identified in studies involving large urban centers where cultural, medical, and educational systems are completely different.

NARP is comprised of a team of community members, healthcare professionals, educators and research scientists working in partnership to study antimicrobial resistant bacteria causing infections in northern communities.

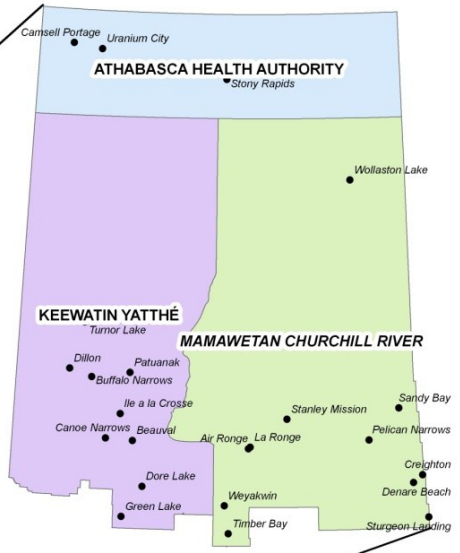
We have developed a three-pronged approach to understand and combat this issue:

Establishment of sentinel surveillance sites to monitor bacterial infections and antibiotic use.

Development of a case control study to identify risk factors for acquisition of community-associated methicillin-resistant Staphylococcus aureus.

Address the emerging antimicrobial resistance issues through educational activities aimed at both health care providers and the general community.

Isolates collected Oct 2005 - March 2008 within 3 select northern communities of the Keewatin Yatthé Health Region and the Mamawetan Churchill River Health Region.



Isolats recueillis d'octobre 2005 à mars 2008 dans trois collectivités du Nord sélectionnées de la Keewatin Yatthé Health Region et de la Mamawetan Churchill River Health Region.

Active Surveillance and Case Control Summary
Sommaire de la surveillance active et des études cas-témoins

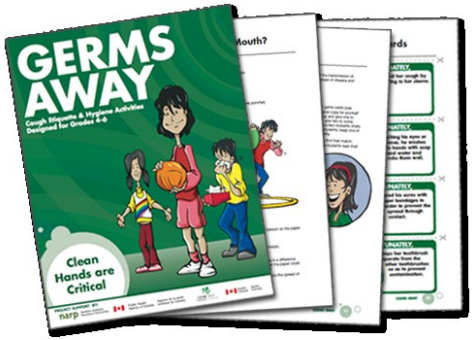
- Rates of CA-MRSA were extremely high for all 3 communities studied (146-482 infections per 10,000 population).
- CMRSA7 (USA400) predominant MRSA clone.
- Infections predominantly observed in children.
- Overall, high rates of antimicrobial therapy, overcrowding, and poor hygiene likely contributing to high rates of CA-MRSA infections in these regions.
- Standard hygienic and treatment guidelines should be beneficial in controlling CA-MRSA.

- Les taux de SARM acquis dans la collectivité étaient extrêmement élevés pour les trois collectivités étudiées (de 146 à 482 infections pour 10 000 habitants).
- Le clone de SARM prédominant est la souche CMRSA7 (USA400).
- Les infections sont principalement observées chez les enfants.
- Dans l'ensemble, les taux élevés de traitement antimicrobien, le surpeuplement et la mauvaise hygiène ont probablement contribué aux taux élevés d'infections à SARM acquises dans la collectivité dans ces régions.
- Des lignes directrices standard sur l'hygiène et le traitement devraient permettre de contrôler les infections à SARM acquises dans la collectivité.

Golding et al. 2011 EID 17:722-5
Golding et al. 2010 Epidemiol Infect 138:730-7

Active Surveillance Goals
Objectifs de la surveillance active

- Determine antimicrobial use and prevalence of resistant organisms in remote Northern communities.
- Déterminer l'utilisation d'antimicrobiens et la prévalence des organismes résistants dans les collectivités éloignées du Nord.
- Information generated to be used in the development of educational programs.
- Les renseignements générés seront utilisés pour élaborer des programmes éducatifs.



- Continued surveillance to determine possible effectiveness of the educational programs.
- Surveillance continue pour déterminer l'efficacité possible des programmes éducatifs.

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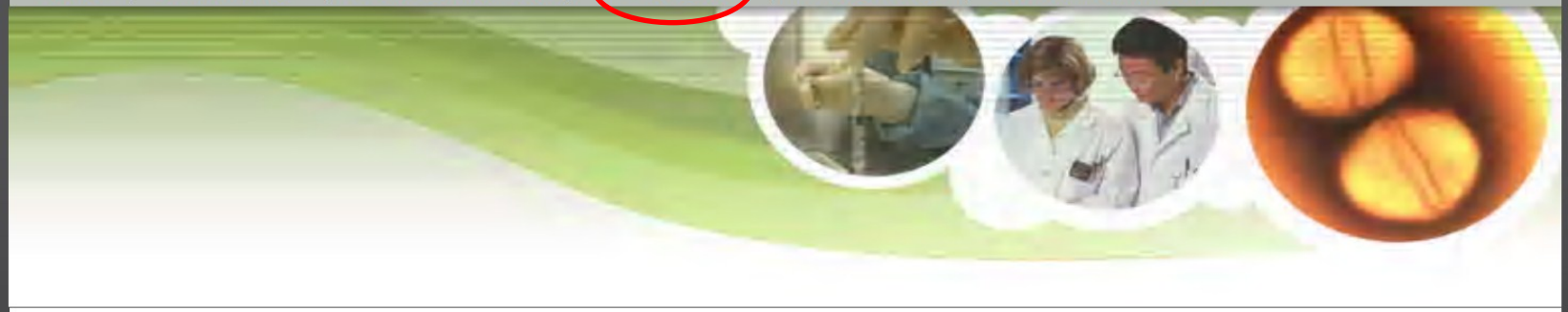

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Education for Patient and Healthcare Providers
Éducation des patients et des fournisseurs de soins de santé

- Prevalence and local antimicrobial susceptibilities provided through surveillance.
- Données sur la prévalence et la sensibilité locale aux antimicrobiens recueillies à l'aide de la surveillance

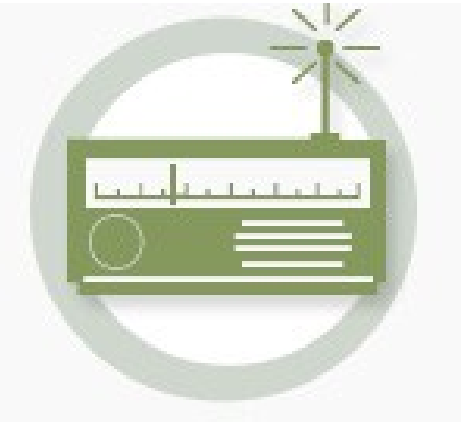
Guidelines for the Management of Suspected Community-Acquired Methicillin-Resistant Staphylococcus aureus (CA-MRSA) Skin and Soft Tissue Infections (SSTIs).

Lignes directrices pour la prise en charge de cas soupçonnés du *Staphylococcus aureus* résistant à la méthicilline (SARM) acquis dans la collectivité à partir d'infections de la peau et de tissus mous.

A pamphlet describing MRSA has been developed and circulated in physician offices and community health centres in the regions under study.

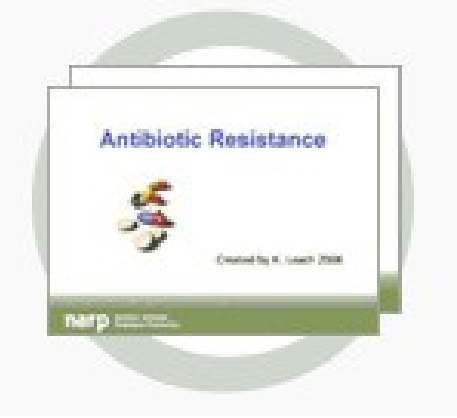
Une brochure décrivant le SARM a été conçue, puis distribuée dans les cabinets de médecins et les centres de santé communautaires dans les régions à l'étude

Community-Based Education
Éducation des collectivités



Radio broadcasts have been developed in English, Cree, and Dene aimed at educating the general public on:
1. Skin and soft tissue infections.
2. Hand Washing.
3. Completing the entire course of antibiotics.

Des émissions de radio ont été créées en anglais, en cri et en déné afin de sensibiliser le grand public à ce qui suit :
1. Les infections de la peau et des tissus mous
2. Le lavage des mains
3. La prise d'antibiotiques jusqu'à la fin du traitement



Community presentation slide decks and podcasts describing the educational goals, antibiotic resistance, and community-associated MRSA.

Des diaporamas de présentations communautaires et des balados décrivant les objectifs de sensibilisation, la résistance aux antibiotiques et le SARM acquis dans la collectivité.

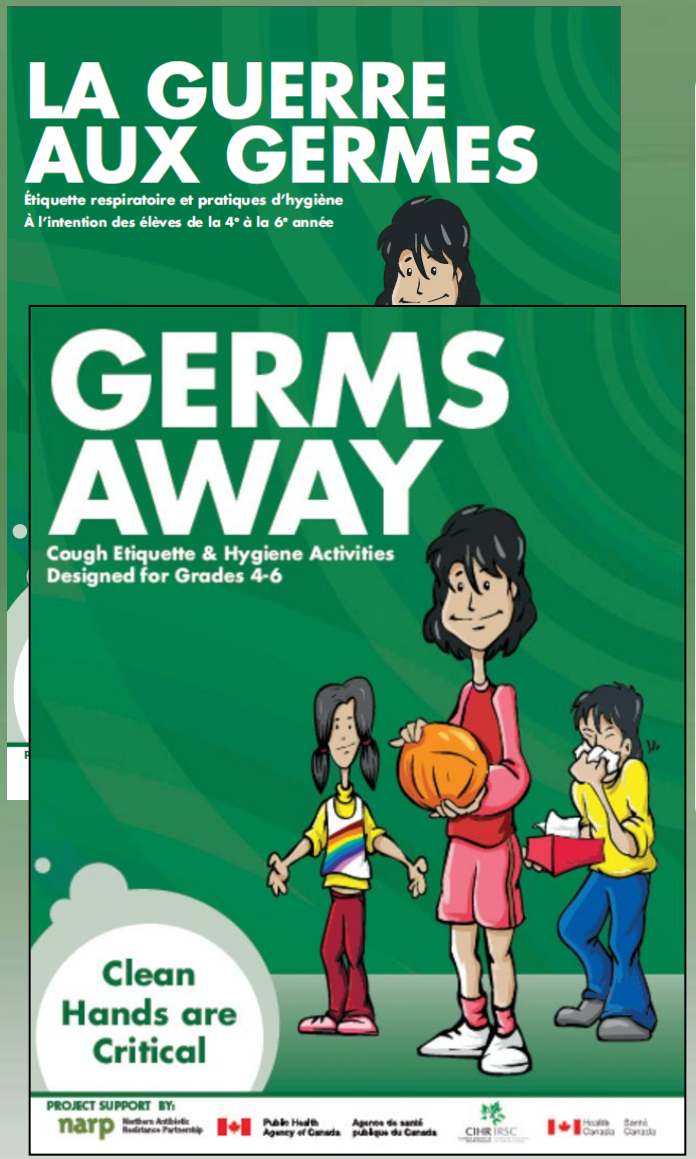
Community Questionnaires
Questionnaires communautaires

- Pre- (n = 94) and post-community (n = 87) surveys
- Improved responses in 19/20 questions.
- Eg. Significant improvements in responses for individuals who would request antibiotics from the doctor, or seek out another doctor, if they were not prescribed antibiotics for themselves or their children (p = 0.004–0.03) and the importance of not using left over antibiotics at home for new illnesses (p = <0.001).

- Relevés communautaires préalables (n = 94) et subséquents (n = 87)
- Meilleures réponses pour 19 questions sur 20.
- Par exemple, améliorations importantes dans les réponses pour les personnes qui demandaient des antibiotiques au médecin ou qui cherchaient un autre médecin si des antibiotiques n'étaient pas prescrits pour elles-mêmes ou pour leurs enfants (p = 0,004 – 0,03), ainsi que dans les réponses concernant l'importance de ne pas utiliser des antibiotiques restants à la maison pour une nouvelle maladie (p = < 0,001).

Golding et al. 2012 BMC Public Health 6:12-5

School Aged Education Éducation des enfants d'âge scolaire



- Germs Away was designed for Grade 4- 6 educators and students.
- Introduces basic concepts related to the spread of infectious diseases through contact.
- Piloted at 19 schools in N. Sask.

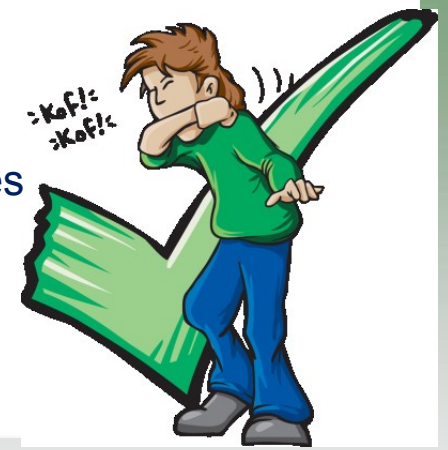
- « La Guerre aux germes » est un programme conçu pour les éducateurs et les élèves de la quatrième à la sixième année.
- Il présente des concepts de base liés à la propagation des maladies infectieuses par contact.
- Il a été mis à l'essai dans 19 écoles du nord de la Saskatchewan.

www.narp.ca

Germs Away Objectives
Objectifs de « La Guerre aux germes »

1. Students will be able to identify specific daily activities that spread germs
2. Students will know that epidemics occur by the spreading of germs from person to person
3. Students will be aware of the importance of proper hand washing for the prevention and spread of disease
4. Students will be aware of specific disease prevention techniques
5. Students will know possible transmission routes for germs.

1. Les élèves pourront indiquer des activités quotidiennes particulières propices à la propagation des germes
2. Les élèves sauront que les épidémies sont causées par la propagation des germes d'une personne à l'autre
3. Les élèves seront sensibilisés à l'importance de se laver les mains correctement pour prévenir la propagation des maladies
4. Les élèves connaîtront des méthodes particulières de prévention des maladies.
5. Les élèves connaîtront les modes de transmission possibles de germes.



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Education - Podcasts

Introduction

0:03 / 4:23

An introduction to the Germs Away curriculum

All Videos

- Introduction 04:23
- Activity #1 – Glowing Results 14:48
- Activity #2 – The Web of Infection 10:20

Download Podcasts

How to teach the Germs Away curriculum

- Germs Away - Introduction
- Activity #1 – Glowing Results
- Activity #2 – The Web of Infection
- Activity #3 – Germs Away
- Activity #4 – Battle of the Germs
- Activity #5 – Kayla's Day
- Activity #6 – Cover your Mouth?
- Activity #7 – House of Germs
- Germs Away - Conclusion

Antibiotic Resistance

- Antibiotic Resistance - Part 1
- Antibiotic Resistance - Part 2
- Antibiotic Resistance - Part 3
- Antibiotic Resistance - Part 4

Note: To download the videos, right-click and select save target as. The Quicktime video player is required to view these videos. Get the latest version of the player here.

www.narp.ca

Germs Away Flash Animation
Animations Flash « La Guerre aux germes »

www.germsaway.ca


GERMS AWAY
Play the Game!
Fun Stuff!
Teacher's Section!
Français
BE A GERM FIGHTER! PLAY
GERMS AWAY
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STEPHANIE: But you have to do it properly! So put the steps in the right order to show that you know how to wash those germs off your hands!

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GERMS AWAY

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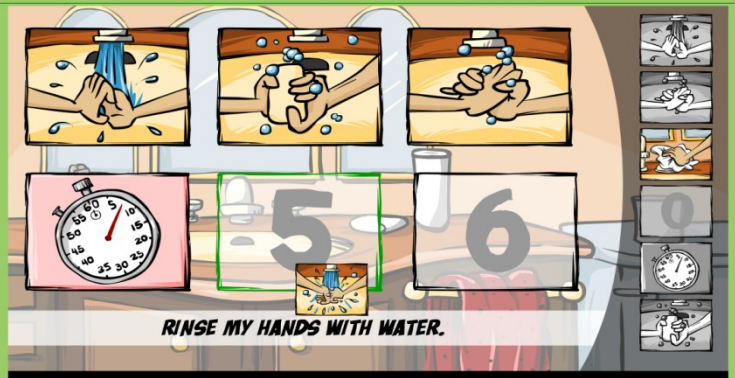

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GERMS AWAY

Play the Game! | Fun Stuff! | Teac

STEPHANIE:
See any germs spreading problems here, Jared?

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GERMS AWAY

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Done

Do Bugs Need Drugs
Des pilules contre *tous* les microbes?

A button pocket chart collected data from kindergarten to grade 3 school aged children both pre- (n = 821) and post-education (n = 685)

À l'aide d'un tableau à pochettes et à boutons, on a recueilli des données auprès d'enfants de la maternelle à la troisième année avant (n = 821) et après (n = 685) le programme éducatif.

Increased Knowledge on:

- Size of germs (p = <0.001)
- When and how to wash your hands (p = <0.001, p = 0.004)
- What kind of germs can be killed by antibiotics (p = 0.066)

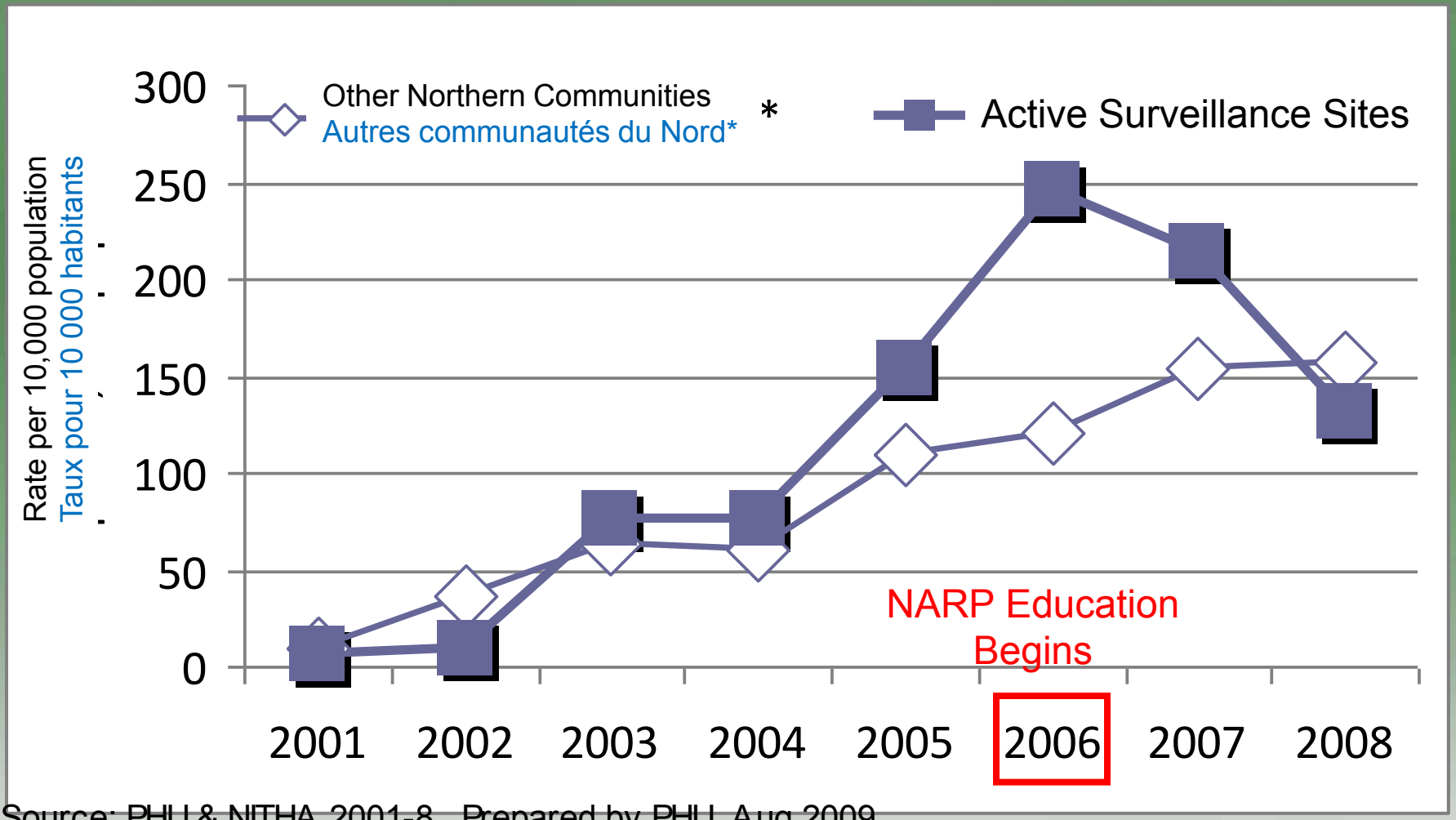
Connaissances accrues sur :

- La taille des germes (p = < 0,001)
- Le moment et la façon de se laver les mains (p = < 0,001, p = 0,004)
- Le type de germes qui peuvent être tués par une antibiothérapie (p = 0,066)

Golding et al.
2012 BMC Public Health 6:12-5

Using Surveillance to Monitor Possible Effectiveness of Germs Away: Rates of MRSA Infections

Surveillance de l'efficacité possible de « La Guerre aux germes » : Taux d'infections par le SARM



Source: PHU & NITHA 2001-8 . Prepared by PHU Aug 2009

Source : Bureaux de santé publique et Northern Inter-Tribal Health Authority (2001-2008).
Préparé par les bureaux de santé publique, août 2009.

Golding et al. 2012 BMC Public Health 6:12-5

Germs Away Roll Out

Lancement de « La Guerre aux germes »

- Additional Schools in northern Saskatchewan.
- Consultations with communities in NT, NU, NL, and ON dealing with CA-MRSA outbreaks.
- Rolled out in >150 schools in Nova Scotia.

- Écoles additionnelles dans le nord de la Saskatchewan
- Consultations avec les collectivités dans les Territoires du Nord-Ouest, au Nunavut, à Terre-Neuve-et-Labrador et en Ontario qui subissent des éclosions d'infections à SARM acquises dans la collectivité
- Programme déployé dans plus de 150 écoles en Nouvelle-Écosse

The Partnership Le partenariat

- Public Health Agency of Canada
- National Laboratory of Microbiology
- Saskatchewan Provincial Laboratory
- University of Manitoba
- University of Saskatchewan
- Population Health Unit, Northern Health Authorities
- Kelsey Trail Health Region
- Mamawetan Churchill River Health Region
- Keewatin Yatthé Health Region
- Northern Intertribal Health Authority
- Prince Albert Grand Council
- Red Earth First Nation
- Shoal Lake First Nation
- Cumberland House First Nation

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Christina Schwickra
Arlene Obarianyk
Toni Hansen
George Golding
Christine Siemens
Steve Silcox

And many more…

Et bien plus encore…