

Do Bugs Need Drugs? (DBND) Community Education Programs August 9, 2016

Outline

1. Program Organization
2. Website
3. Community Education Programs
4. Public Communications Strategies
5. Resources and Education for Healthcare Professionals

Appendix

- A. Summary of Print Resources, Teaching Kits and Costs
 - B. Program Organization in Alberta and British Columbia
 - C. Moving Forward – Hub and Spoke Model
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1. Program Organization

- Initial personnel requirements for establishing a DBND antimicrobial stewardship program in both Alberta and British Columbia were:
 - › Program coordinator (salaried)
 - › Volunteer advisory committee comprised of medical, pharmacy and nursing experts.
- Program organization in Alberta and in British Columbia has evolved over the years; current structures are detailed in the Appendix.

2. Website

URLs

- <http://www.dobugsneeddrugs.org>
- <http://www.francais.dobugsneeddrugs.org>



Sections

- Homepage
- Educational Resources
- Healthcare Professionals
- Other Internet Resources
- Kids
- About / Contact Us / Disclaimer / Privacy Policy

Background

- Serves as the repository for educational programs and information.
- Underpins all DBND activities.
- Website resources are freely available, with the stipulation that key messages/content may not be distorted and that the source of the information is acknowledged.
- Most material available in English and French

Current status

- Content is regularly reviewed; links are checked weekly.
- 89,000 sessions / 196,000 page views during the past 12 months.
- Most heavily used in Calgary, Edmonton, Paris (France) and Vancouver.

3. Community Education Programs

3.1 Grade Two Program

Background

- Originally developed and evaluated as part of a DBND pilot in Grande Prairie, AB in 1998-99.
- Objective is to teach 8-9 year olds about handwashing and germs and that not all infections need an antibiotic.
- Parents are indirectly targeted because children at this age still communicate at home about school activities.
- Nursing instructors and nursing students are also engaged as they are responsible for program delivery.

Resources

- Grade Two Program on-line in [English](#) and [French](#).
- Teaching kit with handbook, Buggy puppet, black light and fluorescent gel, coloring sheets, slides viewable from website on classroom Smart Boards (or overheads if technology is limited), book "Germs Make Me Sick".
- Signs and stickers for the children/school.

Program delivery

- Primarily through collaboration with nursing programs but also used by other healthcare faculties, e.g. pharmacy, medicine as well as a pharmacy chain in British Columbia.

- Involves a partnership between the instructors/faculty/pharmacy chain and local schools; may preexist or may need to be facilitated by the DBND coordinator.
- Orientation lecture (background, use of the teaching kit) for grade two program presenters provided by the DBND coordinator or another qualified person; DBND slide deck with speaking notes available.
- Teams of nursing/medical (or other) students or pharmacy personnel deliver the program in grade two classrooms.
- Print materials are provided for each classroom/child and for children to take home to parents.
- Model is successful because it satisfies the community practicum component of nursing/medical programs and addresses provincial health/science curriculum requirements for elementary school children.
- Teaching kits remain with faculty for use in subsequent years.

Costs

- Time/travel expenses of program coordinator.
- Teaching kits (may need up to 8-10 per nursing program, particularly in rural areas where distance precludes sharing).
- Print materials per class.
- Teaching kits need to be refurbished as needed (fluorescent lotion, black lights/batteries).
- Cost of shipping.

3.2 Early Childhood Education (ECE) Program

Background

- Program originally developed and evaluated through provincial grant funding in 2001-03; activities designed by early childhood educators.
- Objective is to improve hand hygiene in daycare facilities and to educate preschool age children and care givers about germs and antibiotics.
- Target audiences include preschool age children and their families, early childhood educators, family day home operators, childcare accreditation and/or licensing officers, environmental public health inspectors.

Resources

- Prop Box of 12 age appropriate activities for 2-5 year olds; includes program binder and props for those activities that the daycare is unlikely to have on hand, plus two books, "I Don't Want to Wash My Hands" and "Germs Are Not for Sharing".
- Program on DBND website in [English](#) and [French](#).

Program delivery

- Orientation session by the DBND coordinator or qualified designate for childcare agency managers/staff, or students enrolled in ECE programs, about the purpose of the Prop Box and a review of how to do each of the activities.
- Outline for the orientation session and tips for presenting are available from DBND.
- Options for program delivery include:

- › Collaboration with organizations having multiple childcare sites such as the YMCA, Kids & Company, other local/provincial daycare and family day home agencies
- › Partnerships with provincial government agencies that support childcare services
- › Partnerships with post-secondary institutions offering ECE programs
- › Presentations at ECE conferences.
- Prop boxes remain with the childcare centre/post-secondary ECE program and activities are conducted by childcare staff/students throughout the year.
- Each child is given a DBND Guide to Wise Use of Antibiotics to take home.
- Uptake of the program can be facilitated through:
 - › Presentations at licensing officer meetings/resource fairs
 - › Partnerships with provincial childcare accreditation departments
 - › Collaboration with provincial/local environmental public health departments
 - › Attendance at children's festivals/rural health fairs.

Costs

- Time/travel expenses of the program coordinator.
- Prop Box (one per site or shared among family day homes; may need up to 5-10 per ECE program, particularly in rural areas); intended to be re-used for subsequent teaching sessions.
- Print resources.
- Cost of shipping.

3.3 Out of School (OOS) Care Program

Background

- Developed during 2013-14 in response to community requests for programs for school age children attending OOS care programs in the summer.
- Partnered with the Public Health Agency of Canada (PHAC) to adapt a previously developed resource, Germs Away, for children in Grades 4-6 in northern Saskatchewan schools (Northern Antimicrobial Resistance Partnership, NARP).
- Objectives are to improve hand hygiene, knowledge about how germs spread, the differences between bacterial and viral infections and appropriate use of antibiotics among school age children and their caregivers.

Resources

- Keep Germs Away, a set of eight activities for children age six to twelve; available in [English](#) and [French](#) on-line.
- Comic Book - Adaptation of the PHAC comic book; available on-line (English only).
- Handwashing video for children in [English](#) and [French](#) available on the DBND website.
- Computer games available in [English](#) and [French](#).
- DBND app with four games available free from the Apple app store in [English](#) and [French](#).

Program delivery

- Orientation session about the program at childcare conferences for caregivers.

- Collaboration with organizations having multiple OOS childcare sites in the province; information sessions can be coupled with the orientation session for the DBND early childhood education program if the organization has childcare for both age groups.
- Passive uptake of the program through attendance at both urban and rural health resource fairs.

Costs

- Time/travel expenses of program coordinator.
- All materials for the program available at no cost on-line or as a free app.
- Additional resources including stickers, signs, booklets can be ordered on-line from DBND.
- Some resource fairs may require a registration fee.
- The comic book is not currently available in French which would be an additional cost if needed.

3.4 Kindergarten (K)-Grade 3 Program

Background

- Alberta version developed in 2009 at the request of Alberta Health prompted by H1N1 pandemic; program is aligned with the Alberta curriculum and delivered by teachers; does not require any special equipment or props.
- Program developed with input from teachers, administrators and provincial curriculum manager.
- British Columbia adapted the K-Grade 3 program to meet the requirements of the British Columbia curriculum.
- The objectives are to educate K-Grade 3 students about the key messages of DBND and to support K-Grade 3 teachers by providing educational resources about hand hygiene, germs and antibiotic resistance.

Content

- Lesson plans and activities specific for each grade (K-Grade 3) in Alberta and in British Columbia.
- [Alberta version, English](#); [Alberta version, French](#); [BC version, English](#); [BC version, French](#).
- Handwashing video in [English](#) and [French](#) available on the DBND website.

Program delivery

- Passive.
- Listed as an authorized resource on the Learning Alberta website; listed as an approved resource by the Educational Resource Acquisition Consortium in BC and by Healthy Schools BC; adapted versions could be promoted in a similar manner in other provinces.

Costs

- Given the different curriculum requirements of each province, this resource would require adaptation and translation.

3.5 Occupational Health / Workplace Education

Background

- Targets working Canadians.
- The objectives are to provide:

- › Education and resources about principles of antimicrobial stewardship including hand and surface hygiene, viral and bacterial infections and using antimicrobials appropriately.
- › Assistance with identifying and removing barriers to proper handwashing in the workplace.
- › Guidance about selection of soaps, cleaners and disinfectants for the workplace (and at home) that do not lead to antimicrobial resistance.

Resources

- Healthy Hands at Work - Employer Handbook and Worker Handbook, available in hardcopy and on DBND website.
- Implementation Toolbox and Five Minute Tips, available on the DBND website.
- “You Make Me Sick” video for workcamps on the DBND website and as a DVD.
- [Healthy Hands at Work](#) resources available on line in English only.
- Wallet cards for quick reference about common respiratory tract infections and ingredient reminders for selection of cleaning and disinfecting products on the reverse side.
- Fridge magnets with the DBND key messages.

Program delivery

- Materials are self-explanatory.
- In Alberta this program has been promoted through a partnership with the Alberta Occupational Health Nurses Association (AOHNA). Not all provinces are members of the Canadian Occupational Health Nurses Association (COHNA), but most have an association of occupational health nurses or safety officers that could be potential partners.
- Occupational health nurses use these materials at workplace learning sessions and/or to guide health promotion activities.
- Partnership with agencies delivering workplace influenza immunizations as this is a means of making workplace managers/human resources personnel aware of these resources.
- Promoted with municipal governments, forestry, transport companies (both provinces), mining (British Columbia) and oil and gas (Alberta).
- Partnerships with other major employers such as provincial governments, universities, banks and other companies with a large number of employees (e.g. home care).
- Childcare agencies/sites have been particularly interested in these resources.

Costs

- Time/travel expenses of the program coordinator.
- Healthy Hands at Work – Employer Handbook (20 pages).
- Healthy Hands at Work – Worker Handbook (12 pages).
- Wallet cards (price will vary with quantity ordered)
- Fridge magnets (price will vary with quantity ordered)
- Prices do not include the cost of shipping.
- Remaining resources can be downloaded at no cost from the DBND website.

3.6 Adult Tutorial

Background

- DBND has had a version of this presentation since 1999. Although it is not routinely used for presentations, it remains useful. For example, primary healthcare clinics have used the slides in their waiting room TV messages.
- Available on the DBND website.
- The objective is to provide basic information about the key messages of DBND for the general public.

Content

- 40 slide pdf file with/without notes.
- [English](#) and [French](#).

Program delivery

- Passive.

Costs

- None.

4. Public Communications Strategies

4.1 Public Service Announcements (PSAs) / Television Ads

Background

- DBND has run annual television ads in Alberta during flu season since 2000 and in British Columbia since 2006.
- Although television advertising is expensive, it is a primary means of reaching the majority of the population.
- The objective of the ads/PSAs is to remind the public about the importance of using antibiotics wisely.

Content

- [PSAs](#) are available in English only can be viewed on the DBND website.

Program delivery

- In British Columbia, six to seven weeks of paid air time on various networks in the province between January and March as well as PSA bonus spots on each station (dollar match or spot match). The [AntibioticWise.ca](#) (see Appendix C) website supports the Do Bugs Need Drugs television campaign initiatives in British Columbia, directing the public to relevant and specific information about antibiotic stewardship and resistance.
- In Alberta, six weeks of paid air time on Global television in Alberta in January and February as well as bonus airtime (has ranged from nearly 3 for 1 to 0.7 for 1) in late December early January.

Costs

- Would vary between provinces and depend on what is negotiated through local media buyer and length of time ads are aired; cost for ad development; same ad can run for more than one year.

4.2 Transit advertising

Background

- DBND has run annual transit ads in British Columbia during the fall since 2007.

Content

- Examples of past transit ads can be obtained from the DBND program in British Columbia.

Program delivery

- Public transit advertising runs each summer/fall for approximately eight weeks in Kelowna, Victoria, Kamloops, Prince George and the Vancouver Lower Mainland.
- The AntibioticWise.ca website supports the Do Bugs Need Drugs transit campaign initiatives in British Columbia, directing the public to relevant and specific information about antibiotic stewardship and resistance.

Costs

- Would vary between provinces and depend on what is negotiated through local transit advertiser.

4.3 Digital Display Ad Campaign in British Columbia

Background

- A digital display campaign drives awareness and educates the public with the target to increase traffic to antibioticwise.ca as well as further amplify the television campaign initiative.

Program delivery

- A digital display campaign runs between February and April and included behavioural audience targeting and site retargeting, directing users to the antibioticwise.ca website to learn more.
- The AntibioticWise.ca website supports the digital display campaign initiatives in British Columbia, directing the public to relevant and specific information about antibiotic stewardship and resistance.

Costs

- Would vary between provinces and depend on coverage and length of campaign.

4.4 Facebook Marketplace Audience Targeting Campaign in British Columbia

Background

- A Facebook marketplace audience targeting campaign drives awareness and users to the website.

Program delivery

- Two Facebook marketplace advertisements run between February and April to reach our target demographic of women 25-54 and mothers with children 1 to 17 years of age, directing them to the antibioticwise.ca website to learn more.
- The AntibioticWise.ca website supports the Facebook marketplace audience targeting campaign initiatives in British Columbia, directing the public to relevant and specific information about antibiotic stewardship and resistance.

Costs

- Would vary between provinces and depend on coverage and length of campaign.

4.5 Google Ad Words Campaign in British Columbia

Background

- Search engine marketing is used to push awareness and drive clicks to the website.

Program delivery

- Search engine marketing is used between February and April to build awareness and drive clicks to www.antibioticwise.ca, which supports the media campaign initiatives in British Columbia.

Costs

- Would vary between provinces and depend on coverage and length of campaign.

4.6 Social Media - Twitter and Facebook

Background

- DBND launched a presence in social media to connect with online audiences and increase awareness of the program, its initiatives and materials.
- Social media provides DBND with the opportunity to not only educate the public but to enlist the audience in spreading the message.

Program delivery

- A Twitter handle ([@DoBugsNeedDrugs](https://twitter.com/DoBugsNeedDrugs)) was launched in August 2014 by the program in British Columbia, and is accessible to anyone in the world.
- A [DoBugsNeedDrugs Facebook](https://www.facebook.com/DoBugsNeedDrugs) page was launched in September 2015 by the program in British Columbia, and is accessible to anyone in the world.
- A Twitter handle ([@antibioticwise](https://twitter.com/antibioticwise)) was launched in August 2016 by the program in British Columbia to support the provincial transit ad campaign and other upcoming provincial public media campaign initiatives, and is accessible to anyone in the world.

Costs

Currently covered by DBND program in BC as social media coverage is global.

5. Resources and Education for Healthcare Professionals

5.1 Bugs & Drugs

Ownership

- Although not directly associated with Do Bugs Need Drugs, Bugs & Drugs is authored by two of the founders of DBND.
- The Bugs & Drugs antimicrobial prescribing resource is available as an app for Apple or android mobile devices.
- Content is developed, maintained and owned by AHS Pharmacy Services; organizations interested in this resource should contact bugsanddrugs@albertahealthservices.ca.
- British Columbia is negotiating access to an online version of Bugs & Drugs for their province.

Content

- Antibiotics; treatment recommendations for children and adults; prophylactic recommendations; dental; pregnancy/lactation.
- Information is regularly reviewed and updated.

Cost

- Online access could be negotiated with AHS Pharmacy Services. Purchasing details for iPhone and android devices can be found at <http://www.bugsanddrugs.ca/>.

5.2 Best Practice Guidelines

- Antimicrobial stewardship programs require credible best practice information as a basis for engaging physicians and effecting best practice.
- Sources of best practice information include:
 - › Canadian Paediatric Society (English and French)
 - › Choosing Wisely Canada (English and French)
 - › Infectious Diseases Society of America
 - › Towards Optimized Practice (from the Alberta Medical Association; Clinical Practice Guidelines for infectious diseases are currently being updated)
 - › Provincial healthcare professional organizations.

5.3 Continuing Education for Physicians

Background

- Several Mainpro-C and Mainpro-M programs have been developed and delivered by DBND over the years, particularly when the program was first started.

Content

- UTI in Primary and Long Term Care (LTC) is the topic being addressed currently in BC. See: <http://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/pad-service/utis-in-primary-and-long-term-care>

- Accredited for up to 1.0 Mainpro-M1 credit.

Program Delivery

- Provided through a collaboration with the Provincial Academic Detailing (PAD) pharmacists in British Columbia.

Cost

- PAD is funded by the British Columbia Ministry of Health; service is available free-of-charge to physicians and other health care professionals.

5.4 Continuing Education for Dentists

Background

- Prior to 2016, dentists were not previously included in antimicrobial stewardship initiatives.
- Dentists, particularly dental surgeons, prescribe approximately 10% of all antibiotics in the community.

Content

- DBND in British Columbia has partnered with the BC Dental Association to provide a webinar on antimicrobial stewardship in dental practice; contact DBND in BC for information/access.
- DBND in British Columbia has collaborated with the University of British Columbia to include information about antibiotic stewardship in their curriculum.
- A peer-reviewed publication, Antibiotic prescribing by dentists has increased: Why?" appeared in *The Journal of the American Dental Association* in February 2016. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26857041>.

Cost

- In kind

5.5 Continuing Education for Nurses

Resources

- See 5.3 Continuing Education for Physicians; this service is also available for nurses in LTC in British Columbia.
- Article from the American Nursing Journal about antimicrobial stewardship posted on the DBND website (<http://www.dobugsneeddrugs.org/health-care-professionals/nursing-resources/>).
- Three articles about antimicrobial stewardship from the College of Licensed Practical Nurses of Alberta (CLPNA) magazine are posted on the DBND website (<http://www.dobugsneeddrugs.org/health-care-professionals/nursing-resources/>).

6. Program Evaluation in British Columbia

Evaluation of the DBND program in British Columbia includes Program Process Evaluation and Program Outcome Evaluation components. Program Process Evaluation is comprised of data collected around media campaigns, health care professional and public education programs, public teaching programs, print material distribution as well as indicators from social media outlets. Program Outcome Evaluation includes surveillance of trends in antimicrobial utilization and resistance in BC. The DBND program has begun exploring interactive methods of presenting these data for healthcare professionals and the public.

Evaluation reports may be found on the British Columbia Centre for Disease Control (BCCDC) website: <http://www.bccdc.ca/health-professionals/data-reports/do-bugs-need-drugs-evaluation-reports>.

Appendix

A. Summary of Print Resources, Teaching Kits and Costs

Print item	Description	Unit cost
Guide to Wise Use of Antibiotics	<ul style="list-style-type: none"> • 20 page booklet • Key messages and self-care for common RTIs • English only 	\$0.24
Translations	<ul style="list-style-type: none"> • Earlier version of the "Guide" entitled "Parent Guide to Wise Use of Antibiotics" • Available in Arabic, simplified Chinese, traditional Chinese, French, Korean, Persian, Punjabi, Somali, Spanish and Vietnamese and on-line only in Italian, Japanese and Thai. 	\$0.48
6-Step How To Wash Your Hands	<ul style="list-style-type: none"> • Letter size sign for older children and adults • English and French 	\$0.20
5-Step How To Wash Your Hands	<ul style="list-style-type: none"> • Letter size sign for younger children • English only • Does not include the step of using the towel to turn off the tap as this is difficult for younger children. 	\$0.20
Soaping Up	<ul style="list-style-type: none"> • Letter size sign • Illustrates the parts of the hands to rub when soap is on the hands • English only 	\$0.20
Bugsy Says Wash Your Hands	<ul style="list-style-type: none"> • Letter size reminder sign for schools and childcare centres • English and French 	\$0.20
Round Bugsy sticker	<ul style="list-style-type: none"> • 2" round sticker for children • English only 	\$0.04
Activity placemat	<ul style="list-style-type: none"> • Placemat size activity sheet for children • Word search, crossword and coloring outline of Bugsy • English only 	\$0.13
Tell Germs to Bug Off	<ul style="list-style-type: none"> • Handwashing reminder sticker for schools and childcare centres • Has protective coating so is not damaged by cleaners • Removable so doesn't take paint off walls, acceptable by custodial staff • English only 	\$0.58
Wash Your Hands and Lavez vos mains	<ul style="list-style-type: none"> • Handwashing reminder sticker for adult washrooms • Suitable for schools, childcare centres, workplaces • Has protective coating so is not damaged by cleaners • English and French 	\$0.24
Healthy Hands at Work: Employer Handbook Worker Handbook	<ul style="list-style-type: none"> • 20 and 12 page booklets, respectively • Employer Handbook has additional information about occupational health and safety, barriers to handwashing, practical solutions to handwashing problems. • Suitable for workplaces of all sizes, schools, childcare centres • English only 	\$0.30 (Employer) \$0.20 (Worker)

Teaching Kits	Description	Unit cost
Grade Two teaching kit	<ul style="list-style-type: none"> • Contents include the Buggy puppet, black light and fluorescent gel, coloring sheets, slides viewable from website on classroom Smart Boards or overheads if technology is limited, book “Germs Make Me Sick”. • Kit is available in English and French. • Designed for and used primarily by nursing students as part of their community teaching requirements. 	\$250.00
Daycare Prop Box	<ul style="list-style-type: none"> • 12 age appropriate activities for 2-5 year olds. Includes program binder and props for completion of the activities that the daycare is unlikely to have on hand, plus two Books, “I Don’t Want to Wash My Hands” and “Germs Are Not for Sharing”. • Available in English and French 	\$110.00

B. Current Organizational Structure in Alberta and British Columbia

Alberta model

- In Alberta DBND is part of AHS Population Public and Aboriginal Health, Communicable Disease Control.
- Staff include:
 - › Program lead
 - › Community liaison
 - › Project coordinator
- DBND activities are guided by a volunteer Expert Committee. Members include:
 - › Antimicrobial utilization and infectious diseases specialist pharmacist
 - › Faculty member from the University of Alberta Faculty of Pharmacy
 - › Continuing care pharmacy manager
 - › Occupational health nurse and adult education specialist
- Medical expertise is provided on a voluntary basis by:
 - › Pediatric infectious diseases physician
 - › Medical microbiologist
 - › Infectious diseases physician
 - › DBND Medical Director - Medical microbiologist and infectious diseases physician (joint with DBND in British Columbia)

British Columbia model

- In British Columbia, DBND operates out of the British Columbia Centre for Disease Control (BCCDC), an agency of the Provincial Health Services Authority.
- Staff include:
 - › Medical Epidemiology Lead for Antimicrobial Resistance (part-time paid)
 - › Program Coordinator (fulltime paid)
 - › Epidemiologist/Evaluation Coordinator (fulltime paid)
 - › Administrative Assistant (fulltime paid)
 - › Social Media Coordinator (part-time paid)

- › DBND Medical Director – Medical Microbiologist and Infectious Disease Physician (joint with DBND in Alberta) (in kind)
- › Operations Manager (in kind)
- DBND activities are guided by a Stakeholder Advisory Committee with membership from:
 - › BC Centre for Disease Control
 - › BC Ministry of Health
 - › Physicians
 - › Pharmacists
 - › Nurses/Nurse Practitioners
 - › Dentists
 - › Midwives
 - › Microbiologists
 - › Naturopathic Physicians
 - › First Nations Health Authority

Collaboration between DBND in Alberta and British Columbia

- The DBND programs are responsible for program delivery in each of their provinces.
- The DBND program in Alberta responds to inquiries/requests originating outside Alberta or British Columbia.
- The DBND programs in Alberta and British Columbia operate independently but cooperatively to advance the shared objectives of the DBND program.
- Joint meetings are scheduled quarterly or more often if needed.

C. Moving Forward – Hub and Spoke Model

Hub and spoke model

- A hub and spoke model may allow needed flexibility in implementing DBND programs in new jurisdictions.
- Basic program resources maintained and provided by DBND.
- Operationalization tailored to meet the needs of each jurisdiction.
- To ensure consistency, DBND would require that key messages be promoted and that the source of the program be recognized.

British Columbia example

- Most of the DBND programs listed above are currently in use in British Columbia.
- To respond to provincial needs and to meet funding requirements, the AntibioticWise.ca website and Antibiotic Wise Twitter page were launched in 2016 to support the Do Bugs Need Drugs public communications strategies in British Columbia, directing the public to relevant and specific information about antibiotic stewardship and resistance. References are made back to DBND.