Is universal dental care ‘the’ solution for addressing oral health disparities?

Brondani MA¹, Mathu-Muju K¹, Skott P², G Sandborgh-Englund³, Neves FH⁴, Ardenghi TM⁵, M Smith⁶, WM Thomson⁷
¹ Faculty of Dentistry, University of British Columbia ² Folk tandvård Stockholms län AB Medicinsk tandvård Stockholms sjukhem ³ Karolinska Institutet ⁴ Faculty of Dentistry, Universidade Federal do Rio Grande do Sul ⁵ Faculty of Dentistry, Universidade Federal de Santa Maria ⁶ Wellington School of Medicine, University of Otago ⁷ Faculty of Dentistry, University of Otago

Objectives: To critically review three different oral health care systems and compare them to Canada in terms of structure, scope and service delivery.

Methods: A comparative reflective review on oral health care systems from Brazil – Unic Health System, New Zealand – Ministry of Health and Sweden – National Board of Health and Welfare, is performed and compared the Canadian National Health Care System. This is a critical essay based on evidence available in the literature, and interactive sessions with key players in all four countries.

Results: All countries offer health care to all their citizens as a basic human right, spending between 8.3% and almost 12% of their Gross Domestic Product on healthcare. Dental care is administered and delivered within a combination of private and public systems, but with substantial structural differences across the various countries. While Canada has 6% of its annual dental expenditures publicly-funded but delivered mostly privately, Sweden subsidises all its basic dental care in both public and private settings, and Brazil offers free access to dental care via salaried government-employed dental professionals. At age 12, 61% of Canadian children are caries free while it is 45% in New Zealand, 61% in Sweden, and 43.5% in Brazil; there are oral health disparities in all four countries. In 2016, Brazil had 232 dental schools (115 dentists per 100,000 population) while Canada had 10 (58 per 100,000), New Zealand 1 (107 per 100,000), and Sweden 4 (80 per 100,000). Practicing dentists remain in urban centers. Only New Zealand, and to a much lesser extent Canada, employs oral health therapists.

Conclusion: Despite having publicly-funded health care, all four countries differ in the provision of dental care to their residents. A mixture of salaried-based and privately-administered dental care seems to work, but oral health disparities still persist.
Implementation of an oral health framework for residents in continuing care

De Graaff C, Lopresti S, Figueiredo R
Alberta Health Services

Objective: An Alberta Health Services (AHS) pilot project, in 2014, evaluated the applicability of an oral health framework for residents in Continuing Care (CC) in Alberta, Canada. The results of the pilot project showed the acceptability of this activity by the residents, their families and the management of the facilities. For the implementation of this framework across the province it was developed as a Train the Trainer model with a variety of educator delivery methods to meet the needs of professionals and facilities.

Methods: The Train the Trainer model is intended to reach the maximum number of health care providers including registered nurses, licensed practicing nurses and health care aids, working in CC facilities. The different methods of training included: a manual and Power Point presentation; in-person and video conference/webinar sessions; and self-learning through videos on the Continuing Care Desktop website. These methods aim to educate and develop provider’s skills to facilitate and support the delivery of daily oral hygiene to residents in CC. This approach provides all trainees the standardized information on service delivery.

Results: From January 2015 to March 2017, 1666 health care providers from 118 CC facilities in the five AHS Health Zones have participated in the training framework. CC facilities participating represent 32% of the Alberta facilities and reaches 41% of Alberta CC residents. Approximately 10,360 residents receive the benefit from the oral hygiene program. The oral hygiene training sessions were provided by dental hygienists and health care professionals using “Train the Trainer” online teaching resources.

Conclusion: The success of the implementation of the oral health framework is confirmed by the acceptability of the initiative proposed. In addition, the different methods of the Train the Trainer allow reaching a higher number of CC facilities and providers accommodating their learning needs and ability to take the training.
The use of interpreters with immigrant patients in a dental hygiene clinic

Doucette H
Faculty of Dentistry, Dalhousie University

Objectives: The Dalhousie University Faculty of Dentistry provides dental hygiene care to new immigrants who are clients of the Immigrant Services Association of Nova Scotia (ISANS). Research indicates that health outcomes are enhanced when individuals receive care in their own language. Therefore, ISANS provides professional interpreters to assist student clinicians. Concern that these interpreters do not have adequate familiarity with health care terminology when interpreting the medical history and explaining treatment options, led to recruitment of volunteer dental and health professions students and faculty, to assist with interpretation. The objective of this project is to identify advantages and disadvantages of utilizing interpreters with health care training, versus professional interpreters without health care training, in an immigrant dental hygiene clinic, by exploring the experiences of care providers, interpreters and patients. Knowledge gained from this research will be used to improve the experiences of the immigrant patients and students treating the patients in the Dalhousie Faculty of Dentistry and may be relevant to other dental clinics, and health care clinics, that provide care to immigrant patients.

Methods: A cross sectional survey has been distributed to dental hygiene students, faculty and interpreters who have been involved in the ISANS clinics. The survey will gather quantitative and qualitative data from each of the four groups regarding their experiences and the perceived benefits of the two different types of interpreters. Descriptive statistics will be calculated for each closed-ended question. Open-ended questions will be analyzed for common and emergent themes

Results: To be completed by July 31, 2017

Conclusion: To be completed by July 31, 2017
Objectives: Indicators of oral health status of the general population are not always easily accessible. Retrieving health information from the health care system can be challenging and time consuming. The objective of the Dental Health Surveillance Dashboard is to facilitate accessibility of updated information on indicators of oral health of the population, using data available through the health care system.

Methods: The Dashboard is an interactive online reporting tool developed to monitor dental health indicators using data visualization software Tableau. Information on Emergency Department (ED) visits for dental problems associated with trauma and not associated with trauma were identified using relevant diagnosis codes from the International Statistical Classification of Diseases (ICD-10-CA). Data is collected from the National Ambulatory Care Reporting System (NACRS) database and the Alberta Real Time Syndromic Surveillance Net (ARTSSN). Data has been from all publicly funded hospital facilities across Alberta since January 1, 2011.

Results: The dashboard presents a series of tables and figures depicting ED visits for dental problems stratified demographically, geographically and diagnostically. The different pages of the dashboard display information about the characteristics of patients, reason for the visit, and facilities visited. The data is updated quarterly. Graphics and tables are designed to provide information in an easy, clear and direct format. The ability to manipulate the data by applying filters allows the user to change the figures to display the information desired.

Conclusion: The continuous and updated information provided by this Dashboard enables constant surveillance of utilization of the health care system for dental problems in Alberta, Canada. It helps to identify areas with high need for interventions and possibly provides the ability to measure the impact of an intervention or program. This surveillance tool also empowers health authorities and decision makers by providing timely and useful evidence towards more effective health interventions.
Multi-level factors influencing dental health care practices of young Chinese immigrant children (ages 0-6) in Vancouver and Richmond, BC

Gao HJ¹, Poon B¹, Harrison R², Mathu-Muju K²
¹ School of Population and Public Health, University of British Columbia ² Faculty of Dentistry, University of British Columbia

Objectives: Immigrant children are disproportionately affected by dental caries in Canada. This study aims to identify and understand the multi-level factors influencing the experiences and practices of dental health care of young Chinese immigrant children in BC.

Methods: A qualitative study with purposeful sampling of participants: parents (n=15), dental professionals (n=4), and community agency leads (n=3) were recruited through community service agencies in Vancouver and Richmond, BC. Semi-structured individual interviews were conducted and transcribed verbatim. Transcribed interviews were analyzed using thematic analysis.

Results: Facilitators in dental health care include: (1). Community. Community dental programs and resources support families to initiate and maintain effort in dental health care for children. (2). Dental professionals. Dental visits and community dental programs are opportunities for obtaining dental information and soliciting feedback on sufficiency of dental home care. (3). Family and social network. Family members and friends support by being directly involved in daily care or sharing experiences and advice for making dental-related decisions. Major challenges are: (1). Economic. High cost and lack of dental insurances discourages access to professional dental services in Canada. (2). Dental care culture. Little previous exposure to preventive dental care due to limited availability of adult and child preventive dental services in China. (3). Language. Strong preference for communication and information materials in Chinese languages. (4). Dental fear. Previous negative dental experiences motivate parents to practice better home care, but discourage some parents from bringing children to professional dental care.

Applying a multilevel governance framework to understand and identify policy leverage points to improve children’s dental health in Canada

Gobrail S¹, Weijs C, Lucas J², Zwicker J³, McLaren L¹,⁴
¹ Department of Community Health Sciences, University of Calgary ² Faculty of Arts, University of Calgary ³ School of Public Policy, University of Calgary ⁴ O’Brien Institute for Public Health, University of Calgary

Objectives: Dental caries is an important and urgent public health concern, particularly in early childhood. Although early childhood caries (ECC) is largely preventable, there are no clear governance structures to address this costly issue. The study of dental health governance in Canada is limited, but can inform our understanding of the complexity of this issue and existing policy gaps. Our larger project aims to map the dental public health governance landscape in Canada using Horak’s governance matrix, which identifies four actors (i.e., federal, provincial, and municipal governments, and local social forces) and four roles (i.e., policy advocacy, development, and implementation, and resource provision). In this paper we present the first step in our larger project, which is to map statutes relevant to dental health to each level of government.

Methods: We conducted a systematic online search for all legislations and bylaws related to dental health on the Government of Canada, Government of Alberta, and City of Calgary websites. Search terms included “dental”, “dentist”, “hygienist”, “teeth”, “caries”, and “fluoride”. A table of all dental-related content was compiled and categorized into common policy tasks, such as taxation, fluoride regulations, dental benefits policies, and professional regulation to identify areas of government impact on dental policy.

Results: A total of 190 documents were retrieved from the federal (99), provincial (82), and municipal (9) websites identified above. Preliminary analysis reveals that the majority of legislation relevant to dental health involves: taxation laws for dental services; benefits for specific populations including children and public service occupations; occupational health and safety protocols; fluoride content for public safety; and consumer product safety.

Conclusion: Existing dental-related statutes primarily focus on taxation of dental services and benefits for specific groups. Further analysis will help inform approaches to address increasing prevalence of ECC across multiple jurisdictions.
Shifting the oral health care delivery approach for vulnerable populations

Hacheys J, Clovis J, Lamarche K
Athabasca University and Dalhousie University

Objectives: 1) To determine the demographic profile, barriers to accessing care, perceptions and utilization of NS’s oral healthcare system among caregivers, and their children with dental needs seeking care at a children's hospital. 2) To apply the Health Impact Pyramid to inform oral healthcare reform in NS.

Methods: Caregivers were surveyed using a 52-item questionnaire including demographics, barriers to care, perceptions and utilization of oral health services. Data were analyzed using descriptive and inferential statistical tests. The results were used to inform the application of the Health Impact Pyramid for oral healthcare reform in NS.

Results (n = 62): Of the caregivers, 10% were Aboriginal; 41.2% had ≤ high school education; 50.4% lived in areas of < 30,000 people; and 53.8% were living below the LICO threshold. Fewer than a quarter (23%) of children visited a dentist by age one. The mean age that caregivers perceived the recommended age of first visit was 2.29. The mean age caregivers first sought dental care for their children was 2.69. Forty-four percent of children had caries at that time. Barriers to care were experienced by 45.8% of caregivers. Alternate dental care settings were preferred by over half (51%) of caregivers for children’s dental care.

Conclusion: This study supports the evidence that the socioeconomically disadvantaged are more susceptible to oral diseases. Previous and current research indicate a problem with oral public health policy and programming in NS. The Health Impact Pyramid can guide strategies with high impact, while shifting the approach to alternate settings for oral care easily accessed by vulnerable populations. Utilizing dental hygienists, dental therapists and primary health care providers should be considered.
Alberta Health Services recommendation for fluoride toothpaste use for children

Baran S, Huber C, Figueiredo R
Alberta Health Services

Objectives: In Alberta Canada, Alberta Health Services (AHS) former population messaging for childhood use of fluoride toothpaste aligned with caries risk conditions outlined by Health Canada and the Canadian Dental Association. Translating these risk conditions for tooth decay into population messaging is challenged by the subjective nature of the conditions and the specialized knowledge and skills to conduct an assessment. To support fluoride toothpaste as a strategy to reduce dental decay in the population an updated recommendation is needed.

Methods: An internet search of current fluoride toothpaste recommendations in North America, Europe and Australia was conducted. The intake of different sources of fluoride, specifically toothpaste and water fluoridation, as well as the prevalence of dental fluorosis were reviewed. In addition to fluoride recommendations, the rate of childhood tooth decay and access to dental care were considered.

Results: Canada and United States (US) review total daily fluoride intake to maintain an acceptable balance between protection from tooth decay and prevalence of dental fluorosis. Both countries adjust community water fluoride to 0.7 mg/L while fluoride toothpaste contains an average 1000 ppm fluoride. The rate of dental fluorosis is not a public health concern. Tooth decay rates and access to dental care are similar in both countries. Unlike Canada, the US does not advise the use of a caries risk assessment to determine use of fluoride toothpaste. Consequently, AHS recommends twice daily use of a grain-of -rice size amount of fluoride toothpaste from first tooth to 3 years; and a pea size amount from age 3 years onward. The recommendation reinforces parent’s responsibility to safely use and store toothpaste to prevent the ingestion of too much fluoride.

Conclusion: The AHS fluoride toothpaste recommendation for children does not include a risk assessment for tooth decay and aligns with the ADA guideline.
Re-directing public oral health fluoride varnish intervention to low SES children in Alberta

Huber C, Baran S, De Graaff C, Howell M, Patterson S, Figueiredo R
Alberta Health Services

Objectives: Dental decay is most prevalent among low socio-economic status (SES) groups where cost limits access to dental care. To address inequities in oral health care, Alberta Health Services (AHS) Oral Health Action Plan encompasses a population health approach that redirects fluoride varnish (FV) applications to low SES children. Using low SES measures to establish the eligibility criteria is fundamental to the delivery of FV applications to the target population.

Methods: A series of four FV applications are directed to children age 12 – 35 months and two applications in per year for children in Kindergarten, grades 1 and 2, using low SES measures for eligibility criteria. The provincial objective for children receiving the first FV application is 10 – 20% of the population age. Additional objectives are set for rates of subsequent FV applications for each population group.

Results: From 2015 - 2016, the rate of first FV applications for eligible target populations is below the provincial objective for children age 12 – 35 months (5%) and within the objective for children in Kindergarten, grades 1 and 2 (16%). Rates of subsequent FV applications in the school setting are being met.

Conclusion: Encompassing a population health approach to deliver standardized fluoride varnish applications to low SES children better assures equity in access to oral health care in Alberta. Challenges of redirecting the FV intervention include creating the eligibility criteria and engaging the target population particularly for the preschool population. Achieving population objectives are challenged by unequal distribution of resources across the province.
Evaluation of the oral health status of Saskatchewan long term care home residents following the implementation of Better Oral Health in Long Term Care Program

Jafari M, Topola L, Krieg K
Saskatoon Health Region, Population and Public Health

Objectives: This study will analyze oral health status of 200 long term care (LTC) home residents in Saskatchewan and assess the effects of the implementation of Better Oral Health in Long Term Care Program (BOH in LTC) over six months.

Methods: BOH in LTC Program has been fully implemented at two LTC homes in Saskatchewan in 2016-2017: An oral health professional provided educational trainings to managers, registered nurses (RNs) and continuing care aides (CCAs). Pre and post tests were provided during the training. Initial oral health assessments of 200 LTC residents who provided consents was conducted using Oral Health Assessment Tool (OHAT). Nine aspects of the residents’ mouth (exterior of face, lips, tongue, gums, oral cleanliness, teeth, denture, saliva, and pain) were examined. CCAs delivered daily oral care based on the oral health plan developed by oral health care team. RNs followed up with checking the daily oral care that the CCAs provided and completed the referrals to a dentist. Following six months, the oral health status of residents was re-assessed. The oral health status of residents before and after program implementation was analyzed using Wilcoxon Signed-Rank Test (SPSS Statistics 22). P-value <0.05 was taken as significant.

Results: The preliminary results are as follows: The oral health status of 80 LTC residents, 57 males and 23 females (mean age 74.26±19.64) was evaluated over six months. Referrals were made for 55% of residents. The OHAT scores for lips, tongue, denture, teeth, gums, and oral cleanliness significantly improved following the study period. The comparison between OHAT scores for gums from baseline and six months later showed a significant improvement (p-value=0.001). Oral cleanliness of 99% of residents was improved (95% CI=85% to 99.7%).

Conclusion: Residents who received care under BOH in LTC Program showed an improvement in their oral health status.
Sheesha smoking reduces the expressions of cancer related genes

Little J, Monazeri Z, Gomes J, El-katerji H
University of Ottawa

Objective: Sheesha is a new trend of smoke in western countries. It is a global health issue with more than 100 million smokers daily. The adverse health effect of sheesha smoking has not been well addressed in the literature. Our aim is to assess the temporary effect of sheesha Massal smoking on the expression of cancer related genes in salivary cells among young sheesha smokers in Ottawa.

Methods: In this before-after comparison study, the city of Ottawa was selected to be the geographic area of study. A snowball sampling technique was adopted. The main inclusion criteria were that the individual was between the age of 18 and 25 and reported that they ever smoked sheesha. In total 15 volunteers were identified to be eligible for this study. After providing the saliva samples participants were asked to smoke Massal (double apple = altifahtain) for one hour and a half. Then, they were asked to provide their second saliva samples. We assessed the short term effect of sheesha Massal smoking on level of expression of xenobiotic metabolism genes and other genes known to have altered expression in tobacco related cancers, in salivary cells. RNA extracted from the saliva samples using custom-made microarray (RT-PCR) assays to measure gene expressions.

Results: All 16 genes investigated showed decreases in gene expressions with substantial differences in the magnitude of the decrease. A meta-analysis conducted to integrate the fold change of each genes across the 15 samples, between before and after smoking sheesha, showed a range of reduction in expression level between 1.7 times and 55.

Conclusion: Sheesha smoking has short-term effects on the expressions of genes known to be involved in tobacco-related cancers. Tobacco smoking, regardless of its mode of delivery, affects body’s susceptibility to develop cancer diseases.
Healthy partnerships resulted in healthy smile for Syrian refugees

Lafrance L
Ottawa Public Health

Objective: 1. Learn about the different community members and professionals needed to provide emergency dental treatment clinics to Syrian Refugees. 2. Learn about specific elements for a successful community partnership

Methods: When the large influx of Syrian refugees arrived to Ottawa in 2016, Ottawa Public Health (OPH) dental hygienists provided dental screenings in temporary lodging sites (TLS) and identified that most had severe dental issues that required immediate treatment. OPH entered into a higher level response and asked the local dental community to increase the overall treatment capacity. We asked local dentists, dental assistants and interpreters to volunteer their time and skills and work alongside the OPH dentists on Friday mornings. The response was immediate and over 50 volunteers of dentists, dental assistants and interpreters quickly mobilized to help OPH offer free dental treatments to Syrian refugees.

Results: This initiative resulted in over 1,100 dental treatment visits, with 279 Syrian children and 254 Syrian adults seen for urgent dental care. 57 volunteers provided 1012 hours of their time and skills to provide 356 dental extractions and 922 dental fillings at OPH dental clinics.

Conclusion: Addressing social inequities in oral health would have been challenging without a collaborative and creative approach. The community volunteers gave over 1000 hours of their time, skills and compassion to make this happen. This initiative will have a major impact on the overall health and quality of life of the Syrian refugees. They will now be able to continue their journey of settling into Ottawa without dental pain and infection.
Chlorhexidine-related mortality rate in critically ill patients in intensive care units

Laghapour N¹, Lee S¹, Mccredie V², Pechlivanoglou P³, Krahn M⁴, Quiñonez C¹, Azarpazhooh A¹
¹ Faculty of Dentistry, University of Toronto ² Sunnybrook Health Sciences Centre, University of Toronto ³ The Hospital for Sick Children, University of Toronto ⁴ Leslie Dan Faculty of Pharmacy, University of Toronto

Objectives: This systematic review aims to investigate the possible increased CHX-related mortality rate for mechanically ventilated patients in ICU.

Methods: We adopted the methodology of previous systematic reviews on this topic adhering to Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) criteria with focus on adult patients under ventilation in high-income countries ICU setting. We compared CHX (0.12%, 0.2%) application in different modes of delivery (gel, solution) with standard ICU care versus standard ICU care alone. We searched the Cochrane Oral Health group’s CENTRAL, MEDLINE (OVID), and EMBASE (OVID). Two independent review authors appraised the quality of 6 included trials in six domains employing the Cochrane “Risk of bias” assessment tool. We pooled the data from CHX and control groups and identified and quantified heterogeneity via Chi² test and I² statistic values, respectively.

Results: The pooled results of the 6 eligible studies for meta-analysis showed no statistical difference between CHX and placebo/usual care groups in increasing CHX-related mortality rate (P>0.05). Furthermore, meta-analysis results showed statistical significance in reduction of VAP incidence (P<0.05). However, studies with low risk of bias showed no evidence regarding the reduction of VAP rate (P>0.05).

Conclusion: There is moderate quality evidence indicating reduced occurrence of VAP without a substantial effect on CHX-related mortality rate. Future trials, which follow CONSORT statement more consistently can provide stronger evidence for or against CHX application and be applied to health care policymaking.
Children's exposure to intimate partner violence and early childhood caries: a scoping review to identify novel opportunities for early intervention

Lang R\textsuperscript{1}, Weijs C\textsuperscript{1}, Lorenzetti D\textsuperscript{1,2}, Milaney K\textsuperscript{1,2}, Figueiredo R\textsuperscript{3}, Smith L\textsuperscript{4}, McLaren L\textsuperscript{1,2}  
\textsuperscript{1} Department of Community Health Sciences, University of Calgary \textsuperscript{2} O’Brien Institute for Public Health, University of Calgary \textsuperscript{3} Alberta Health Services \textsuperscript{4} Cumming School of Medicine, University of Calgary

Objectives: Early childhood caries (ECC) is a significant yet preventable problem. Children from vulnerable populations are most at risk of developing ECC. The purpose of this scoping study was to explore the relationship between intimate partner violence between parents and the presence of ECC in their children, and to identify opportunities for early intervention. This review will inform a larger study on community-based decay prevention programming for children experiencing family violence.

Methods: We followed Arksey and O’Malley’s scoping review framework. We searched five electronic databases (MEDLINE, Embase, CINAHL, ScienceDirect, and Web of Science), with no date limits. We solicited additional references from the national dental public health community via the CAPHD list serv. All primary research and reviews with a focus on dental decay in children and exposure to intimate partner violence, or that referred to community settings (specifically women’s shelters) for oral health screening or service delivery, were included.

Results: From an initial total of 193 unique documents, 12 publications from 3 countries have been included in the analysis so far. Preliminary findings suggest that while the number of studies addressing this specific topic is small, there is indication of a positive relationship between exposure to intimate partner violence and ECC. The mechanisms of this relationship are not well-studied. Women’s shelter-based prevention programs may hold promise as a novel and integrated approach to detecting and addressing ECC among families experiencing intimate partner violence.

Conclusion: Though additional studies are needed to clarify the nature of association between children’s exposure to intimate partner violence and ECC, available research suggests a connection that offers a novel avenue for early intervention. Considering the challenges associated with dental professionals’ reporting of violence in families, community-based preventive dental programs (specifically in women’s shelters) may be a viable and valuable contribution.
Investigating knowledge, motivational and behavioural effects of providing oral health information to pre/post natal parents

MacCallum T, Clovis J, Sharpe J, Brilliant M
Mount Saint Vincent University and Dalhousie University

Objectives: To investigate whether providing an oral health educational intervention results in improved oral health knowledge among pre/postnatal parents, and to explore the motivation and attitudes of parents towards oral health.

Methods: A mixed method design included a pre and post intervention component and a semi-structured interview. In Phase I, pre/postnatal parents attended an oral health education session where oral health knowledge and attitudes were assessed prior to and following the education session by completing an oral health knowledge and attitudes questionnaire. In Phase II, participants were offered a free dental debridement, then participated in a brief semi-structured interview regarding their oral health motivation and behaviours and completed the questionnaire a third time. Phase II was conducted eight to 12 weeks after Phase I.

Results: Thirty-three participants attended an oral health education session completing Phase I; of these, five chose to complete Phase II. The education session was effective at improving participants’ total oral health knowledge scores. The scores on the 13 knowledge questions increased significantly, from 7.70±2.64 (mean±SD) before the education session, to 11.24 ±2.27 (mean±SD), immediately following the session (p < 0.001). The results of Phase II indicated that knowledge was retained up to 12 weeks. The overall themes which emerged from interviews were 1) participants were aware of the importance of oral health and 2) factors such as income, education, and social support influence the adoption of positive oral health behaviours.

Conclusion: Oral health education is successful at increasing parents’ oral health knowledge, however further research on parental motivation towards improved oral health behaviours is needed. Increasing collaboration between medical and dental health practices and improving practitioner communication skill are among the strategies suggested to improve motivation.
Angry voices of homeless people coping with dental care

Mago A\textsuperscript{1}, Brondani M\textsuperscript{2}, Frankish J\textsuperscript{1}, MacEntee M\textsuperscript{2}
\textsuperscript{1}School of Population and Public Health, University of British Columbia \textsuperscript{2}Faculty of Dentistry, University of British Columbia

Objectives: to explore how homeless people appraise and cope with dental care.

Methods: Interviews with 25 homeless people (18 men and 7 women; age range: 25-64 years) were analyzed inductively to identify how they appraised and coped with dental care.

Results: There were four dominant themes in the interviews: barriers to dental care; using dental services; opinions on dental health; and improving dental services. Participants were concerned about the cost of dentistry, and fearful of dentists. They attended dentists with difficulty and mostly for emergency treatment, but preferred self-treatment and hospital emergency rooms. They acknowledged the importance of oral health and felt stigmatized by their homelessness and unhealthy mouths, and were unaware of subsidized dental services in community health clinics. They asked for better dental services through increased financial support from government, improved behavior of dentists towards disabled people, less discrimination against Aboriginal people, and more widespread information about community health clinics.

Conclusion: Homeless people believe dental care is important but expensive, frightening and humiliating. They believe that dentists and governments are unsympathetic to their chronic disability, and that there is insufficient government support for dental benefits or information about community dental clinics.
A pathway to oral healthcare utilization for homeless people

Mago A¹, MacEntee M², Frankish J¹, Brondani M²
¹ School of Population and Public Health, University of British Columbia ² Faculty of Dentistry, University of British Columbia

Objectives: This study aimed at developing a pathway to oral healthcare utilization among homeless people based on their own perceptions and experiences about oral health and related services in Vancouver.

Methods: Using the Gelberg-Andresen’s Behavioral Model for Vulnerable Populations (BMVP) and interviews with 25 homeless adults (18 men and 7 women; age range of 25-64 years), a pathway model of care emerged. Data collection and thematic analysis were carried out concurrently and iteratively to inform the development of the pathway model.

Results: Interviews ranged from 20 to 45 minutes. The thematic analysis was used to build a pathway model with enabling factors, self-reported oral health, oral health behaviours and outcomes that are relevant to the homeless themselves.

Conclusion: The pathway may help to explore the factors that could enable homeless people accessing oral healthcare, modify their behaviour towards seeking self and professional oral healthcare, and consequently may bring positive oral health outcomes among this vulnerable population.
An innovative integrated model for improving oral health in the Australian context

Martin R\(^1\), Calache H\(^{1,2}\), James Hall M\(^{1,3}\), Bettega A\(^1\), Chalmers-Robinson E\(^1\), Christian B\(^{1,4}\)

\(^1\) North Richmond Community Health Ltd \(^2\) Deakin University \(^3\) Dental Health Services Victoria \(^4\) La Trobe Rural Health School, La Trobe University

Objectives: To present an innovative population based preventive approach to primary oral health care that is client and family centred, targeted and co-ordinated, and integrates oral and general health.

Methods: North Richmond Community Health (NRCH), an inner urban community health service, in Victoria, Australia, has developed a preventive and risk based innovative model of oral-health care. NRCH serves vulnerable groups, including refugees and asylum seekers, homeless, people living with mental illness, elderly, substance users, Aborigines and Torres Strait Islanders. The team includes the full range of oral health professionals (dental assistants, oral health educators, dental and oral health therapists, dental hygienists, prosthodontists) and general health professionals. Employing outreach and education methods, minimal intervention dentistry (MID) procedures such as the Hall Technique and Silver Diamine Fluoride are incorporated into the program.

Results: A health literacy approach for consumers from first contact ensures preparation for this program. The NRCH model of oral health care and its links with other community services will be presented, highlighting a shift in types of services provided, referrals made and consumer engagement in oral health care.

Conclusion: Through re-orienting workforce and a risk based, person-centred care approach to a population health issue, it is possible to find potentially cost-effective ways of delivering primary preventive integrated health care that includes oral health.
Prevalence of white spot lesions and oral hygiene in patients during orthodontic treatment with fixed appliances

Oropeza-Cruz H\textsuperscript{1}, Escoffie-Ramírez M\textsuperscript{1}, Herrera-Atoche JR\textsuperscript{1}, Martínez-Mier EA\textsuperscript{2}

\textsuperscript{1} Faculty of Dentistry, Autonomous University of Yucatan \textsuperscript{2} Oral Health Research Institute, Indiana University

Objectives: To determine the prevalence of white spot lesions (WSLs) and their association to oral hygiene (OH) in patients undergoing orthodontic treatment with fixed appliances.

Methods: This cross-sectional study was conducted at the Graduate Orthodontic Clinic of the Autonomous University of Yucatan in Mexico. Approval was obtained from the Institutional Review Board. Thirty seven, 14-25 year-old patients (17.10 ± 2.78 years-old) were interviewed and clinically examined by calibrated orthodontists. All patients enrolled in the study received a dental examination and had their OH evaluated at their 3-month follow up appointment, after wires and auxiliary attachments had been removed. The International Caries Detection and Assessment System (ICDAS) was used to evaluate enamel demineralization (WSLs) and OH was assessed using the Simplified Oral Hygiene Index.

Results: Overall, 54.05\%(n=20) of the patients developed at least one WSL during their course of treatment. Of the subjects who had at least one visible WSL, 60\%(n=12) were females and 40\% (n=8) were males, but there was no significant difference in WSLs between genders(p≥0.05). The maxillary lateral incisors were most susceptible to caries(44\%). The most prevalent OH score was “Good” (n=24) followed by “Regular” (n=12). The association between the presence of WSLs and OH was found to be statistically significant (p≤ 0.05).

Conclusion: A majority of the patients in this study developed WSLs over three months of treatment and this was associated to poorer OH scores. Our results support the need for orthodontists to implement caries preventive measures to improve OH and prevent enamel demineralization.
Dental treatment for Syrian refugees in Alberta, Canada

Rabie H, Wallace J, Skaria S, Figueiredo R
Alberta Health Services

Objectives: By February 2016, 2,221 Syrian Refugees had arrived in Alberta, Canada, allocated by the Immigration, Refugees and Citizenship Canada. In Alberta these newcomers were distributed across the province in five Reception Centres. Immediately after their arrival, dental health issues became a health concern.

Methods: The Alberta Health Services (AHS) Public Health Dental Clinics (PHDC) proposed to offer dental treatment for all Syrian Refugees arrived in Alberta, Canada, in 2015/2016 with dental emergencies. Patients were referred from health/community centers and agencies involved with addressing multiple health/socio-economic factors of refugee settlement. Due the high demand of services and limited work force capacity, patients were assessed and prioritized for dental treatment according to urgency of issues presented. Language barriers were addressed though English/Arabic speaking professionals, volunteers and AHS translation language line.

Results: During the 2016 Calendar year, refugees represented 27% of the client demand in the AHS PHDC, representing an increase of 14% from the previous year (2015). In 2016, 402 Syrian refugees received dental treatment in the AHS PHDC. The dental procedures provided included: 601 extractions (n= 191), 48% of patients had an average of three dental extractions each; 714 fillings including amalgam and composites (n= 232), 58% of patients had an average of three fillings each. The provision of dental treatment for emergencies to Syrian Refugees by the AHS PHCD addressed their most urgent dental needs; however, many challenges limited the treatment provided including: unresolved competing needs (housing, medical appointments, psychiatric care), transportation logistics, family size, patient expectations, language/education barriers and lack of pediatric specialist.

Conclusion: The Syrian Refugees population in Alberta demonstrated high dental needs in all age groups. The DPHC, functioning as part of a multidisciplinary team to address the Syrian Refugees needs, managed to delivery dental services controlling their most urgent dental needs.
Minimizing risk of infectious disease transmission in dental practices

Augustin A, Farrell L, Guerreiro I, Rodnick L, Ryding D  
Public Health Ontario

Objectives: At the end of this session, participants will have a greater understanding of the impact of IPAC lapses in dental settings. Participants will have increased knowledge of key IPAC best practices required to minimize the risk of infectious disease transmission in dental settings. Participants will become familiar with available IPAC resources and tools to assist in the review of their program.

Methods: Examples of IPAC lapses will be shared to help participants understand the importance of IPAC best practices. Top high risk practices will be described and an overview will be provided of key IPAC best practice recommendations for mitigation of transmission risk. IPAC resources and tools available to support best practice recommendations will be highlighted for participants.

Results: Strengthened IPAC knowledge and access to resources and tools will lead to improvements within dental settings to minimize the risk of infectious disease transmission.

Conclusion: Ample opportunities for transmission of infectious diseases exist within the daily activities of dental settings. Increased knowledge of and adherence to IPAC best practices can prevent the transmission of infectious diseases.
Transporting mouth mirrors for reprocessing after dental screenings

Ryding D¹, Singhal S¹,²
¹ Public Health Ontario ² Faculty of Dentistry, University of Toronto

Objectives: The Ontario Public Health Standards require Public Health Units (PHUs) to conduct dental screenings in primary schools. In general, dental screening is conducted within schools using sterilized mouth mirrors. Infection prevention and control (IPAC) is an important aspect of public health programming, which include clinical interventions. In this regard, there is uncertainty about the optimal way of transporting used/soiled mouth mirrors safely back to PHUs for efficient reprocessing.

Methods: A rapid literature search, including published and grey literature, was conducted to assess how used mouth mirrors are transported after dental screening across jurisdictions and to determine if specific guidelines exist. Further, to understand current instrument transporting practices during school dental screening in Ontario, a questionnaire was disseminated to all PHUs in May 2017.

Results: Current literature did not reflect how used mouth mirrors are transported in other jurisdictions after dental screening. The guidelines of different professional organizations categorize dental mirrors as semi-critical items and provide specifications for transporting and reprocessing such items. The results of the questionnaire highlight a variety of approaches employed by PHUs to transport used mouth mirrors following school dental screening.

Conclusion: Upon review of existing literature and considering the results of the questionnaire, a number of suggestions were provided for PHUs to consider when transporting used mouth mirrors based on general IPAC principles. Suggestions included: using disposable mouth mirrors; rinsing mouth mirrors under running water prior to transporting; wiping mouth mirrors with disinfectant wipes prior to transporting; using ready-to-use foaming enzymatic spray during transportation; soaking with detergent or enzymatic solution during transportation; using self-seal pouch with absorbent layer to maintain moist environment during transportation, and; using an automated washer at the PHU before sterilization (no presoak required).
Objective: To study the impact of school-based oral health education (OHE) programs on behavioural and clinical outcomes among children.

Methods: A literature search was conducted using Ovid MEDLINE, Embase, ERIC and CINAHL databases. English language articles, published from 2000-2017, were retrieved. Studies with only school-based educational interventions and no clinical intervention component were included in this review. All included articles were appraised using a quality appraisal tool specific for the study design.

Results: Of the 876 articles retrieved, 31 articles, including two systematic reviews, met our inclusion criteria. School-children ranged from 5 to 17 years, who were followed from immediately after intervention to up to 10 years. Intervention providers varied from dentists, dental staff, teachers, to peers. In general, OHE interventions had a positive effect on behavioural outcomes such as knowledge, attitude, practice, dietary intake, as well as clinical outcomes such as calculus and plaque levels, gingival health, and dental caries. However, the impact of OHE interventions varied depending on the follow-up period. Also, experiential learning that emphasize active participation and skill training was more effective than conventional methods such as class lectures, use of flash cards, and charts. Repetition and continuous reinforcement also improved outcomes in the short term. Interestingly, in some studies, positive changes in control groups were also observed, which could be due to the spill-over effect.

Conclusion: School-based OHE interventions tend to have a positive effect on both behavioural and clinical outcomes. Using experiential learning techniques with repetition and continuous reinforcement can considerably improve oral health outcomes. Teaching healthy oral habits, in a socially conducive learning environment such as schools can go a long way in reducing the burden of oral diseases. However, implementation considerations are important in terms of type of intervention, mode of delivery, role of providers, and frequency of programs.