A CASE STUDY OF FIVE COMMUNITY DENTAL CLINICS IN BRITISH COLUMBIA

BY BRUCE WALLACE | 2009

UBC DENTISTRY

A project of the Victoria Cool Aid Society's Community Health Centre

www.coolaid.org
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The opinions expressed in this report, and any errors, are those of the author and do not necessarily reflect the views of the collaborating partners.
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1. BACKGROUND

1.1 CONTEXT

There is a strong link between socio-economic status and health, and an abundance of evidence documenting the link between low-income and poor oral health in Canada.\(^1,2,3\) Those with the lowest incomes in Canada have the highest levels of oral disease yet face the most barriers to accessing dental care.\(^4\) There exists a socio-economic gradient in the use of dental services\(^5\) with less affluent, uninsured Canadians much less likely to receive regular dental care than higher income individuals.\(^6\) The effect is referred to as an inverse law of care, with those most needing care being the least likely to receive it.\(^7\)

In British Columbia, a recent report on health inequalities\(^4\) provides statistics illustrating the inequalities in accessing dental services in the province. The authors found that individuals in the highest income households were twice as likely as individuals in low-income households to report having visited a dentist within the past year. In contrast, the lowest income British Columbians utilized more health services covered by the Canada Health Act (and hence covered by the provincial Medical Services Plan) than higher income individuals, including higher number of family physician contacts and more hospital stays.

While this inequality of access has been relatively well documented, there is less information available on how to reduce the barriers to accessing care and effectively and efficiently provide dental care to those with low incomes.

In British Columbia, the Ministry of Housing and Social Development is responsible for delivering the “Healthy Kids Program” and providing emergency dental benefits for people on temporary social assistance and basic dental benefits for Persons with Disabilities or Persons with Persistent Multiple Barriers.\(^9\) The Ministry currently spends approximately $44 million annually on dental services that serve 130,000 residents (including approximately 62,000 children).\(^10\)

Within the provincial government there is awareness and recognition of the importance of access to dental care. Dental public health was specifically referenced in the “Core Public Health Functions\(^11\) for BC”,\(^12\) with acknowledgment that “the burden of dental disease in BC is significant, both in terms of its prevalence and its economic cost to society.”\(^13\) In 2005, the Provincial Government announced a range of measures to enhance dental health, commenting:

“Our government is committed to helping British Columbians achieve and maintain excellent dental health through its focus on children and the more vulnerable members of society… Dental services are so very important for BC families and we want to be sure that low-income families have better access to dental care.”\(^14\)

Even though government dental benefits do exist for some individuals with low incomes, the existing coverage is insufficient to ensure that dental care is available. In 2007, the Public Health Association of BC formally requested the Provincial Health Officer address the issues of dental health inequity and equitable access to dental care services in the province.\(^15\) Several studies have concluded that people in British Columbia with public dental benefits have difficulty accessing care from dentists in private practice.\(^16,17,18\) The 2008 Vancouver Homeless Count\(^19\) found that only 18% of homeless people surveyed had received dental care in the last
year, which is considerably lower than their use of other health services. For example, over half (53%) of the participants had used primary health care clinics. Lack of dental care was identified by a third of homeless people in Victoria as a barrier to finding work. In a two-year study of people receiving temporary welfare benefits, a vast majority (83%) of participants complained of not receiving adequate financial aid to cover dental needs and two-thirds identified need for more extensive dental work involving abscessed teeth and multiple cavities along with broken and missing teeth.

Within the social policy research field there has been widespread recognition that poverty leads to reduced access to dental care which in turn contributes to poverty, and that government has an important role to play in improving access. For example, a 2008 review of income assistance in BC by the Social Planning & Research Council of BC recommended that welfare recipients who are employable and required to look for employment should receive the same extended dental benefits as people with disabilities because it was recognized that a healthy mouth will help the recipients get work. Similarly, a proposed Poverty Reduction Plan for BC by the Canadian Centre for Policy Alternatives includes as one of its seven priority actions access to essential health services that are excluded from the public health system, noting “[t]oo often access to these health services is not based on need but rather on ability to pay, and as a consequence it is the poorest residents who have the greatest needs that are least able to access care” (p. 52). Recommendations made by authors of the plan include expanding the public health care system and specifically provincial dental benefits to include low-wage workers and seniors living on low incomes.

In recent years, there are several examples of community health initiatives focused on access to dental care. In the Kootenay-Boundary area, for example, a project called “Healthy Teeth for Healthy Eating” undertook a comprehensive, multi-year community development project to respond to the need to improved access to dental care in the region. In Terrace, the 2008 event “Dental Health Forum: A Community Discussion on Dental Access” brought together dental professionals, low-income people and their supporting agencies, Aboriginal groups, and others to seek local solutions. The North Okanagan Dental Access Program in Vernon has a community health promotion project that provided over $27,000 emergency dental treatment to low-income residents in one year at no direct cost to the recipients. The Whalley/Newton Dental Project is another example of a local community bringing together a diverse range of professionals and neighbourhoods to resolve inequitable access to oral healthcare.

Throughout Canada and elsewhere there are efforts to develop models of dental care delivery to better meet the needs of the disadvantaged including mobile clinics, fixed-site community clinics, and referral to existing private dental offices with dental access funds from non-profits and charities to offset costs. In BC, there are an increasing number of community-specific initiatives for people with low incomes in the province to improve oral health care with mixed funding, including community dental access funds, community dental clinics, public dental health services provided by health authorities, and teaching clinics operated by universities and colleges. The capacity of BC communities to improve access to dental care for low income residents is increasing as a result of increased awareness of needs combined with provincial funding for community initiatives.

The government in BC recognizes that investments in community dental clinics are an effective way to help people on income assistance and children in low-income households. In a recent two-year period the BC Ministry of Housing and Social Development invested over $1 million in ten existing low-cost and free community dental clinics in the province, with a further $300,000 to open a community dental clinic in Dawson Creek.
The literature on community dental clinics both in Canada and the US confirms that clinics provide a unique and valuable role as a source of dental care to groups with traditional access barriers. In fact, community dental clinics have been deemed by some not as an optional method of service delivery but rather as “mandatory” due to the shortcomings of the existing dental care delivery system and the overwhelming unmet dental health needs of the underserved. Ryding (2006) provides evidence that excluding oral health care from universal public health benefits has created a two-tier oral health care system that is accessible to wealthy and employed people but not to the unemployed, the working poor, single-parent families, members of First Nations communities, recent immigrants, or elderly people.

A common theme within the literature is the absence of data on the operations and outcome of the community dental clinics. However, the clinics are recognized to play a critical role in caring for underserved populations, although the safety net they provide has limited capacity to address the significant demands of those facing barriers to accessing dental care. The challenges of establishing and sustaining a community dental clinic are daunting. Evaluations of existing clinics reveal the serious financial difficulties encountered to initiate and maintain activities, with major difficulties getting the optimal mix of payers and reimbursement. Additional challenges include appropriate training and retention of staff, along with leadership and management to insure adequate measures for quality and efficiency. Consequently, there have been numerous recommendations to support community dental clinics through partnerships with academic dental institutions and government agencies.

To summarize, there is considerable evidence that oral health inequalities exist in British Columbia, as elsewhere. Many people face barriers to accessing care within the predominant service delivery model. Notably, there are financial barriers to care resulting in an inequality of access based on social economic status. There is awareness of these inequalities throughout the province and from government. In recent years there has been an increase in community-based treatment programs established in the province to address the barriers to accessing dental care, including community dental clinics. The literature on community dental clinics indicates they can provide an effective dental safety net for vulnerable and underserved populations although they have limited capacity to fully address the health inequalities of a population. If the inequalities in access and health outcomes in BC are unacceptable, there is a need for evidence to inform appropriate responses.
2. OBJECTIVES

A principal mandate of community dental clinics is to ensure access for vulnerable populations, and community dental clinics often have difficulty providing care at the reduced fees paid for patients on welfare and other government benefit programs. The objective of this study was to collect information on five community dental clinics in BC that provide dental services to economically disadvantaged communities to determine how their operations might be sustained. The research is focused on community dental clinics that provide oral health treatment beyond pain relief and treatment of infection, including basic diagnostic, preventive, restorative, and periodontal services at a standard of care equivalent to private dental practice in the province. Three of the clinics are ‘social enterprise clinics’ because they do not receive government support, rely totally on fees for services, and therefore must ensure that their mix of patients includes patients who pay full fees through employer dental plans or other private dental insurance. There are also two ‘subsidized clinics’ that depend on receiving reduced fees from patients but also receive an annual subsidy from regional health authorities to supplement the revenue from patients.
3. METHODS

3.1 ETHICAL APPROVAL

Ethical approval was obtained from the British Columbia Medical Service's Foundation Community Based Research Ethics Board which assures compliance with both the Tri-Council Policy for Ethical Conduct for Research involving Human Subjects as well as the Vancouver Foundation Policy for Ethical Conduct of Community-based Research. Although the clinics and individuals participating in this research are not named, it is acknowledged that confidentiality of the participants cannot be guaranteed due to the small number of clinics operating in BC. The two researchers discussed this concern with all participants generally in terms of the study design, and with each interviewee as part of obtaining informed consent.

3.2 STUDY AND SAMPLING DESIGNS

This is a case study of five community dental clinics in British Columbia to provide information about the role that the clinics play in providing dental care to underserved populations. Inclusion criteria were used to focus on one specific model of community dental clinic. These criteria were: operates as a non-profit organization; provides basic dental care services including preventive and restorative services; employs paid dental staff; operates full-time hours; and located in BC. Excluded from this study were: dental services provided by public health (governmental) or through a teaching clinic at a university or college; clinics providing only relief of pain without comprehensive dental care; free clinics characterized by volunteer dental staff; those clinics operating part-time; clinics outside of BC.

3.3 RECRUITMENT

The researcher team have many years of experience with community-based dental care and community-based research, and as a result have strong and widespread relationships with people and agencies providing community dental care in BC. The five community dental clinics were known to the researchers as the clinics in operation in the province that met the criteria for the study. Each clinic was contacted by email and invited to a meeting in Vancouver to discuss the proposed research. All of the invited clinics confirmed their interest via email, and the researchers facilitated a meeting with representatives of all clinics in attendance. The meeting is believed to be the first time all five clinics sat around one table. At the meeting the researchers presented the proposed research design and discussed specific research details, and a plan for collecting data.

3.4 STUDY POPULATION

All five clinics are inner-city health services in urban locations in operation for a minimum of seven years and some for decades. Four of them operate within a larger non-profit agency and one is an independent non-profit society. All are integrated into a comprehensive service delivery model, although this integration varies within community health centres providing medical services and social services, school settings and integrated with inner-city housing, shelter, and addictions programs.
3.5 DATA COLLECTION

Data were collected in three ways: (a) review of electronic files to collect aggregate patient and procedural data; (b) review of each clinic’s finances; and (c) interviews with key members of the staff. File reviews and financial data were provided for April 1, 2007 – March 31, 2008 (the most recent fiscal year at the time the study began). Financial data were provided by agency management, whilst aggregate patient and procedural data were extracted from the clinics’ dental office software.

The researchers scheduled open-ended interviews with the clinic staff to augment the statistical profiles and analysis. A consent form was provided to each participant interviewed and prior to each interview the objectives of the research and issues around confidentiality were reviewed. Each clinic selected their representative(s) to be interviewed, with two staff people interviewed together at the request of three of the clinics. In total, eight people were interviewed — two dentists, three dental managers, and three executive directors. An interview guide was used to prompt for descriptions of programs and services; evaluations of strengths and challenges; recommendations for other communities and government; and overall opinions and analysis on the mandate, services, and sustainability of community-based primary dental care clinics. The interviews were recorded on audio tape and transcribed verbatim.
4. FINDINGS – PATIENT, PROCEDURAL & FINANCIAL REVIEW

4.1 STAFFING

In total, the five clinics with the 21 clinical operatories were staffed by the full-time equivalent (FTE) of approximately ten dentists, five dental hygienists, 13 certified dental assistants (CDAs), and eight reception staff. This estimate of FTE clinical positions constituting the clinics’ workforce included many part-time and on-call dental staff. For example, most clinics drew on a staff of four or five dentists to staff one to three FTE positions; some dentists worked full-time hours and others worked part-time hours, on-call, or only to cover evenings and weekends (Table 1). In addition to the dental staff, four clinics employed clinic managers with salaries drawn from dental clinic revenues and three of the clinics reported contributing to the salary of an executive director of the host agency. For example, in a community health centre, a dental clinic provided revenue for 30% of the salary for the centre’s executive director, calculated by the proportion of the dental clinic’s activities to the overall programming of the agency.

<table>
<thead>
<tr>
<th>Clinics</th>
<th>Number of Operating Chairs</th>
<th>Number of Full-time Equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Dentists</td>
</tr>
<tr>
<td>A</td>
<td>3</td>
<td>1.5</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>E</td>
<td>7</td>
<td>3.5</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>10</td>
</tr>
</tbody>
</table>

* Excluding management and administration positions

Each clinic was asked if recruitment and retention of dental staff was a problem. Overall, the respondents felt that the pool of dental professionals interested in working in the clinics is limited; however, they were often successful in retaining core staff. According to one staff member, “I thought it would be one of my challenges but we have actually had very few staff changes; I think a reason is because the [agency] ensures staff are well paid and have benefits.” Another noted that they can often hire part-time or on-call staff who continue regular employment in private practices. However, they find it challenging to retain full-time permanent dental staff. All of the administrators mentioned striving to pay staff “industry standards” or “wages that are comparable to private practice” and some noted that staff at non-profit clinics may have better benefits than in the private practice sector, for example extended health benefits and more flexible holiday scheduling. Finally, one administrator noted that they pay higher rates for staff as they hire trilingual staff to serve patients in the languages predominant in that community — Mandarin, Cantonese, and English.
4.2 PATIENT MIX

Approximately half of the patients treated in the five clinics surveyed were receiving public dental benefits from the provincial ministry responsible for welfare (at the time of writing, the Ministry of Housing and Social Development). In BC, this includes children covered through the BC Healthy Kids Program, emergency dental benefits for individuals receiving temporary social assistance, and dental benefits for those who are classified by the provincial government as Persons with Disabilities or Persons with Persistent Multiple Barriers.34 One-third of the patients, referred to often by clinic staff as the ‘working poor’, had no dental benefits. Patients entitled to federal benefits, such as the Non-Insured Health Benefits (NIHB) for Aboriginal peoples or the Interim Federal Health Program (IFHP) for government-sponsored refugees, represented less than 10% of those treated in the clinics.

<table>
<thead>
<tr>
<th>Source</th>
<th>Distribution by Clinic</th>
<th>Overall Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Welfare Dental Benefits</td>
<td>52%</td>
<td>70%</td>
</tr>
<tr>
<td>No benefits</td>
<td>39%</td>
<td>15%</td>
</tr>
<tr>
<td>NIHB Benefits</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>Private Insurance (and other)</td>
<td>6%</td>
<td>8%</td>
</tr>
</tbody>
</table>

The most significant difference between clinics was the role patients with private dental insurance played in providing revenue for overall sustainability of each clinic. The distribution of patients with private insurance ranged from 6% to 55%, which illustrates the different financial models used by the clinics. The clinics more oriented to a social enterprise model seek out patients who can pay full fees, usually with help from a private dental insurance plan, to offset the costs of treating patients who have no benefits. Other clinics serve only patients in need, and require external funding support to cover the reduced revenue from patients — with external subsidy coming from government sources, fundraising, offsetting costs by using other program dollars within the host agency, or a combination of funding schemes.

A staff-member at a social enterprise clinic commented, “You want people with good dental plans to choose your clinic… if you can keep this group happy, then you can provide good care to everybody.” In contrast, a member of staff at a subsidized clinic remarked, “[w]e encourage our patients with private insurance to seek out a dentist in the private sector so we can use that space to treat a non-insured or patient with [Governmental] Ministry benefits; we sacrifice that profit to ensure we see those in need of care.”
4.3 SERVICES PROVIDED

In the 2007-2008 fiscal year, there were approximately 23,000 patient visits to the five clinics, and patients received over 64,000 dental treatments. While there was variation between the clinics, on average the clinics provided 2.7 dental services per visit.

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Visits</th>
<th>Treatments</th>
<th>Mean Services per Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3,131</td>
<td>7,129</td>
<td>2.28</td>
</tr>
<tr>
<td>B</td>
<td>3,036</td>
<td>6,580</td>
<td>2.17</td>
</tr>
<tr>
<td>C</td>
<td>2,815</td>
<td>10,851</td>
<td>3.85</td>
</tr>
<tr>
<td>D</td>
<td>7,425</td>
<td>17,687</td>
<td>2.38</td>
</tr>
<tr>
<td>E</td>
<td>7,272</td>
<td>21,969</td>
<td>3.02</td>
</tr>
<tr>
<td>Total</td>
<td>23,679</td>
<td>64,216</td>
<td>2.70</td>
</tr>
</tbody>
</table>

Clinics generally measured their capacity to meet the demand for service by the waiting time for an appointment. Two clinics reported that they could provide services as needed immediately; another reported a three-day wait for a dentist and a two-week wait for a dental hygienist; whereas two others reported booking at least two or three weeks in advance for treatment.

The two clinics serving inner-city homeless communities registered the longest waiting times for appointments. Staff at one clinic estimated a 6-8 week wait for an appointment, but added, “Fifty percent or more of our patients access us by drop-in.” The other clinic struggled with a four-month waiting time. The staff there noted, “[t]he waiting list is indicative of the need out there for affordable dental care,” and commented that the waitlist also indicates the clinic’s inability to meet their mandate of providing services in a timely fashion. Delays can impact not only the ability to get timely care for the presenting problem, but also the likelihood of returning for future care — as one staff member commented, “[w]hen the wait-time for an appointment exceeded 3 weeks, there was a greater number of no-shows for follow-up treatments.”

4.4 PROCEDURAL ANALYSIS

Community dental clinics in BC are indeed providing comprehensive care to patients (Table 4). Treatment plans are clearly not limited to ‘relief of pain’ and procedures are not dominated by extractions. Rather, all participating clinics provided a full range of dental services including preventive and restorative services. On average, within the five clinics, one-third of the services were diagnostic, one-third preventive, and the other third restorative. The procedural statistics reported by the clinics also illustrates how each clinic uniquely serves its population, with higher levels of oral surgery (presumably extractions) at clinics serving predominantly adults in communities defined by homelessness, and higher levels of preventive care at clinics serving low-income families.
### Table 4: Relative Distribution of Clinical Procedures in the Five Clinics

<table>
<thead>
<tr>
<th>Clinical Procedures</th>
<th>Clinics</th>
<th>Distribution %</th>
<th>Mean Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A (n=7,129)</td>
<td>B (n=6,580)</td>
<td>C (n=10,851)</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>38%</td>
<td>37%</td>
<td>16%</td>
</tr>
<tr>
<td>Preventive</td>
<td>18%</td>
<td>17%</td>
<td>53%</td>
</tr>
<tr>
<td>Restorative</td>
<td>16%</td>
<td>16%</td>
<td>26%</td>
</tr>
<tr>
<td>Endodontics</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Periodontics</td>
<td>4%</td>
<td>6%</td>
<td>1%</td>
</tr>
<tr>
<td>Prosthodontics</td>
<td>5%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Oral Surgery</td>
<td>17%</td>
<td>19%</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

### 4.5 Financial Analysis

The combined operating costs of the five clinics were approximately $4 million per year, with variation in revenue and expenses related to the size of the clinics. Four of the five clinics operated at a loss for the fiscal year 2007/08 (Table 5).

### Table 5: Annual Income and Expenses in Canadian Dollars Associated with the Clinics

<table>
<thead>
<tr>
<th>Clinics</th>
<th>Income</th>
<th>Expenses</th>
<th>Operating loss/surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$605,219</td>
<td>$655,250</td>
<td>-$50,031</td>
</tr>
<tr>
<td>B</td>
<td>$471,423</td>
<td>$510,572</td>
<td>-$39,149</td>
</tr>
<tr>
<td>C</td>
<td>$282,425</td>
<td>$263,852</td>
<td>+$18,573</td>
</tr>
<tr>
<td>D</td>
<td>$1,132,465</td>
<td>$1,272,046</td>
<td>-$139,581</td>
</tr>
<tr>
<td>E</td>
<td>$1,277,562</td>
<td>$1,291,586</td>
<td>-$14,024</td>
</tr>
<tr>
<td>Total</td>
<td>$3,769,094</td>
<td>$3,993,306</td>
<td>-$224,212</td>
</tr>
</tbody>
</table>

Revenues for the five clinics were based on several funding models. The two subsidized clinics (Clinics A & B) received 25% of their funding from an annual funding subsidy, which allowed the clinics to treat patients exclusively with financial barriers to care. The three clinics without annual government subsidy (Clinics C, D & E) relied almost completely on patient fees supplemented by fundraising or grants.
The financial data represents a single year of established community dental practices which is not the same as tracking revenues and expenditures throughout a clinic’s life to identify start-up costs and determine when budgets stabilize.

On average two-thirds of expenses related to staffing the clinics, approximately one-fifth related to administration and capital costs (rent, utilities, etc), and the remaining costs related principally to clinical supplies and dental laboratory fees.

Each clinic was able to afford all of the direct costs related to providing dental services, such as staffing, supplies and lab fees — but the capital or infrastructural costs related to operations, rent, utilities and administration exceeded income in all but one clinic.

A typical performance measure of dental productivity is patient visits per FTE dentist per month. We are unable to report precisely on the productivity of each dentist, dental hygienist and support staff because services for dental hygiene were not isolated from the total number of patient-visits. In addition, typically estimates
were based on FTE rather than actual positions, and student staff and volunteers provide a clinical service that was immeasurable. However, considering these limitations, there were on average 125 visits per FTE (dentists and hygienists combined) per month, with a range of 93-171 patient visits per FTE clinical staff, and that on average the clinics provided 350 services per FTE (dentists and hygienists combined) per month.
5. FINDINGS – INTERVIEWS

5.1 MANDATE OF CLINICS

Staff at each clinic described how their services meet the unique needs of the community in which the clinic is located while also meeting the financial demands for revenue from patients.

One clinic that focused predominantly on children described their mandate as “to serve low-income families in [neighbourhood name]” and to improve access to care by “taking First Nations patients, people on income assistance and disability with no extra billing.” Two clinics operate as social enterprise clinics and treat patients with full benefits that help subsidize costs and emphasized their mandate as serving the whole community. According to staff: “[w]e treat anybody and everybody in our district, we have people with welfare benefits, people with comprehensive dental plans, working poor, a big range of people." Similarly, the other social enterprise clinic described its mandate as, “[t]o provide access and excellent care to our community; access is the key to what makes us different… we are interested in making excellent dental care accessible to everyone.”

Two other clinics received annual subsidies from regional health authorities to serve communities where there is a high incidence of homelessness and substance use. The mandate of one of them is described by staff as, “[t]o ensure that as many of our homeless and those at risk of homelessness have access to affordable dental care as well as others living in poverty and those who are working and have no benefits; often it is a piece that is missing in their overall health care so our goal is to… provide… dental care as part of their overall health care.” Staff at the other subsidized clinic talked about the need to provide “comprehensive dental care” that meets the different needs within the inner-city population, noting that many patients were struggling with drug use and cognitive disabilities.

5.2 EFFICIENCY AND SUSTAINABILITY

The ability to manage missed appointments was recognized as a factor that can compromise efficiency and jeopardize the financial sustainability of the clinics. The staff at most clinics identified missed appointments as a potentially significant issue although not necessarily an insurmountable problem when there is effective management of patient flow. Staff at several clinics noted that a high rate of missed appointments was compensated for by unscheduled emergency treatments. Staff at the clinic with the longest waiting list explained:

“No-shows could be an issue, but what we do is advertise that anyone who cannot wait the four months it takes for an appointment to show up and they come to the front steps and as soon as there is an opening in the chair [we will fit them in]. So, we never have an empty chair. Yes, no shows are a problem but no it does not affect the practice.”

Another staff member at this same clinic commented, “Every morning when I come to work there is a half dozen people who do not have appointments waiting.” Staff at other clinics explained:

“This is a hard population to schedule so we have drop-in times everyday – easily 50% or more of our patients access us by drop-in… there are no shows, but we almost always can fill them with walk-ins.”
One of the dentists interviewed described the implications for his practice in terms of efficiency and cost-effectiveness:

“It’s not like you can take one of these patients, slam-dunk them into a chair, put the freezing in, a dental dam on, work to maximum capacity and speed and out of the chair and out they go... It’s not like private practice dentists don’t also deal with that, but we decided here that we know there will be more of that and we will be prepared to deal with that, but unfortunately, you can guess what the financial impact of those decisions are.”

5.3 BENEFITS

Each clinic was asked: What do you consider the most significant benefits of your services? The responses emphasize the significance of providing services that are based in the community, recognize the patient as whole, and integrate within a larger network of services. As one clinic manager stated:

“It is more than just being poor and in pain, it now might be someone who is poor, has mental health issues and substance use and has pain. The expertise... required... to deal with that kind of multiple need in one person is huge.”

According to a dentist, the greatest benefit of his services to patients was, “[p]roviding care in their neighbourhood where they feel safe and secure, otherwise I don’t think they would access services. I don’t think people feel judged when they come to see us.” At a different clinic, the manager similarly explained the benefit as, “[b]eing close to where they live, that is the community part, and we treat them in their own language.”

Staff at every clinic mentioned the benefits of providing dental care as part of integrated care, suggesting this is a critical component of the philosophy of community-based dentistry. Staff at a dental clinic located within a community health centre described “a cross-the-floor referral system” with the medical clinic, where “we will see a patient for dental reasons and they will have a medical concern and we can take them across the hall and vice versa.” Staff at another dental clinic within a community health centre model described similar benefits, stating:

“There are times when a patient will be seeing one of our doctors with a medical issue and the doctor realizes there is something going on inside this patient’s mouth and they can ask the dentist to have a look.”

At one community health centre the medical and dental software systems are integrated and also linked to an on-site pharmacy. The director explained, “[o]ften the dental clinic has patients that have no money for antibiotics and they need antibiotics before they can receive dental treatment so we have cooperation with the pharmacy downstairs and the prescription is provided free of charge.”

The dentist at one of the clinics serving a predominantly homeless and at-risk community described how the dental clinic was effectively integrated with a range of community and health services – listing detoxification and rehabilitation programs along with shelter and housing programs. He explained how his dental treatment was linked to the patient’s overall health:

“We see different needs from the people in detox versus the people in rehab versus people in acute pain. We often get referrals from [the hospital] so we are often treating the addicted,
mentally challenged population... we see people who might otherwise slip through the cracks. It really helps these other programs because people end up in these acute detox programs and oddly one of the first things that become apparent is the state of their mouths. As they start to come off their opiate medications they are in a lot of uncontrollable pain so we are able to address the oral factors.

The challenges of providing dental care for individuals transitioning from drug use include: they are a difficult group and there is often a small window of opportunity to treat these people before they are shipped off to another facility and they are very complex people medically because they are dealing with withdrawal, pain issues and drug use and then you often have these very severe oral health care situations so you have to coordinate their treatment with their physicians.”

5.4 ADVICE TO COMMUNITIES

The staff in each clinic were asked what advice they had to offer communities contemplating a dental clinic in their area. Overall, they recommended caution, and explained that the financial risks and fragile sustainability of their ventures tempered their encouragement of new community-based clinics.

Several interview participants emphasized the need for a realistic business plan as a first step. They also recognized that developing and sustaining a new clinic would be a challenge that required people prepared for the task:

“You need a good group of dedicated people to do it and with any non-profit you need one person who goes to sleep at night thinking about the clinic and wakes up in the morning thinking about the clinic. If you don’t have that, then it is not going to succeed.”

The clinic managers interviewed emphasized the need for individuals with competent financial skills, and, according to one manager, “the skills to work in private practice but with community values.”

There were several references to the benefits of locating new dental clinics within larger agencies rather than as stand-alone programs – again due to the financial vulnerability inherent in the current models. An Executive Director recommended that the clinic should be located:

“where your overhead costs will be shared and possibly even subsidized for awhile. Because until you have at least a few years experience of running a clinic and a true sense of what your income actually is, it will be really hard to do a business plan that is sustainable. If you knew for sure that you had a roof over your head and that you had heat, light, washrooms, then you could at least try to match your income to your staffing, because if your dentist works he gets paid and if he doesn’t he doesn’t get paid. It takes some time to build up a practice and if you are alone you are much more vulnerable.”

In relating their experience, staff at another clinic recommended locating a clinic in a much larger non-profit agency during start-up because, “[t]he first few years it allowed us to be able to run a deficit if needed by covering the shortfall from the larger budget.”
5.5 ADVICE TO GOVERNMENT

The participants in the interviews felt that annual financial support from government was vital in enabling new clinics and supporting existing clinics. The staff in several clinics made the point that ensuring the viability of community dental clinics was in the best interest of government, as the financial cost of the clinics was less than the costs of the problems that arise when dental care was not accessible. “It is so cost effective to have a dental clinic in the community; from a primary health care point of view, from a dental point of view, and from a financial point of view,” stated one interview participant. Another commented, “Looking at cost benefits, the cost of losing this clinic would be very high. The cost of making a minor contribution to a clinic like this or other clinics around the province would be remarkably low.”

One interviewee, comparing the costs of enhanced public dental benefits and ongoing funding of community-based dental clinics, concluded:

“I’m all for improving blanket dental programs and eliminating the need for non-profit clinics but the reality is I don’t think it is going to happen. It is probably cheaper for [the government] and smarter for them to identify… target populations that need dental care and fund a clinic. It is probably going to be cheaper to fund the staff appropriately than it is to pay for services or not pay for services and deal with the consequences at [emergency rooms] or taking up hospital beds and chronic health issues.”

A manager at one clinic made this overall recommendation to government:

“I think the government is benefitting enormously by what we are doing but in fact they are not contributing… they are just the beneficiaries. Because of what we are doing their costs are less than what they might be. Sometime we have to recognize we do have sustainability issues and it wouldn’t take a billion dollars to address those issues. It would take a relatively small, finite amount of money.”
6. DISCUSSION

6.1 STRENGTHS AND WEAKNESSES OF THE STUDY

This study provides information about the role that community-based dental clinics are playing in providing dental care to underserved populations. Building on previous research, the findings form part of a larger research project regarding strategies to reduce oral healthcare disparities in BC. However, it does not assess the overall provincial need for dental care, nor does it consider the appropriate number of clinics to effectively serve the provincial needs. It is recognized that rural communities might be better served by other healthcare models and that community clinics are currently reliant on revenues from patients with public dental benefits. This demands a certain proximity to a population base with a proportion of individuals receiving public benefits. At this point, we do not know the population requirements for a viable clinic as they currently operate.

There were several methodological challenges to fully evaluate efficiency and sustainability of all five clinics. The initial data collection and analysis provided some information on the benefits from improving the reporting and evaluation capacity within existing clinics (e.g., measurement of clinic productivity, projections of financial viability), and help identify issues for new clinics to consider.

Access to financial data demands a trusting relationship between the researchers and the clinic’s administrators and clear communication about how the financial data will be used and presented. The five clinics provided financial statements, but privacy concerns precluded data on the salary for each staff position. The classification of expenses varied between the clinics, so comparisons require caution. For example, overhead costs such as rent, utilities and administration expenses may not be unique to the dental clinic but rather may be part of the overall agency costs requiring an accurate estimate of the dental clinic’s portion of indirect costs.

Different dental office software packages were used by the five clinics, which posed a challenge for reporting data in a standard way, especially relating to detailed aggregate patient and procedural data from the clinics. Only data that were available from all five clinics were used. Overall, the goal of standardized reports on patients, procedures, and finances from all of the clinics was confounded by the complexities of the services. Determining the staffing at the clinics is confusing as several part-time and on-call individuals may fill an FTE, and clinics may also utilize student and volunteer staff in the clinics. The inability to determine exact staffing levels reduced our ability to determine outcome measures such as visits or treatments per FTE. Hours of operation varied throughout a year, again limiting our ability to standardize efficiency measures. Similar issues arise when presenting treatment data, not all of the clinics recorded unbilled work provided by dental staff, or clearly differentiate between intentional write-offs, denied claims from government or insurance, and unpaid fees owed by patients.
6.2 STATEMENT OF PRINCIPAL FINDINGS

6.2.1 Community dental clinics serve a unique population

Poverty is the defining characteristic of patients receiving treatment in community dental clinics. One-third of the patients treated in the clinics had no dental insurance, were considered ‘working poor’, and faced hardship in affording necessary treatment even with the reduced fees for services. In most private practices in BC most patients (73%) have employer or other private dental insurance, in contrast to the 23% of patients of community-based primary dental care clinics with private benefits. A private dental practice might treat only a very small percentage of patients with welfare benefits, but for the community clinics, on average, half of the patients have dental benefits through welfare. In comparison, the most statistics on private practice dentistry in BC show that less than 2 percent of patients in private practices are those receiving welfare dental benefits.

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<th>Table 8: Distribution of Dental Benefits in Community Clinics and Private Practices in BC</th>
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<td>Source</td>
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<td>Welfare Dental Benefits</td>
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<td>NIHB Benefits</td>
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<td>Private Insurance (and other)</td>
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In addition to addressing the financial barriers experienced by most patients of community clinics, there are additional barriers that community clinics must address to effectively meet the diverse needs of specific groups. For example, some community dental clinics were providing care to large numbers of street-entrenched patients and those with mental health issues and active addictions. In other clinics language and cultural issues were major considerations in program planning and service delivery. Dentists in private practice probably treat many from the same populations, but in much smaller numbers and without an explicit mandate to serve the needs of vulnerable populations. Nor do they provide integrated care in relation to health and social services as do community clinics.

6.2.2 Community dental clinics provide a high standard of care

The clinics are able to accommodate large numbers of patients who need emergency treatment and others who cannot afford care from dentists in private practice. Moreover, they can provide a full range of diagnostic and restorative services as would be provided in private practices (Table 9).

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<th>Table 9: Distribution of Dental Services in Community Clinics and Private Practices</th>
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<td>Services</td>
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<td>Other procedures</td>
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* Based on data from Ontario

Victoria Cool Aid Society
6.2.3 Community dental clinics require additional resources to evaluate their effectiveness and efficiency

This report provides new information on the service delivery of community dental clinics operating in BC. However, there was minimal information or capacity in this study to determine the efficiency of the clinics. There were no performance measures relevant to this population of vulnerable patients or to this type of service and the clinics were not organized to measure efficiency or cost effectiveness. For example, data on staffing-hours per year were unavailable for calculating cost effectiveness. Clearly, there is a need to develop both best practices and performance measures for the clinics.

6.2.4 Community dental clinics are financially vulnerable

Community dental clinics in BC operate with very little or no ongoing government funding. Although the clinics maintain a balance of reducing financial barriers for patients, paying competitive salaries to staff, and remaining fiscally viable, they can also incur losses from infrastructural costs that are absorbed usually by the host agencies. However, there are no assurances that non-profit agencies can continue to absorb these costs. The clinics reported financial challenges from the costs of repairing, replacing, and upgrading equipment, and from unexpected expenses.

6.2.5 Support for community dental clinics should be coordinated

It is significant that the five clinics had never met prior to this study to discuss their mutual interests nor was there evidence of close collaboration between the clinics. They acknowledged the work of each other and contacted each other individually as needed, but essentially they operated independently. The staff welcomed further collaboration and the potential benefits from working together but recognised that meetings are costly especially when they result in lost revenues, and there is no budget for these meetings.

There are many possible opportunities for provincial development of community clinics. The management of the non-profit agencies who operate dental clinics are often not dental professionals and may lack the insight needed to enhance the efficiency of the dental clinic. Perhaps a provincial resource for all clinics could help ensure practices are operating efficiently? There is need also to modify the management software to accommodate the operations of a community dental clinic and allow for standardized, annual reporting.
6.3 IMPLICATIONS FOR POLICY

There is significant potential to support the existing community dental clinics in BC and to expand the services to other areas of the province. The five clinics with relatively modest financial support provide basic dental services to underserved, vulnerable populations by reducing the financial and cultural barriers to care.

The financial data represents a single year of established community dental practices which is not the same as tracking revenues and expenditures throughout a clinic’s life to identify start-up costs and determine when budgets stabilize. Collaboration with the local dental associations and associated services is necessary because community clinics depend on the cooperation and generosity of local dental laboratories and supply companies to contain costs. Several of the clinics benefit from space in buildings at no or reduced costs along with the financial security of a host agency. The actual costs for setting-up a community dental clinic, including purchasing equipment and renovations varies, but approximates $500,000 even with donations of time and space for volunteers and host agencies. Furthermore, a new clinic needs start-up funds for several years to reach its financial potential.

This study shows that an annual subsidy of $250,000, a typical clinic with three chairs, 3,000 patient visits and 7,000 treatments can provide approximately $500,000 in dental care. Therefore, for every $1 invested in a community dental clinic, a clinic could provide $2 in dental treatment to patients without dental plans or to those with public benefits.

The five clinics in this study provide about $4 million annually in dental care to underserved populations. An investment from government would leverage considerably more treatment, and in my opinion go a long way to meet the needs of many more of the most vulnerable people. Without government support, community dental clinics require considerable revenue from patients with private dental plans paying full fees for service. The greater reliance on revenues from these patients results in reduced services for those patients requiring subsidized fees.

Ensuring oral health equity requires significant change from the current system that is almost exclusively based on private dental practice paid by direct or indirect fee-for-service. Accessibility to private practices is primarily through a combination of employer-subsidized dental insurance and patients’ out-of-pocket spending. Improved oral health equity would require coordinated responses on multiple fronts: effective preventive programs; improved and expanded public dental benefits; and improved access to dental professionals for underserved populations. This research focused mostly on support for community-based dental clinics targeting the needs of underserved populations.
7. CONCLUSIONS

This report provides evidence collected from a case study of five community-based dental clinics providing dental care to communities facing financial and other barriers to oral healthcare in BC. The current patchwork of programs operating in BC lacks the support, and hence the capacity, to enable government to meet its health objectives. Yet government could build on the evidence gleaned from existing dental clinics to support and expand these services to achieve these objectives.

The five clinics profiled in this research employ approximately 31 FTE dental professionals providing an estimated 64,000 dental treatments through 23,000 patient visits in the one year reviewed. The combined value of the dental services provided is estimated at $4 million annually. The treatment is provided at reduced fees to low-income and underserved populations, with half of the patients receiving public dental benefits from the Province.

The clinics would benefit from annual subsidies from government because without subsidy they must treat patients who can pay full fees, which detracts from their primary focus on the more vulnerable members of society. A typical 3-chair community dental clinic can provide approximately $500,000 in dental care. An annual subsidy of $250,000 allows clinics to dedicate services to underserved patients requiring reduced fees-for-service. The outcome is a $1 investment providing $2 in dental treatment to patients without dental plans or to those with public benefits.

To date there has been little research available on the potential role of community dental clinics to reduce barriers to accessing care. This report provides new information on the service delivery of community dental clinics in BC. The findings indicate the capacity for these clinics to:

- Reduce the financial barriers to accessing dental care for patients who are low-income and uninsured or with public dental benefits.
- Provide dental care within integrated care settings thereby effectively reducing the multiple barriers to accessing care and treating the overall social and health needs of patients.
- Provide a full range of diagnostic and restorative services similar to the distribution of services in private practice.
- Operate dental services to effectively accommodate both a high frequency of missed appointments and treat high numbers of emergency need patients.
- Sustain a pool of dental professionals employed in community-based dentistry and paid competitive salaries.
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