Catch a Break

Preliminary (1 Year) Report

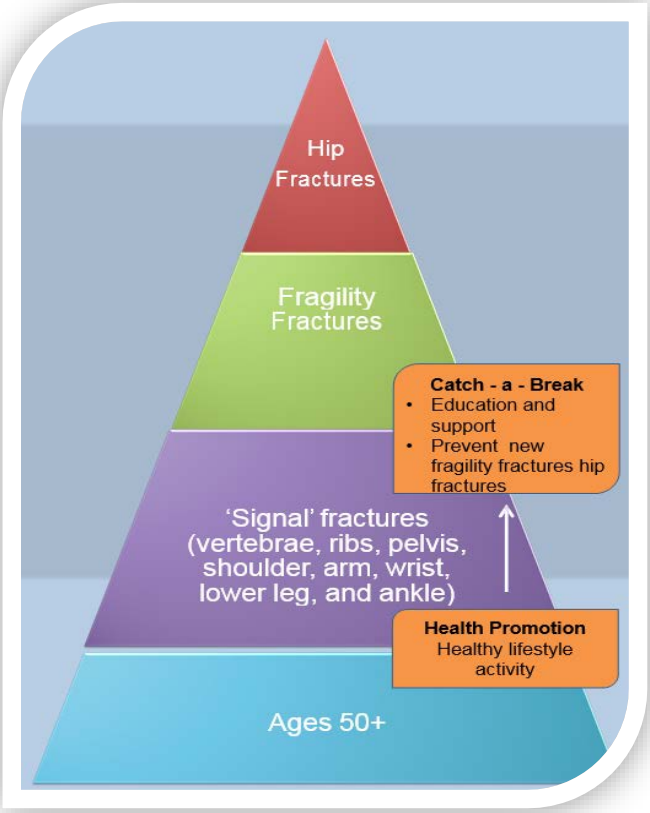


Table of Contents

1. Executive Summary

In *Catch a Break's* first year of operation, Health Link staff identified 7,323 Albertans at high risk of osteoporosis out of a screened list of 10,093 Albertans that suffered a sentinel fracture. Another 3,282 subjects were unable to be contacted and a further 2,422 subjects declined to participate in the provincial screening program. At the time of this report, 6,048 (83%) had followed up with their primary care physician concerning their fracture, 767 (10%) were in the contact queue for follow-up by Health Link, and 401 (5%) were lost to follow-up. Respondents reported that their daily use of calcium and vitamin D increased following enrolment in *Catch a Break* and receiving education materials; daily use of calcium increased to 68% from 47% (p=0.001), and daily vitamin D use increased to 78% from 63% (p=0.002). In the subset of high risk participants who had not followed up with their primary care physician regarding their fracture at initial contact, the proportion that underwent bone mineral density screening at the three months post-fracture increased to 74.9% from 61.6% (p<0.001). Similarly, the proportion of this subset indicating that they were prescribed osteoporosis medication increased to 15.2% from 7.1% (p<0.001). Preliminary analysis suggests that the rate of subsequent fracture within one year in Alberta for sentinel fracture cases has been relatively stable since January 2011, averaging around 2.6% (± 0.4%). There is insufficient data to yet determine whether the rate of subsequent fracture has experienced a shift or change in overall trend, although early results indicate downward movement in Edmonton and Calgary zones. Further validation is also needed to ensure that the algorithm developed by the Alberta Bone and Joint Health Institute is able to accurately distinguish between subsequent fracture cases and follow-up care for the initial fracture. There is a known limitation in the available data that is expected to result in underreporting of the rate of vertebral fractures, since many of such fractures are not captured in visits to emergency department or urgent care centres.

2. Background

In 2014, the Bone and Joint Health Strategic Clinical Network (BJH SCN) partnered with the Alberta Bone and Joint Health Institute (ABJHI) and Health Link to launch the *Catch a Break* program in the Edmonton Zone. Over the following six months the program was expanded across all of Alberta.

Catch a Break is operated through Health Link, Alberta Health Services' round-the- clock health information phone line. Health Link staff scrutinize information from emergency departments and ambulatory care centres across Alberta to identify subjects that have had a low trauma (fragility) fracture, raising suspicion of osteoporosis (OP). Health Link staff contact subjects by phone six weeks post-fracture and conduct an osteoporosis screening risk assessment using an electronic questionnaire.

The goals of the *Catch a Break* program are to reduce subsequent fractures by:

1. Improving awareness of osteoporosis;
2. Educating patient and primary care providers of screening and treatment options; and
3. Changing behavior related to osteoporosis medications, supplements, and modifiable risk factors.

Evidence indicates that about 1 in 2 women and 1 in 5 men will suffer from an osteoporotic fracture during their lifetime,[1] and yet only one in five patients treated for fracture in Canada ever receive the osteoporosis care they need to prevent subsequent fracture. A systematic review of 29 randomized controlled trials (n=63,897) found that treatment of OP in people over 50 with calcium and/or vitamin D supplementation was associated with a 12% risk reduction in fractures of all types, and varying reductions in loss of bone mineral density.[2]

By identifying Albertans at high risk of subsequent fractures and providing support to them, the program anticipates rapid payback through the reduction of subsequent fractures, reducing the demand for primary care, community rehabilitation services, acute hip fracture care, long-term care, and homecare.

This report provides a preliminary evaluation of the *Catch a Break* program through its first year of implementation.

3. *Catch a Break* Program Overview

AHS Analytics (formerly DIMR) monitored administrative data for a set of bone fractures commonly associated with fragility (Table 1). All Albertans that visited an emergency department, urgent care centre, or ambulatory care centre for one of these bone fractures, or having been admitted to hospital for one of these fractures, were contacted by telephone by Health Link staff and invited to participate in the *Catch a Break* screening program.

Table 1. Reported incidence of fractures, by type, of *Catch a Break* participants.

Site	Frequency (#)	(%)
Arm	4,949	49.0
Rib	1,815	18.0
Ankle	1,579	15.6
Thoracic or lumbar spine	628	6.2
Lower leg	473	4.7
Pelvis	288	2.9
Hand	204	2.0
Spine and pelvis	93	0.9
Other site	50	0.5
Pelvic region and thigh	7	0.1
Unspecified	5	0.1
Multiple Sites	1	0.01
Ankle and foot	1	0.01
Total	**10,093**	**100**

After completing a telephone assessment, participants deemed to be at high risk of OP are asked to follow up with their family physician to do a thorough investigation of OP and assess the risk of future fractures. Participants are mailed information about the disease, including risk factors and appropriate

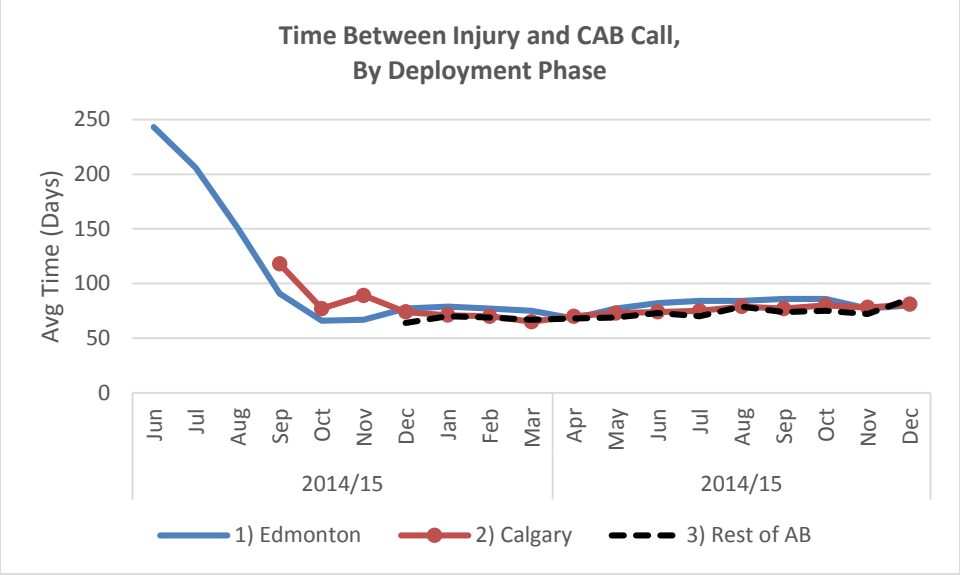
use of calcium, vitamin D, and exercise to strengthen bones. Notification of screening results with diagnostic and treatment guidelines for OP are sent to the family physician.

In addition to the initial screening, high risk participants who have not yet seen their family physician are contacted at three months with a reminder for follow-up, and then again at six months if they have still not been in contact with their physician. All participants deemed at high risk are contacted at 12 months to complete a final assessment.

The first phase of the program was deployed in the Edmonton zone, with the second phase following three months thereafter in the Calgary zone, and the final phase in the remainder of the province three months thereafter. The program aims to contact patients approximately six weeks following a sentinel fracture, although data processing times resulted in an average contact occurring 10 to 11 weeks post fracture.

Consistent with most staged implementations, there was a significant learning curve benefit that reduced the "lead-in" time in each subsequent phase of implementation. The Edmonton implementation required approximately four months of "lead-in time" to resolve data acquisition, processing, reporting, and other workflow issues. By the end of four months, Health Link staff were consistently contacting patients 10 to 11 weeks post-fracture (Figure 1). This lead-in time was reduced in the Calgary zone to about two months, and was virtually non-existent in the final stage of implementation.

Figure 1. Time between injury and CAB call, by deployment phase



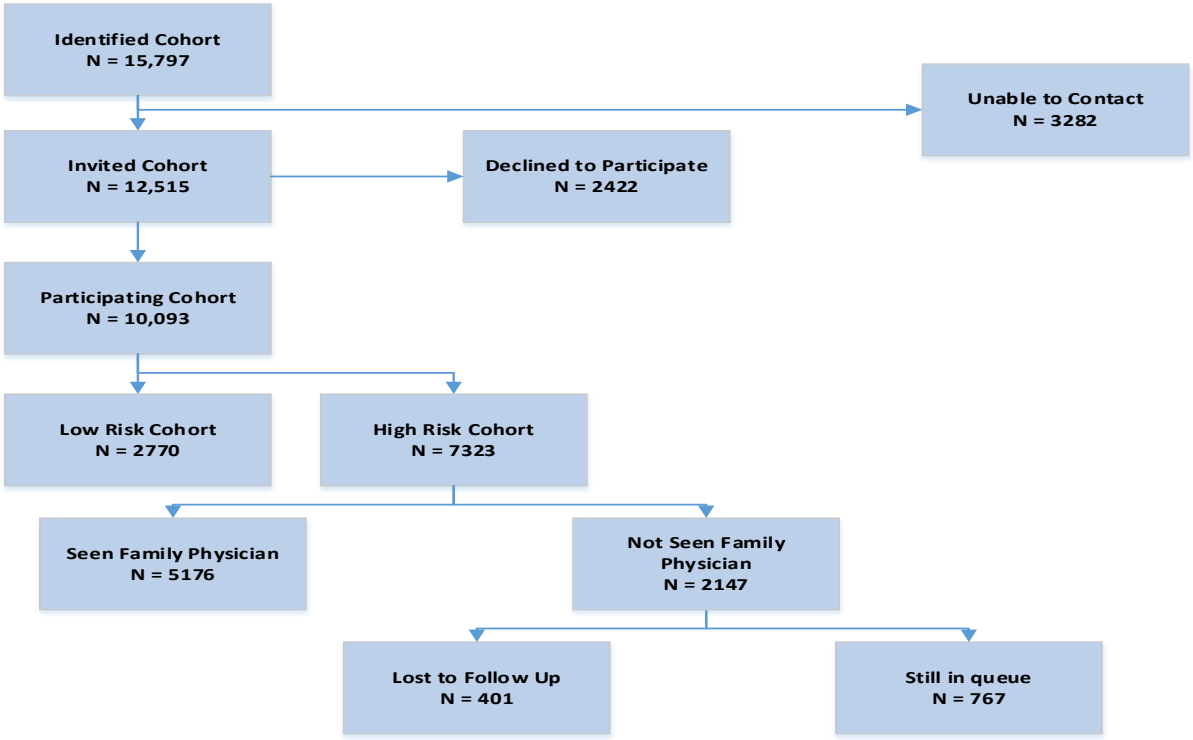
Participation Rates

In its first 18 months of operation, *Catch a Break* identified 15,797 Albertans who had experienced a fracture in circumstances that suggested they may be at high risk for OP (Figure 2). Health Link staff were able to successfully contact 12,515 (79%) who were invited to be screened, 81% (n=10,093 of 12,515) agreed to participate. In total, 64% (n=10,093 of 15,797) of the identified subjects with a

sentinel fracture were enrolled in the program, 21% (n=3,282 of 15,797) were unable to be contacted, and 15% (n=2,422 of 15,797) declined to participate.

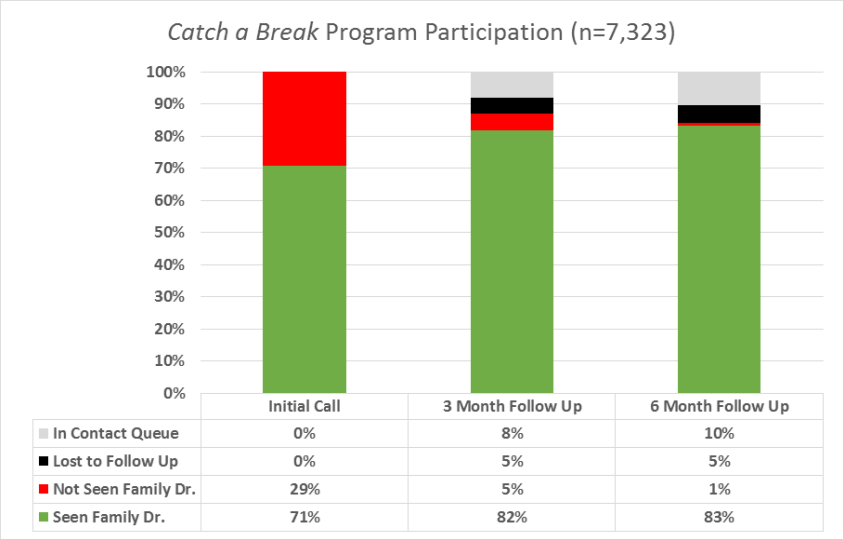
Of the 2,422 candidates that declined to participate in the program, 47% could not communicate with Health Link staff (e.g. language barrier, impaired speech, and/or cognitive function) and 41% indicated that they were not interested. A formative evaluation is included in the PRIHS STOP Fracture grant (report expected late 2016) to further investigate reasons for non-participation in *Catch a Break*. It has been suggested that increased public awareness about the program and risk factors for osteoporosis could help improve participation.

Figure 2. *Catch a Break* cohort



Health Link staff identified 7,323 high OP risk participants. At the time of the initial call, 5,176 (71%) had already seen their family physician regarding their recent fracture. This result was higher than anticipated during the program's design (due to known challenges with communication between acute hospitals and primary care and the perceived shortage of available primary care physicians).

Figure 3. *Catch a Break* participation



Health Link staff followed up with the 2,147 participants (29%) that had not yet seen their family doctor at three months, and again at six months if they had still not seen their doctor. By six months, 401 participants were lost to follow up, and 767 were still in the Health Link contact queue, resulting in 6,155 (84%) of the 7,323 participants completing follow up to six months post fracture.

Demographics

Catch a Break targeted people over 50 years old who had sustained a suspected fragility fracture. The average age of the high risk cohort (n=7,323) was 67.2 years old (± 11.1 years), and 75% were women (Table 2).

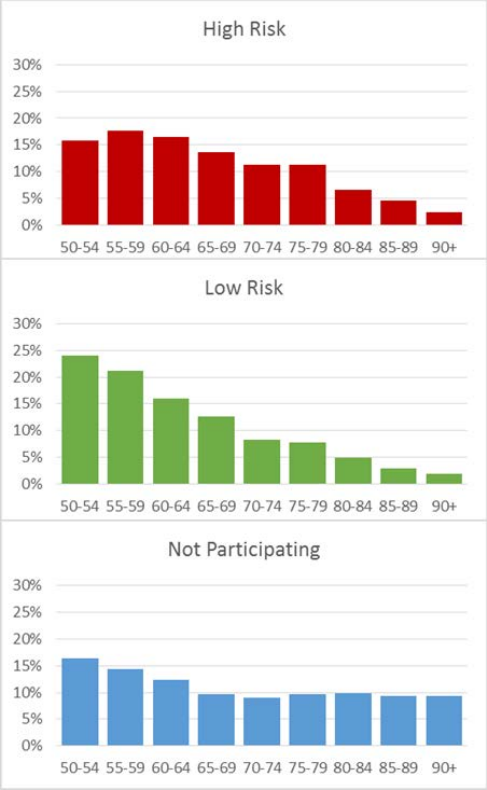
Table 2. Patient Demographics, by Screened Risk Category

Risk Category	High Risk			Low Risk			Not Participating		
Sex	All	F	M	All	F	M	All	F	M
Avg Age (Years)	67.2	67.5	66.5	64.4	65.1	63.7	70.6	72.7	66.7
Standard Deviation (Years)	11.1	11.1	10.9	10.8	11.1	10.3	13.7	13.8	12.7
Volume (#)	7,323	5,504	1,819	2,770	1,439	1,331	5,704	3,769	1,935

Age distribution is right-skewed for both the high and low risk categories, although the age of the group not participating is quite evenly distributed, with a greater percentage of participants in the higher age categories (Figure 4). This could be a contributing factor to those that do not participate, as other health concerns or institutionalization (e.g. long term care facility) may reduce willingness or ability to participate.

When the *Catch a Break* program was initially designed, only those patients between 50 and 75 years of age were included. After the first year of program implementation, the *Catch a Break* team removed the upper age restriction and included anyone over 50 with a fragility fracture. The results here suggest it may be worthwhile to re-examine that decision, and reconsider the target cohort to ensure receive maximum value for money.

Figure 4. Age distribution by risk category



In general, men are 5-8% less likely to participate in the program than women, although the reverse is true in the Central Zone (Table 3).

Geographical Location

The program had a staggered implementation across the province (Edmonton Zone, Calgary Zone, and then remainder of province). All Zones are now covered by *Catch a Break*, and all Zones have been implemented for more than one year with sufficient data to be included in this report. The largest volume of participants enrolled in the program are from the Edmonton and Calgary Zones (46% and 32%, respectively), which is consistent with the sequence of the staggered implementation.

There is some variability in the demographics of participants across Zones. On average, participants from the South and Central Zone are slightly older than the rest of the province (70.6 and 69.5 years, respectively, compared to 68.2 years on average), and a smaller proportion of participants were women in the North Zone (61% compared to 68%) (Table 3).

Table 3. Participation by Zone

				High Risk (%)			Low Risk (%)			Not Participating (%)		
Zone	**Enrolled (%)**	**Avg Age (Years)**	**Female (%)**	**All**	**F**	**M**	**All**	**F**	**M**	**All**	**F**	**M**
North	63%	66.6	61%	66%	75%	37%	34%	25%	50%	37%	35%	41%
Edm'n	67%	67.7	68%	77%	83%	31%	23%	17%	37%	33%	32%	36%
Central	64%	69.5	68%	71%	78%	57%	29%	22%	43%	36%	37%	34%
Calgary	61%	68.3	69%	70%	77%	55%	30%	23%	45%	39%	38%	40%
South	61%	70.6	70%	67%	75%	46%	33%	25%	54%	39%	37%	45%
Alberta	**64%**	**68.2**	**68%**	**73%**	**79%**	**58%**	**27%**	**21%**	**42%**	**36%**	**35%**	**38%**

Fracture Types

A group of physicians that specialize in OP identified the list of suspect fragility fracture types to be monitored by the program. Arm fracture was, by far, the most common fracture type for the 7,323 high risk participants (n=3,949; 54%), followed by ankle (n=1,247; 17%) and rib fractures (n=987; 14%), respectively (Figure 5).

Four out of five participants at high-risk of OP reported slipping or tripping as the cause of the accident that resulted in their fracture (Table 4).

Figure 5. Fracture types reported by participants at high-risk of OP (n=7,323)

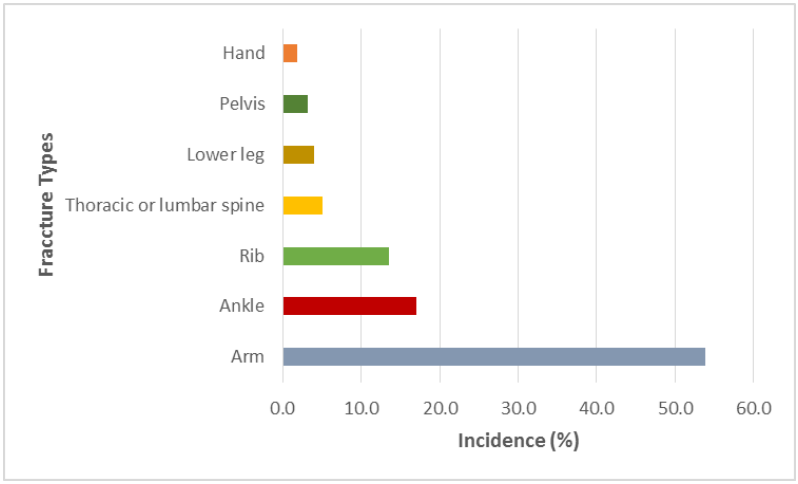


Table 4. Accident type resulting in fracture of high-risk participants.

Accident Type	Frequency (#)	(%)
Slipped or tripped outside	3,922	53.6%
Slipped or tripped inside	1972	26.9%
Fell down 3 or fewer steps	514	7.0%
Fell out of/off of low object	336	4.6%
No fall or injury	320	4.4%
Other - high risk accident	259	3.5%
Total	**7,323**	**100.0%**

4. *Catch a Break* Results

Change in Behavior

The *Catch a Break* program was launched to, in part, promote change in behavior – including lifestyle and health management – that could help to avert future fractures. Increased awareness of OP, the associated risk factors, and effective treatment options, could incent behaviour change to reduce the risk of subsequent fracture. The behaviour changes would be supported by the family physician intervention, including appropriate diagnostics, prescriptions, and other OP risk reduction strategies.

The follow-up components of *Catch a Break* serve as both a prompt to ensure follow up with the family physician, as well as a reminder regarding risk factors, such as alcohol and tobacco consumption, frequency of exercise, and calcium and vitamin D supplementation.

The program monitors change in behaviour through:

1. Follow up activity with the family physician
2. Screening of bone mineral density
3. Prescription of OP therapies
4. Use of supplements (calcium, vitamin D)
5. Lifestyle changes (alcohol, smoking, and exercise)

1. Family Physician Follow Up

Encouraging follow up with primary care physicians is a key component to *Catch a Break* to promote awareness, appropriate diagnosis, and treatment of OP. Those patients deemed high risk who had not seen their family physician at the initial survey were followed up at three and/or six months (Figure 5).

At the six month follow up, 6,085 of the 7,323 (83%) high risk patients had seen their family physician, an increase from 71% at the initial survey. The largest increase in follow up visits (n=818 of 2,147) occurred between the initial contact (about six weeks post-fracture) and the three month follow up call. It should be noted that a large share of the six month follow up calls (n=767 of 1,329) had not yet been completed at the time of this report.

Not unexpectedly, participants who had not seen their family physician at three months had a declining likelihood of follow-up with their physician by the six month call. This suggests that a future review of the program should evaluate the effectiveness of the six month follow up calls, as there was very little change in overall behavior and significant loss to follow up (n=401 of 2,147).

Figure 6. Catch a Break follow up and primary care physician (PCP) follow up

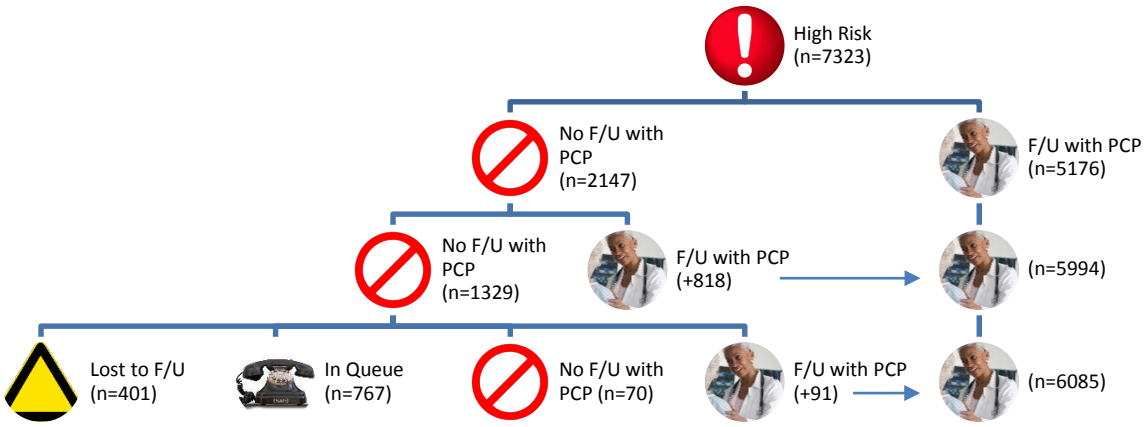
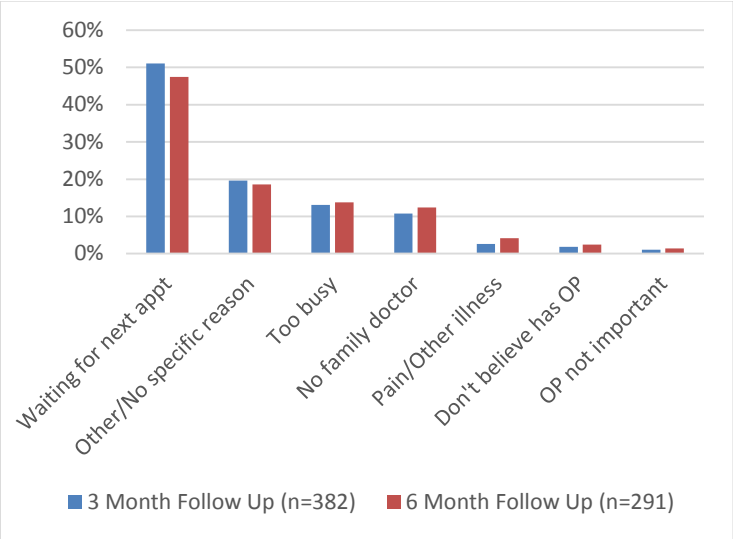


Figure 7. Patient-reported reasons for not following up with family doctor



Participants were also asked during their follow-up calls why they had not yet seen their family physician. The most common reason provided was that they were waiting for their next scheduled appointment, despite being considered high risk for OP.

This suggests that more education and awareness around the risks of osteoporosis may be needed to promote awareness of OP risks, the benefits of healthy lifestyle changes, and the effectiveness of intervention strategies.

Despite the perceived challenges with access to primary care physicians across the province, only a very small percentage of participants indicated this as a reason for them not seeing a physician to discuss their broken bone.

2. Bone Mineral Density Testing

The risk assessment completed through the *Catch a Break* phone surveys are an important first step in alerting participants that they may be at high risk for OP, however they are not clinically sufficient to diagnose osteoporosis. *Catch a Break* was designed to reinforce the importance of using appropriate investigations along with the assessment of other risk factors that have been identified by their family physician.

Bone Mineral Density

- Without BMD testing, 80% of fractures are not given osteoporosis therapies
  - *Osteoporosis Canada*

Evidence-based diagnostic and treatment algorithms for OP were provided to family physicians in the information package, along with a generic bone mineral density (BMD) requisition form to encourage the consideration of testing as recommended by the provincial and national guidelines.

Participants were asked in the initial surveys if they had ever had a BMD test. Sixty-four percent (n=4,711 of 7,323) of the high risk cohort indicated that they had previously undergone BMD testing,

although this rate was slightly lower, 61.6%, in the subset of participants that had not followed up with their primary care physician at initial contact (n=740 of 1,201). The rate of BMD screening in participants that completed the three month follow up increased to 74.9% (n=900 of 1,201), a statistically significant increase (p<0.001) (Table 5).

Table 5. Bone mineral density screening in high risk participants

	All Participants	No Primary Care Follow Up at Initial Contact
High-Risk Participants (#)	7,323	1,201
Previous BMD reported at initial contact	4,711 (64.3%)	740 (61.6%)
BMD reported at 3 month follow-up	N/A	900 (74.9%)

The rate of BMD testing at initial contact was higher than expected given the low rates of OP diagnosis. One limitation of the current program is that BMD screening results are currently self-reported due to the lack of availability of provincial diagnostic imaging data. These results do not take into consideration the timing of the previous BMD tests, whether they were related to an investigation of OP, nor whether BMD was warranted and appropriate under Osteoporosis Canada guidelines.

The program hopes to improve the reporting of appropriate BMD screening results as additional diagnostic imaging and other data becomes available.

3. Osteoporosis Therapy

People that are diagnosed with OP suffer more rapid bone loss, causing bones to become thinner and weaker over time. Without appropriate medication, bones will continue to deteriorate. For individuals diagnosed with OP there are a variety of effective drug treatments available with the primary aim to reduce fractures.

Osteoporosis Therapy

- Fewer than 20% of fracture patients in Canada currently undergo diagnosis or adequate treatment for osteoporosis.
  - Osteoporosis Canada

One goal of *Catch a Break* is to build awareness within the public and primary care about appropriate screening for the disease and, where needed, the importance of the initiation of first line OP medications. By alerting family physicians that their patients may be at high risk of OP and providing the diagnostic and treatment guidelines, *Catch a Break* is supporting clinical decision making without interfering with the primary management of the patient.

At the initial contact, 13.2% (n=965 of 7,323) of high-risk participants indicated that they were prescribed a medication to manage OP (Table 6). However, the results were much lower for the participants that had not yet followed up with primary care regarding their fracture. Only 7.1% (n=85 of 1,201) of this subset had been prescribed OP medications. At the three month follow up contact, this had increased to 15.2% (n=182 of 1,201), a statistically significant increase in this subset (p<0.001).

Table 6. Self-reported rates of prescription of OP medications

	All Participants	No Primary Care Follow Up at Initial Contact
High-Risk Participants (#)	7,323	1,201
Prescribed OP medication at initial contact (self-report)	965 (13.2%)	85 (7.1%)
Prescribed OP medication at 3-month follow up (self-report)	N/A	182 (15.2%)

NOTE: ABJHI was recently provisioned access to provincial Pharmacy (PIN) data, and will include analysis of change in OP medication prescriptions in a future evaluation.

4. Use of Supplements

Osteoporosis Canada and Health Canada both recommend routine vitamin D supplementation for all Canadians year-round as it is impossible for adults to ingest sufficient vitamin D from diet alone.(3, 4) While the recommended dietary and supplementation allowances vary slightly between organizations (Table 7), both institutions are in agreement that daily supplementation is safe and effective in maintaining bone health.

Vitamin D

- Vitamin D helps build stronger bones and improves the function of muscles which in turn improves your balance and decreases the likelihood of falling resulting in potential fractures
  - *Osteoporosis Canada*

Table 7. Daily recommended vitamin D intake for Canadians

Osteoporosis Canada		Health Canada	
Age	**Recommended Intake from Supplements**	**Age**	**Recommended Dietary Allowance**
19 to 50 years	400 to 1000 IU per day	9 to 70 years	600 IU per day
Over 50 years	800 to 2000 IU per day	Over 70 years	800 IU per day

For those over 50, Canada's Food Guide recommends 3 servings of milk and alternatives such as yogurt, cheese, puddings etc. This essentially means that for adults over 50 they need the equivalent of one good serving of dairy at each meal.

Calcium

- Studies of older adults show that adequate calcium intake can slow bone loss and lower the risk of fracture
  - *Osteoporosis Canada*

Table 8. Canada Food Guide calcium intake recommendations

Age	Daily Calcium requirements (includes diet and supplements)
19 to 50 years	1000 mg
Over 50 years	1200 mg

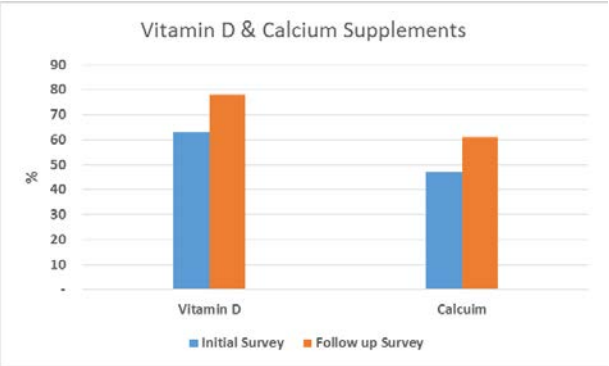
Participants that are deemed at high risk of OP through *Catch a Break* are provided education during their initial call regarding the recommended guidelines for vitamin D and calcium supplementation. They

are asked whether they are taking either supplements and, if so, the frequency and dosage. Participants are also provided more education through the mail regarding eating well to prevent or treat osteoporosis, along with recommendations to follow up with their family physician.

During the follow-up call, *Catch a Break* staff re-asked participants about their vitamin D and calcium use to determine if the education being provided and the encouragement to see their family physician had any impact on use of supplements.

From the initial survey to the 1-year follow-up call, self-reported daily use of calcium increased to 61% from 47%, and daily use of vitamin D increased to 78% from 63%.

Figure 8. Daily use of supplements



5. Lifestyle Changes

Catch a Break seeks to alter modifiable risk factors by reinforcing through education and awareness the relationship between lifestyle choices and risks of developing and accelerating progression of OP. The program focuses primarily on smoking and exercise, with supporting educational materials provided in the patient information package.

Smoking

Smoking and Osteoporosis

- *Smokers have a 25% increase in fracture risk and are nearly twice as likely to experience hip fractures* (5)

Smoking affects the metabolism of hormones, body weight, vitamin D levels, calcium absorption, blood circulation, and increases oxidative stress thus disrupting healthy bone resorption and formation, leading to osteoporosis.(5) As part of awareness and promotion of change in behavior to reduce the risk of osteoporosis, the *Catch a Break* program provides information on smoking as a risk factor to osteoporosis.

At the initial survey, 19% of participants indicated they currently smoked. At the six month follow up interview, 17% indicated that they currently smoked. The 2% decline is not statistically significant (p=0.183).

Exercise

Benefits of Exercise

- Exercises aimed at increasing muscle strength, combined with weight-bearing aerobic physical activity, help to prevent bone loss as we age. - *Osteoporosis Canada*

Exercise is very important for all of us, but is especially important for those at risk of osteoporosis due to a broken bone. It helps to slow the rate of bone loss by increasing muscle strength as we age. Catch a Break participants in addition to being provided information on smoking as a risk factor were also provided information on how exercise can help to slow the progression of osteoporosis and prevent future fractures. During the screening process, participants were asked about exercise. At the initial survey 77% of patients indicated they exercised regularly. At the six month follow up

interview, 83% indicated that they now exercised regularly. Although not a substantial change, the awareness of the benefits of exercise is important for this cohort of participants given their high risk.

Subsequent Fracture Rate

The primary outcome of interest is to reduce the rate of subsequent fragility fractures. Participants are asked at the 1-year follow-up call whether they have suffered a subsequent fracture. At the time of this report, only 1,550 of the eligible 5,351 (29%) high-risk participants that had reached one year post-fracture had completed a follow-up with Health Link.

ABJHI linked all of the *Catch a Break* participants to the National Ambulatory Care Reporting System (NACRS) data to identify those that had a subsequent fracture within one year. Of the 5,351 *Catch a Break* participants at high risk of OP that had reached one year post-fracture, 210 (3.92%) experienced a subsequent fracture. Due to ambiguity in the data (e.g. unknown or undocumented laterality), there were 95 cases (1.78%) where it was uncertain whether the activity in NACRS related to a subsequent fracture or to follow-up activity associated with the initial fracture (Table 9).

Table 9. Subsequent fracture rate for *Catch a Break* participants at high risk of OP

Category	Frequency (#)	(%)
High-Risk Participants at 1-Year Post Fracture	5,351	
No subsequent fracture	5,011	93.65%
Subsequent Fracture	210	3.92%
Uncertain	130	2.43%

ABJHI developed the following criteria to assist in the identification of subsequent fracture cases:

- Patient visited an emergency department or urgent care centre within one year of the date of the initial fracture, and
- NACRS indicates a hip fracture or a fracture type on the list of sentinel fractures, and either:
    1. The subsequent fracture was for a different body part (e.g. arm vs. rib) or contra-lateral side (e.g. left vs. right); or
    2. For the same body part and laterality, or unknown laterality, but beyond 90 days of the initial fracture (in order to exclude follow-up care being incorrectly classified as a "subsequent" fracture).

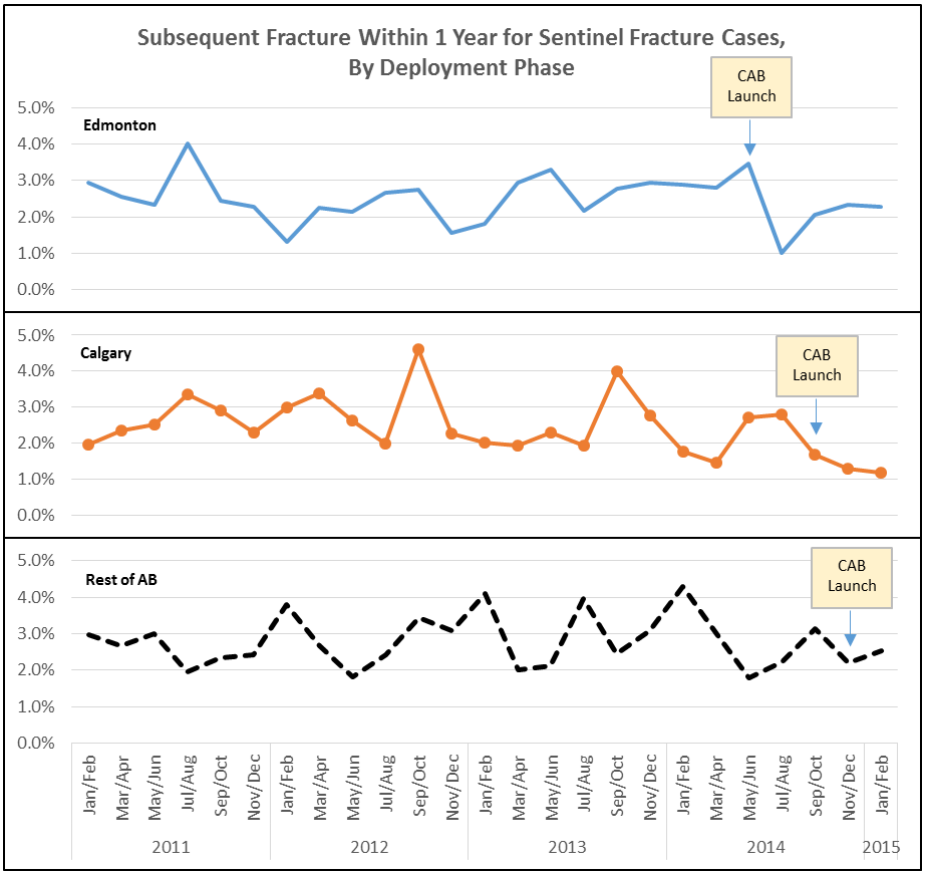
Despite the above algorithm, some ambiguity remains regarding whether activity documented in NACRS represents follow up care or a new fracture episode. Further investigation and validation via chart review is warranted.

Furthermore, it is highly likely that the subsequent fracture rate captured via emergency department and urgent care visits underreports vertebral fractures that are commonly captured in community practice. This limitation is likely to persist in the absence of additional, more refined, sources of clinical data from community practice (e.g. primary care) and/or diagnostic imaging.

Examining the historical NACRS data for all sentinel fracture cases using the algorithm described above reveals a variable, but generally flat trend in the rate of subsequent fracture prior to the launch of *Catch a Break*. Provincially the rate averaged 5.6 ± 0.6 percent from January 2011 through April 2014.

Since the launch of *Catch a Break*, there has been early indication of downward movement in the subsequent fracture rate in the Edmonton and Calgary zones, although there is insufficient data to confirm a downward trend or shift in results at this time. Similarly, there is insufficient data to detect any change in the subsequent fracture rate in the rest of Alberta.

Figure 9. Subsequent fracture within 1 year for sentinel fracture cases



LESSONS LEARNED

In reviewing the launch and first 18 months of operation of Catch a Break, several areas surfaced as lessons learned.

Lessons learned

- *More effective communications with primary care physicians and patients.*
- *Evaluate program tools periodically and revise them as required.*

1) **Communications with primary care.** Primary care is a key constituent of Catch a Break. Three different letters were sent to primary care physicians in Alberta describing the Catch a Break program and role of primary care in it. Each letter elicited new questions from the physicians.

   Lesson learned: Involve primary care directly in developing the program's communications plan and in preparing direct communications with physicians.

   Action: Consult representatives of primary care to identify what this large group of physicians would value most from the program. Survey primary care physicians for their opinion of the program's contribution and value.

2) **Direct-to-market information.** Almost all of the data used by Catch a Break to identify fragility fracture patients are sourced from emergency departments and cast clinics around Alberta.

   Lesson learned: Use emergency departments and cast clinics to reach fracture patients with information about the prevalence and risks of OP and the purpose and value of Catch a Break.

   Action: Develop an information pamphlet for emergency departments and cast clinics around the province.

3) **Privacy of information.** Three of the 12,500 fragility fracture patients contacted by Catch a Break expressed concern about the transfer of their health information to program staff.

   Lesson learned: Make information about Catch a Break available to fracture patients in emergency departments and cast clinics around Alberta.

   Action: Develop an information pamphlet for emergency departments and cast clinics.

4) **Evaluate and adjust as required.** Catch a Break's patient questionnaires were revised twice based on feedback from Health Link Alberta staff about their efficacy.

   Lessons learned: Evaluate periodically the tools used in the program and be prepared to revise them as required.

   Action: Conduct a scheduled evaluation of program tools.

5. References

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