

**Libby Montana’s Public Health Emergency, Asbestos Health Screening
Center for Asbestos Related Disease
Grant Number 6 NU61TS000295-01-01
Year 1, Quarter 3
(March 1, 2020 through May 31, 2020)**

MAJOR FINDINGS

The goal of the funding opportunity is “early detection of certain medical conditions related to environmental health hazards.” The Center for Asbestos Related Disease (CARD) screening program has been successful in early detection of asbestos related disease (ARD) and lung cancer resulting from the Libby asbestos exposure public health emergency. Outreach and education locally, regionally, and nationally are also being conducted to support the screening programs. These efforts contribute significantly to the success of the grant. The clinical data in this report includes both the ARD and lung cancer screening (LCS) programs. Outcomes reported in the tables below are for the third quarter of year 1. Cumulative totals also include, if collected, screening activities since 7/1/2011, the beginning of the first four-year screening grant.

Table 1 reports the number of ARD screenings, the number of patients who needed CT evaluations to determine diagnostic status, the number of patients diagnosed with ARD, and the number of individuals who were eligible for ARD Medicare. Individuals can be eligible for Medicare through the Environmental Health Hazard designation criteria, but not be clinically diagnosed with ARD. This situation occurs in three different ways: (1) A positive chest x-ray B-read. (2) A positive CT read by an outside radiologist. (3) A documented diagnosis of an asbestos related cancer (mesothelioma, lung, colon, rectum, larynx, stomach, esophagus, pharynx and ovarian). It is noteworthy that most screening participants did not have occupational or household exposures to Libby Amphibole asbestos, but reported environmental exposure only.

Screening Outcomes	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 5/31/20	3/1/20- Yr. 1 total to date	Cumulative totals
# ARD screenings	6,563	110	457	7,020
# CT diagnostic appointments	4,229	53	227	4,456
# ARD diagnosed	2,552	27	102	2,654
# ARD Medicare eligible	2,880	29	114	2,994
% diagnosed w/ environmental exposure only	not collected	85%	82%	not collected

GOALS/OBJECTIVES

Goal 1: Provide medical screening in the Libby area and across the nation

Asbestos Related Disease screening in Libby and across the nation:

Table 2 details types of screening appointments. It is noteworthy that even after years of asbestos health screening programs in the Libby, Montana; during year one to date, 40% of screening patients were participating for the first time. Approximately half of the screening participants live outside of Lincoln County and this has remained true for the past eight years of the program. It is estimated that over 80,000 people could have spent significant time in the

Libby, Montana area while the mine was in full operation, so there is likely a large number of potential screening patients that have not yet been through the program. For those who qualify, asbestos health screening is offered either in Libby at the CARD Clinic or at a distance for those who cannot travel to Libby. Due to the Coronavirus pandemic, during quarter 3, CARD began promoting more long distance screening for those who were being encouraged not to leave their local areas. Successful completion of long distance screening (LDS) occurs when the participant completes all screening related activities (questionnaires, phone interview, spirometry, chest x-ray, and CARD medical provider visit by phone, plus a CT and second medical provider visit by phone if appropriate). The total number of appointments reported exceeds the number of patients because many screenings include two appointments; an initial appointment and then a CT follow-up appointment. Each participant is asked if they would like to share their health information and screening results with ATSDR's Tremolite Asbestos Registry (TAR), and with their primary care provider (PCP). Most say yes to both consents. To better understand the positive impacts of early diagnosis and treatment, we have modified our data collection for this grant to record the number of past screeners who have been diagnosed with ARD and follow-up at CARD. During the third quarter, 465 patients who were prior screening participants were seen for follow-up at CARD.

Appointment Type	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# screenings	6,563	110	457	7,020
# new screening patients	4,806	51	181	4,987
# rescreenings	1,757	59	285	2,042
# Lincoln County, MT residents	3,366	63	238	3,604
# LDS eligible screenings done in clinic	2,679	19	109	2,788
# of LDS patients	519	28	112	631
# in clinic appointments (includes both visits)	9,445	116	498	9,943
#LDS appointments (includes both visits)	1,347	45	184	1,531
Consented for TAR registry	5,015	86	360	5,375
Consented to notify PCP of screening results	not collected	85	362	not collected
# past screeners diagnosed with ARD seen for f/u	not collected	465	1738	not collected

Table 3 details demographic data related to age and gender of the screening population.

Demographics	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# screenings	6,563	110	457	7,020
# females	3,448	57	266	3,714
# males	3,115	53	191	3,306
# under age 35	351	1	14	365
# between 35-49	1,289	22	88	1,377
# between 50-64	3,279	56	222	3,501
# age 65+	1,644	31	133	1,777

Table 4 summarizes important clinical findings including the number of participants who report respiratory symptoms that may be asbestos related, the number with abnormal spirometry breathing tests, and for this grant, we've added the number with abnormal body mass index (BMI). This information is used in clinical decision making to determine whether a CT scan should be performed. Occasionally, participants will not have a chest x-ray but request screening anyway. This is usually because only a CT is medically warranted, the individual is

too young, he/she refused the chest x-ray, or she is concerned about possible pregnancy. The number of abnormalities identified on CXR is low because CARD medical providers do not typically diagnose ARD from x-rays. If ARD is suspected, based on ATS criteria, a CT scan is ordered. CT scans are considered the gold standard for ARD imaging.

TABLE 4: CARD CLINICAL FINDINGS ASSOCIATED WITH ASBESTOS RELATED DISEASE				
CARD Clinical Findings	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# screenings	6,563	110	457	7,020
# symptomatic	4,408	69	283	4,691
# abnormal spirometry	1,699	37	131	1,830
# abnormal BMI (≥ 30)	not collected	49	188	not collected
# CXRs completed	6,361	109	451	6,812
# no CXR done	202	1	6	208
# abnormal CXR (CARD)	394	2	14	408
pleural only	356	1	12	368
interstitial only	19	1	1	20
both	19	0	1	20
# CTs completed	4,229	53	227	4,456
# abnormal CT (CARD)	2,525	25	100	2,625
pleural only	1,988	22	87	2,075
interstitial only	12	1	2	14
both	525	2	11	536

Table 5 describes significant findings of ARD screening. These findings include focal opacities, masses, and confirmed cancers. In addition, data is now being collected to track incidental findings, specialist referrals, and depression follow-ups completed as part of screening. Confirmed cancers that are possibly asbestos related include lung, colon, rectum, larynx, stomach, esophagus, pharynx and ovary. These are based on Medicare's Environmental Health Hazards checklist. Only cancers for which CARD has medical record confirmation are reported. Patients with significant findings are referred for appropriate follow-up, but many are referred to primary care rather than specialists for initial evaluation. Not all patients share the results of their follow-ups with CARD. Focal opacities are common in screening studies, and their prevalence is well documented in literature. Only a small percentage of focal opacities turn out to be cancers, however they are all tracked to be followed in future screenings. They are also tracked because individuals between the ages of 55 and 84 with at least 20 pack years of smoking history and documented exposure to asbestos with a nodule greater than 6mm (this was increased from 4mm previously per updated Fleischner Society Guidelines released in 2018) can enroll in the lung cancer screening program. Lung masses reported in this table do not include those identified through the lung cancer screening program. One part of the questionnaires completed by screening patients includes a depression assessment. If participants' scores are abnormally high, they are referred to the Case Manager for follow-up assessment and possible referral to other community support services.

Significant Findings	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# lung masses	57	2	6	63
# thyroid masses	22	0	0	22
# kidney masses	23	0	0	23
# breast masses	19	1	1	20
# other masses	52	1	1	53
Total # masses identified	173	4	8	181
# focal opacities	1,123	28	119	1242
# cancers verified possibly asbestos related	not collected	0	12	not collected
# participants w/ incidental findings	not collected	45	66	not collected
# specialist referrals	not collected	1	3	not collected
# depression follow-ups completed	not collected	34	140	not collected

Fecal Occult Blood Testing:

Fecal occult blood testing (FOBT) is offered to all screening participants between the ages of 50-75 since asbestos exposure can increase risk of developing colon cancer. If a participant had regularly scheduled colonoscopies or refused participation for another reason, they were not given an FOBT test kit. Fourteen of 31 FOBTs given (45%) in quarter 03 were returned and more completed FOBT tests will likely be returned after the end of the quarter. For those who are given an FOBT but do not return it, a follow-up letter is mailed as a reminder. For those with positive results, a repeat FOBT is offered as well as a referral for further follow-up.

Fecal Occult Blood Tests	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# FOBTs given	2,223	31	165	2,388
# FOBTs returned	846	14	57	903
# FOBTs abnormal	4	0	0	4

Outside Radiology Reads:

A reader from a panel of five certified B-readers, including three radiologists, read every image taken through the screening program. Screening CT scans are only distributed to the three radiologists; chest x-rays are distributed to all five B-readers on the panel. Images are distributed by mail to readers in a systematic cyclic process to ensure even workloads. Outside reads typically take 4-7 weeks to be returned, so the number of returned reads reported for each new quarter is usually low. Cumulative end of the grant year totals of reads received will reflect all of them, even though they were not received during the grant quarter that the participant was screened in.

TABLE 7: SINGLE OUTSIDE READ RESULTS BY B-READER (CXR) OR RADIOLOGIST (CT)				
Outside Read Findings	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# CXRs	6,361	109	451	6,812
# B reads	6,313	36	292	6,605
# B reads abnormal	551	0	14	565
Pleural	452	0	12	464
Interstitial	73	0	2	75
Both	26	0	0	26
# CTs	4,229	53	227	4,456
# Outside CT reads	4,163	12	111	4,274
# Outside CT reads abnormal	1,453	2	24	1,477
Pleural only	797	0	8	805
Interstitial only	370	1	13	383
Both	286	1	3	289

Quality control panel readings of radiographs and HRCT scans:

Twice annually, peer review sessions are held as a quality control measure. During each session, all readers on the panel attend a telephone conference to review image reads with their peers. Prior to each conference call the B-readers each read the same set of 54 chest x-rays, and the radiologists each read the same set of 24 CT scans. Their read results are provided to the panel and any dissension in how the images were read by the groups of readers is discussed. No peer review sessions have taken place in year 01 yet but the images for both peer review have been sent to readers and all but one set of images have been returned for the first peer review session. It is anticipated that both peer review sessions will take place in the fourth quarter of this grant year. CARD was forced to close during a portion of this grant quarter and some staffing changes were also made due to financial losses during the pandemic. CARD's Imaging Coordinator was laid off permanently but another employee has been trained to manage image coordination and thing have been running smoothly since the clinic was able to reopen on May 11.

Lung Cancer Screening for High Risk Individuals:

Early detection of possible asbestos-related cancers through participation in Lung Cancer Screening (LCS) is available to high risk individuals. Participants eligible for the LCS program are between the age of 55-84, have at least 20 pack years of smoking history, and were diagnosed with ARD or had Libby asbestos exposure and a nodule greater than 6 mm. A thoracic radiologist experienced in lung cancer detection reads all low-dose CT scans (LDCTs). Lung cancers reported in Table 8 do not include lung cancers identified through the asbestos related disease screening program. 16% of this quarter's lung cancer screening participants were smokers and they were given brief cessation education and counselling and offered free one-on-one counselling as well. Each smoker participating in the program also received smoking cessation materials with their lung cancer screening results. For those with normal lung cancer screening results, the participant is typically contacted by CARD staff with results after a medical provider reviews them. A provider visit to discuss results may be requested by the participant and/or by the CARD medical provider if results warrant it. Every participant is educated about option of a provider visit and the benefits and risks of the LDCT screening in a pre-engagement letter sent prior to participation. Results letters are sent to each participant after screening for their records. CARD Clinic staff have also been participating in a quality assurance project with Montana Department of Public Health and Human Services to improve

rate and number of patients included in lung cancer screening as well as improve workflow and data management. As of the end of quarter three, electronic health record reports had been evaluated and updated with workflow processes and data management improvements being made.

	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
Lung Cancer Screening				
# completed LDCTs	3,008	63	332	3,340
# new LCS participants	not collected	5	51	not collected
# of established participants	not collected	48	271	not collected
# less than annual f/u	not collected	5	37	not collected
# referrals	not collected	0	9	not collected
# confirmed cancers	29	0	2	31
# other findings	not collected	0	1	not collected
# current smokers	not collected	10	80	not collected
# no longer participating	not collected	5	25	not collected

Lung cancer screening is considered most effective when conducted annually so that cancers can be found at the earliest stages and be treated quickly. Table 9 shows the number of lung cancer screening participants using the program over consecutive years. Participants join the program whenever they become eligible and interested, but some drop out due to being diagnosed with lung cancer, dying, moving out of the area, aging out of the program, or being lost to follow-up for some other reason. For those who remain local and eligible to participate in the program, three recall attempts are made annually to encourage ongoing participation.

	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
Consecutive years				
Established LDCT participants	478	63	307	785
Participated 2-4 consecutive years	283	35	151	434
Participated 5-8 consecutive years	141	18	96	237
Rescreened but not consecutive years	54	5	55	109

ANA screening:

A screening blood test for antinuclear antibodies (ANA) has been added to the ARD screening program for this grant. The test is offered to all ARD screening participants based on research that has shown a relationship between Libby asbestos exposure and autoimmune disease. Table 10 summarizes ANA test results. Those with positive results are educated and if medically warranted brought in for an additional provider visit and/or referred for follow-up. Results are also sent to Dr. Jean Pfau quarterly for review and interpretation.

	Before Current Grant 7/1/11-8/31/19	Yr. 1 Q3 3/1/20- 5/31/20	Yr. 1 total to date	Cumulative totals
# ANA tests completed	not collected	81	297	not collected
# Abnormal ANA	not collected	22	65	not collected
# Abnormal ANA requiring f/u	not collected	3	15	not collected

ANA interpretation by Dr. Pfau:

This third quarter screening group continues with trends reported previously for Libby, by presenting with a high frequency of positive ANA tests and of autoimmune diagnoses. However, this group had only one reported case of lupus, and no scleroderma and sarcoidosis, which were three of the diseases with significant increases in prevalence in Libby compared to expected (Diegel, R., 2018). There were more cases of autoimmune diseases that are not characterized by having positive ANA tests, so ANA testing would not assist with screening for those diseases. This screening group has a very high frequency of autoimmune symptoms (50%), suggesting a continuing concern about undiagnosed autoimmune conditions that do not meet diagnostic criteria, but that fit the diffuse characteristics of the autoimmune conditions seen in populations exposed to Libby Asbestiform Amphiboles (LAA) (Diegel R., 2018).

In this group, a negative ANA test was not associated with likelihood of a negative CT test, contrary to what we hypothesized from our previous work (Pfau, J., et al., 2019). Contrary to our previous publication, there was not a higher frequency of positive CT scans with pleural findings among those patients who are ANA positive this quarter, which does not support an association between an autoimmune marker and pleural disease. However, these data are preliminary, with very small numbers of patients. The data will be further evaluated in the future when more of the CT scans are completed.

Smoking Cessation:

Smoking cessation continues to be extremely important for patient health maintenance and the screening program goals. Respiratory therapists and spirometry techs provide brief counseling to all identified smokers upon review of their tobacco use history questionnaire. Past quit attempts and current interest in quitting are explored. If interested, educational material is given and referral is made to CARD's Case Manager. Medical providers also educate about the importance of smoking cessation and refer to the Case Manager for free cessation counseling when patients express genuine interest in pursuing cessation. The Case Manager also provides education and resources such as CARD's smoking cessation booklet and Montana Quit Line information (counseling, follow up calls and cessation medications at low or no cost). Smoking cessation information is placed in the waiting room and all patient care rooms as well. Community education about smoking prevention and cessation has been added to this table for this grant. During quarter three, CARD's Case Manager, Stephanie Shaw, completed training and passed her test to become a certified tobacco treatment specialist through UMass's Tobacco Treatment Specialist Program accredited by the Council of Tobacco Treatment Training Programs. This certification will help her offer the most up to date and effective means to assist CARD patients with tobacco cessation.

Smoking Cessation	Before Current Grant 7/1/11-8/31/19	Yr.1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# of screeners who smoked	706	14	67	773
# who quite since last screening appointment	50	2	7	57
# brief cessation ed by medical staff	395	13	53	448
# booklets mailed regionally/nationally	not collected	0	17	not collected
# booklets given in clinic/local	not collected	12	118	not collected
# individual follow up smoking cessation sessions	not collected	8	54	not collected
# engaged in ongoing counseling	47	2	14	61
community members educated re: smoking cessation/prevention	not collected	0	468	not collected

Goal 2: Conduct Nationwide Outreach to Raise Awareness (of screening and certain Medicare benefits) and Goal 3: Provide Nationwide Health Education (to detect, prevent, and treat environmental health conditions)

Outreach and education go hand in hand. The goals of providing outreach and education, about asbestos health and lung cancer screening, risk factors, asbestos related disease, health management, and certain Medicare benefits are often approached as one combined goal. Quality control processes are in place as all CARD employees involved in outreach and education work very closely with the screening Project Director and as appropriate, Medical Providers, to develop and conduct screening outreach and educational activities. All final printed materials and community engagement activities are approved by the Project Director. CARD's physician reviews and approves all technical and medical educational materials for professional audiences. Three main outreach and education audiences include current and potential screening participants, members of the general public who could encounter Zonolite attic insulation or other environmental health hazards, and medical professionals. Each screening participant receives a patient education book along with in person education by CARD staff, and all smokers are offered free smoking cessation services by CARD's Case Manager. In addition, anyone diagnosed with ARD receives benefits education about Medicare benefits and the Medicare Pilot Program for Asbestos Related Disease (MPPARD).

Outreach Efficacy for Enrollment in Certain Medicare Benefits for ARD:

A detailed goal of the grant is to increase awareness about Medicare benefits available for individuals diagnosed with ARD resulting from Libby asbestos exposure. Traditional Medicare becomes available after ARD diagnosis as a result of Libby asbestos exposure regardless of the individual's age or disability status. Receipt of Medicare is facilitated by placing an EHH (Environmental Health Hazard) designation on an individual's Medicare status if they are diagnosed with Libby ARD. The MPPARD is also available for EHH Medicare patients who

live in the program's designated geographic area (The counties of Lincoln, Flathead, Glacier, Lake, Sanders, Mineral, and Missoula in Montana; Benewah, Bonner, Boundary, Clearwater, Kootenai, Latah, and Shoshone in Idaho; and Ferry, Lincoln, Ponderay, Spokane, Stevens and Whitman in Washington.)

The numbers reported below in Table 12 are not all screening participants as some had a diagnosis of ARD resulting from Libby asbestos exposure prior to implementation of the current and prior screening grants. The number of people over 65 is low because they already have Medicare and only need an EHH if they are eligible for and interested in the MPPARD.

Certain Medicare Benefits	Before Current Grant 7/1/11-8/31/19	Yr.1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# of EHHs completed	3,263	24	81	3,344
# of EHHs for people over 65	1,101	9	29	1,130
# of EHHs for people under 65	2,162	15	44	2,206
# who have improved access to medical care for chronic conditions	716	9	19	735

Table 13 reports use of MPPARD benefits. The categories reported in the table were updated during the last year of the prior grant to reflect the most accurate numbers available to CARD. After an individual is diagnosed through the screening program, the process to get on the MPPARD takes two months. For example, if an individual is diagnosed on Dec. 5, their EHH will be effective Jan. 1 and their MPPARD benefits will be effective Feb. 1. Table 13 also includes the number of individuals who have improved access to medical care for chronic conditions. This means they are under age 65, have signed up for Medicare via EHH, and they have a chronic condition that needs ongoing medical monitoring. The chronic conditions include: rheumatoid arthritis, lupus, chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), pacemaker, intraventricular cardiac defibrillator (CD), hypertension, or diabetes. During the month of April CARD worked to compile a list of private providers willing and eligible to complete services for MPPARD beneficiaries and also provided education and guidance on spread reduction and safety tips for MPPARD beneficiaries during the COVID-19 pandemic. CARD also gave away free cloth masks to patients that were donated to the clinic.

Pilot Benefit Utilization	Before Current Grant 7/1/11-8/31/19	Yr.1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# enrolled in Medicare Pilot	1,728	11	43	1,771
# screening participants enrolled in Pilot after diagnosis	672	2	5	677
# of paid Pilot claims	not collected	1,698	5,980	not collected
# Pilot related encounters (face to face, email, phone call, education)	not collected	128	646	not collected
# Pilot approved service authorizations processed	not collected	160	522	not collected
# community Pilot education	not collected	12	295	not collected

Why Are Individuals Being Screened?

CARD tracks why individuals are being screened to better understand and meet the needs of new and potential screening participants. This facilitates our efforts to continue reaching potential participants who aren't aware of the free screening program. This information also helps CARD develop effective outreach materials and to focus educational efforts on areas of interest to potential and current screening participants.

TABLE 14: WHY ARE YOU BEING SCREENED?				
	Before Current Grant	Yr.1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
# answered the question	3,150	30	318	3,468
# LDS	643	3	75	718
# in clinic	2,507	27	243	2,750
Medical concerns	1,382	4	80	1,462
Family member diagnosed	739	4	71	810
Access to Benefits	268	0	19	287
Support research	316	0	18	334
Legal reasons	54	0	7	61
Screening purposes/multiple	280	19	120	400
Employer Requested Screening	111	0	0	111

Outreach Effectiveness Measure:

When individuals engage in screening, they are asked the multiple choice question, "How did you hear about the CARD screening program?" to help CARD measure the effectiveness of outreach activities. Answers are reported in the table 15 with in-clinic and long distance reported separately as outreach efforts for those two populations are different. Results are reviewed by the Project Director, and our contracted marketing firm to determine most effective methods and where to focus efforts moving forward.

TABLE 15: HOW DID YOU HEAR ABOUT THE CARD SCREENING PROGRAM?				
How did you hear about screening? (IC= in clinic, LD= long distance)	Before Current Grant	Yr.1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
IC- # who answered	3,213	24	240	3,453
IC- traditional advertising (radio, TV, newspaper)	1,548	17	122	1,670
IC- website/social media	0	7	27	27
IC- Community networking (parades, local events)	1,329	22	84	1,413
LD- # who answered	600	2	79	679
LD- traditional advertising (radio, TV, newspaper)	244	1	26	270
LD- website/social media	44	1	25	69
LD- Community networking (events, word of mouth)	312	0	28	340

Targeted Outreach and education- Local and regional/national:

Many residents of the local area have still not participated in screening, and others have only been screened once a number of years ago. For this reason, recruitment continues locally, and education as well as community outreach are extremely important. Ongoing education to locals helps remind them about the free screening program, reinforces the importance of rescreening, and corrects any misinformation that takes hold through social media or community conversations. Maintaining and improving relationships with local businesses and tourism efforts are also very important to counter a deep-rooted community concern that Libby's asbestos legacy hurts the local economy and deters tourism. CARD works to be a positive force in the community supporting local causes and participating in community events as much as possible, especially educationally. The local area is considered the communities of Libby, Troy, Eureka, Yaak, Kila, Marion, Bull Lake, Trout Creek, Thompson Falls and Noxon. Table 16 details local outreach and education efforts. The local events sponsored during quarter 3 included Loggers baseball, Kootenai Pets for Life, the Harvest Festival/ Farmer's Market, Troy's Parent Teacher Association, Libby senior gift bags, Ducks Unlimited, and our local Community Health Center fundraiser. CARD's Case Manager also presented to local home health agencies regarding safety of in home care during COVID-19. All of these activities help keep CARD visible in a positive light in the community and also offer opportunities to educate about the services CARD offers. In conjunction with Brand it, CARD also used Google AdWords to drive traffic to our website for additional outreach and education.

TABLE 16: TARGETED OUTREACH AND EDUCATION- LOCAL (Lincoln County)				
Method	Before Current Grant 7/1/11-8/31/19	Yr.1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
Local newspaper ads	598	57	129	727
Education article in newspapers	47	3 May was COVID	6	53
Health Link and Health Resource Guide	10	1	2	12
Radio ads	9,500	1,837	4,397	13,897
TV ads	8,236	32	422	8,658
Educational brochures given (screening, LCS, LDS)	443	45	83	526
Patient Education booklets	3,452	63	238	681
Parades	36	0	1	37
Community events sponsored	140	7	37	177
Community meetings	218	13	58	276
Google AdWords Impressions	not collected	4,910	8,606	8,606
Google AdWords Clicks	not collected	295	533	533
Website visits	not collected	468	1,170	1,170
Website visits to patient education pages	not collected	164	439	439
community presentations/ events attended	76	6	10	86
website visits to provider education pages	not collected	62	134	134
newsletters sent locally	not collected	3,686	3,686	3,686

Table 17 details regional and national outreach and education efforts. In addition to the information in the table, during quarter three 58 posts were made on our Facebook page which generated 28,481 total people reached and 3,572 post engagements, and 178 shares. Our Facebook page has 2,665 followers and our Instagram page has 82 followers. 17 posts were made on Instagram which reached 553 accounts. Our social media presence is growing each quarter during this new grant.

TABLE 17: TARGETED OUTREACH AND EDUCATION- REGIONAL & NATIONAL				
Method	Before Current Grant 7/1/11-8/31/19	Yr.1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
Newspaper -outreach	76	12	31	107
Radio ads -outreach	10,242	180	755	10,997
TV ads -outreach	8,236	8,804	11,712	19,948
Website -outreach	not collected	3,732	12,719	12,719
Website -patient education	not collected	583	1,782	1,782
Website -provider education	not collected	191	505	505
Google AdWords Impressions- outreach	not collected	9,997	49,124	49,124
Google AdWords Clicks- outreach	not collected	529	2,532	2,532
Educational brochures given (screening LCS, LDS)	not collected	25	72	72
YouTube Channel	14,100	1,100	2,147	16,247
Patient Education booklets - education	3,298	47	219	3,517
Lung cancer screening brochures - outreach	180	42	52	232
Health promotion events sponsored -outreach	36	1	4	38
Newsletters sent	not collected	3786	3786	not collected

Targeted Outreach/Education to healthcare professionals

Raising awareness about Libby asbestos within the medical community is important to help facilitate referrals and coordinate care. Provider education packets are sent to primary care providers of screening participants with their screening results. Google AdWords was used to drive traffic to the provider education portion of our website. Mailings included information about CARD's screening and slowdown of services related to COVID-19, the newsletters were sent to primary care providers of screening patients, and conferences included a Montana Public Health Association planning session and a smoking cessation conference. Medical professional education was delivered to home care agency workers.

TABLE 18: TARGETED OUTREACH TO- HEALTHCARE PROFESSIONALS				
Method	Before Current Grant	Yr.1 Q3 3/1/20- 5/31/20	Yr. 1 total to date	Cumulative totals
Website -provider education	not collected	191	505	not collected
Mailings	not collected	0	47	not collected
CARD newsletter -education	27,948	454	454	28,402
provider education book mailed	1,351	38	222	1,573
Professional Conferences - education/outreach	45	0	2	47
Medical professionals -education	188	17	24	212
Press release pick ups	not collected	118	228	not collected
other targeted outreach efforts	not collected	0	300	not collected

Website Use:

CARD's website is an important tool for outreach, education, and communication with target populations. Table 19 summarizes use of CARD's website during quarter 3. Website materials are regularly updated and use is tracked to help improve content for users. CARD employees who were not laid off during the COVID-19 shutdown took the opportunity to read through our website and create a list of updates needed which were sent to Brand it for editing.

TABLE 19: Website use

Website Use	Before Current Grant	Yr.1 Q3 3/1/20-5/31/20	Yr. 1 total to date	Cumulative totals
Screening applications submitted via website	202	17	80	282
Contact CARD emails via website	433	22	72	505
# of website sessions	103,871	1,982	7,051	110,922
# pages viewed	252,023	3,732	12,719	264,742
session length 30+ minutes	1,398	10	36	1,434
session length 10-30 minutes	13,642	51	286	13,928
session length 3-10 minutes	29,537	112	369	29,906
session length 1-3 minutes	21,664	130	404	22,068
session length 31-60 seconds	9,413	91	258	9,671
session length 11-30 seconds	12,448	83	261	12,709
session less than 10 seconds	bounce factor	1,505	5,437	5,437
Page depth: 1-9 Pages viewed in session	25,499	1,947	7,855	33,354
10-14 Pages viewed in session	1,709	18	324	2,033
15-19 Pages viewed in session	614	7	171	785
20+ Pages viewed in session	734	10	243	977
# of users	39,074	1,699	6,768	45,842
new users	not collected	1	not cumulative, reported as a percentage	not cumulative, reported as a percentage
returning users	not collected	0		
Male users	not collected	0		
Female users	not collected	1		
Age between 18-24	not collected	0		
Age between 25-34	not collected	0		
Age between 35-44	not collected	0		
Age between 45-54	not collected	0		
Age between 55-64	not collected	0		
Age 65+	not collected	0		

CARD Annual Rally:

CARD's annual Rally was held on November 7, 2019 during quarter 1. The event was staffed by over 12 CARD employees and 10 community health education partners who volunteered to help host the free, two-hour, fun, educational, and family-friendly afterschool event in the Libby elementary school gymnasium. The annual theme was *Navigating your way to better health*. Six interactive stations that engaged and educated participants included the following topics: (1) asbestos (2) smoking and vaping (3) alcohol and drugs (4) resources for ages 0-5 (4) resources for teens and adults (5) resources for seniors.

The annual Rally event is an excellent way to engage local youth and their families in education about asbestos related disease and other important health topics. Upon completion of all booths, prizes or other useful items such as mini first aid kits with CARD Screening information were offered.

CHALLENGES:**REASON FOR DELAY AND ANTICIPATED CORRECTIVE ACTION OR DELETION****COVID-19:**

During quarter 3, the screening programs were significantly impacted by governmental orders to shelter in place and our local hospital stopped all non-essential testing including imaging for both

asbestos health and lung cancer screening. These events, and the protection of our patients with respiratory disease caused CARD to close temporarily from mid-March through mid-May, and nearly all staff members were laid off. All outreach and educational activities involving groups were also cancelled during that time period. CARD reopened on May 11 and brought back all but three of our staff members. Seth Brookshire, Dusti Thompson, and Cheryl Fox were laid off permanently due to budget concerns. Their job duties have been successfully taken on by other staff members and CARD hopes to rehire these positions after the COVID-19 slowdown has passed and clinic activities return to normal volumes.

STATUS OF PROGRAM, SCREENING, INFRASTRUCTURE, AND STAFF

The grant goals and objectives were implemented successfully while the clinic was open during the third quarter of year 01. Unfortunately, the clinic was forced to close for over six weeks because of the COVID-19 pandemic and grant activities, for the most part, ceased during that time. The clinic reopened on May 11 with protections in place including a limited number of patients being seen in clinic, the use of face masks by all staff and patients, hourly sanitizing, and symptoms checks. CARD's infrastructure remains solid with a strong administrative and implementation team, our Medical Director, and a Physician Assistant, who all contribute to the success of the grant. In addition, our new physician, Dr. Lee Morrissette has been very successful in training with Dr. Black, seeing patients, and helping with administrative tasks. Quality assurance processes remain successfully in place for delivery of ARD and LCS screening activities, data management, outreach and educational activities. Completeness and accuracy of the database is evident by consistency of data reported across multiple tables. All data is quality controlled for accuracy before reports and table outcomes are generated. All screening CT scans are read by a qualified physician, so CARD's physicians read all CT images ordered by the Physician Assistant.

MEASURES OF EFFECTIVENESS

Measures of effectiveness were reported under each specific goal above.

FINANCIAL RECAP OF GRANT EXPENDITURES

At the end of the third quarter of year 01, the grant was expended in the amount of \$1,250,865.09 (50%) of the total grant award for year 01 which was \$2,499,969.00.