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Human and Canine Blastomycosis Cases Associated with Riverside Neighborhood, Wisconsin, USA, December 2021–March 2022

Appendix 1

Questionnaires used in investigation of human and canine blastomycosis cases associated with a riverside neighborhood in Wisconsin, USA, December 2021–March 2022, are shown on the following pages.

Human Investigation Form

record ID

Opt-out indicator
(check this box if an individual declines consent)
*consent should have been asked in the household
enrollment form

opt-out

Household ID

Demographics

Person ID

(Format should start with [household_id_h])

First Name

Last Name

Date of Birth

Sex

- Male
- Female
- Transgender (unspecified)
- Transgender (male to female)
- Transgender (female to male)

Are you currently pregnant?

- Yes
- No

Have you been pregnant since September 1, 2021

- Yes
- No

Street Address

City

Zip Code

County

What is a good phone number?

Second phone number (if applicable)

Occupation

Employer location

What is your ethnicity?

- Hispanic or Latino
- Not Hispanic or Latino
- Unknown
- Refused

Which of the following would you say is your race?
Choose all that apply.

- White
- Black
- Native American/Native Alaskan
- Asian
- Native Hawaiian/Other Pacific Islander
- Other _____
- Unknown
- Refused

Who is being interviewed?

- Patient/Client
- Parent/Guardian
- Other

If other, specify

Interviewer Information

Date of Interview

Interviewer Name

- Andrea
- Dallas
- Hannah
- Karen
- Lindsay
- Lori
- Matt
- Other
- Shanna
- Staci
- Sue
- Summer
- Sam

Interviewer Organization or Agency

- CDC
- WI-DHS
- SCC
- Other

We may contact the client again about this investigation. If they refuse any future contact, indicate here

- Refuses future contact

EXPOSURE HISTORY

Did the client participate in any of the following recreational outdoor activities since September 1, 2021. For all yes answers, please provide months of participation and specific location information.

Hunting Yes No Unknown

During which months did the client hunt? September
 October
 November
 December

Where did the client hunt?

Fishing from shore Yes No Unknown

During which months did the client fish? September
 October
 November
 December

Where did the client fish?

Visiting a cabin Yes No Unknown

During which months did the client visit a cabin? September
 October
 November
 December

Where did the client visit a cabin?

Camping Yes No Unknown

During which months did the client go camping? September
 October
 November
 December

Where did the client go camping?

Hiking/cross country running Yes No Unknown

During which months did the client go hiking/cross country running? September
 October
 November
 December

Where did the client go hiking/cross country running?

Trail biking Yes No Unknown

During which months did the client go trail biking? September
 October
 November
 December

Where did the client go trail biking?

Using an ATV Yes No Unknown

During which months did the client use an ATV? September
 October
 November
 December

Where did the client use an ATV?

Visiting parks Yes No Unknown

During which months did the client visit parks? September
 October
 November
 December

Where were the parks the client visited?

Kayaking, canoeing, or tubing Yes No Unknown

During which months did the client go kayaking, canoeing, or tubing? September
 October
 November
 December

Where did the client go kayaking, canoeing, or tubing?

Other activity (specify) Yes No Unknown

Specify activity

During which months did the client participate in the outdoor recreational activity? September
 October
 November
 December

Where did the client participate in the other recreational activity?

Was the client exposed to disturbed earth from any of the following activities since September 1, 2021. Provide activity months and specific location information for all yes responses.

Wood/brush cutting Yes No Unknown

During which months was the client exposed to disturbed earth from wood/brush cutting? September October November December

Where was the client exposed to disturbed earth from wood/brush cutting? _____

Excavation Yes No Unknown

During which months was the client exposed to disturbed earth from excavation? September October November December

Where was the client exposed to disturbed earth from excavation? _____

Gardening/landscaping Yes No Unknown

During which months was the client exposed to disturbed earth from gardening/landscaping? September October November December

Where was the client exposed to disturbed earth from gardening/landscaping? _____

Mulch exposure Yes No Unknown

During which months was the client exposed to disturbed earth from mulch exposure? September October November December

Where was the client exposed to disturbed earth from mulch exposure? _____

Occupational exposure Yes No Unknown

During which months was the client exposed to disturbed earth from an occupational exposure? September October November December

Where was the client exposed to disturbed earth from an occupational exposure? _____

Construction (road, structural) Yes No Unknown

During which months was the client exposed to disturbed earth from construction?

- September
- October
- November
- December

Where was the client exposed to disturbed earth from construction?

Lawn care (raking, mowing)

- Yes
- No
- Unknown

During which months was the client exposed to disturbed earth from lawn care?

- September
- October
- November
- December

Where was the client exposed to disturbed earth from lawn care?

Composting

- Yes
- No
- Unknown

During which months was the client exposed to disturbed earth from composting?

- September
- October
- November
- December

Where was the client exposed to disturbed earth from composting?

Other activity (specify)

- Yes
- No
- Unknown

Specify activity

During which months was the client exposed to disturbed earth from this activity?

- September
- October
- November
- December

Where was the client exposed to disturbed earth from this activity?

Did the client travel (in-state or out-of-state) since September 1, 2021?

- Yes
- No
- Unknown

If yes, when/where?

When/where (2nd trip)

How close does the client live to the Willow River?
(Can ask client to look this up on a map)

- < =100 feet
- < =1/4 mile and >100 feet
- < = 1 mile and >1/4 mile
- Greater than 1 mile

In what year did the client move into their home?

In what month did the client move into their home?

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December
- Don't know

Since September 1, 2021, has the client walked or ran along the in-neighborhood Willow River trail and conservancy area?

- Yes
- No
- Don't know

In which of these paths does the client use to enter and exit the trail and conservancy area?

	Enter	Exit
Southwest path off 150th Ave near turnabout (closest to 95th street and Glen View neighborhood)	<input type="checkbox"/>	<input type="checkbox"/>
West path off 96th street	<input type="checkbox"/>	<input type="checkbox"/>
Northcentral path off 154th Ave (runs N-S in a ravine between 9 backyards and has stairs)	<input type="checkbox"/>	<input type="checkbox"/>
Northeast path off 152nd Ave (east-most path with multi branches, closest to 100th St, has stairs)	<input type="checkbox"/>	<input type="checkbox"/>
Other path; describe _____	<input type="checkbox"/>	<input type="checkbox"/>

How frequently did they walk along or use the trail during the following months of 2021?

	May-Aug	Sept	Oct	Nov	December
Daily (5 or more days per week)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multiple times per week (2-4 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weekly (once per week)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multiple times a month (less than weekly)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Once a month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Never	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

During the following months of 2021, did they use the trail for these special events or activities?

	May-Aug	Sept	Oct	Nov	Dec
Special event or gathering on the trail or in conservancy areas (Describe) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintenance or upkeep of paths, trails or conservancy area (Describe) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other activity (Specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Since September 1, 2021, has the client gone in or close to the Willow River near the neighborhood trail and conservancy area? Yes No Don't Know

Describe activity and month _____

Since September 1, 2021, has the client walked by or been near ongoing excavation or construction in the neighborhood? Yes No Don't Know

Thinking about the time from September 1 through December, on average, how many hours a week did the client spend outdoors, not including for their job?

	>10 hours	5 - 10 hours	3 - 5 hours	1-3 hours	< 1 hour
Sept and Oct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nov and Dec	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Notes _____

Risk Factors

Does the client have any of the following chronic/immunosuppressive medical conditions? *if other immunosuppressive medication is used, indicate in the 'other' option

- COPD (chronic obstructive pulmonary disease)
- Diabetes
- Cancer
- Rheumatoid arthritis
- Organ transplant
- Steroid treatment (long-term)
- Asthma
- Asplenia (absence of spleen- e.g., surgical removal)
- None
- Other _____

Is the client a smoker or has the client ever smoked? (including but not limited to cigarettes, cigars, pipe) Current smoker (or quit in the last 6 months) Previous smoker Never smoked

For how many years have they (or did they) smoke? _____

Quantity smoked per day (i.e. number of packs or cigars)?

Does or has the client used electronic cigarettes or vapor pens?

- Current daily user
- Current less than daily user
- Previous user
- Never user

Has anyone in the house ever been diagnosed with blastomycosis?

- Yes
- No
- Don't know

Who/When

Has anyone you know recently been diagnosed with blastomycosis?

- Yes
- No
- Don't know

Who/when

Does client or household have dogs?

- Yes
- No

How many dogs?

Does client or household have cats?

- Yes
- No

How many cats do they have that go outside?

Has the client ever owned a dog that was diagnosed with blastomycosis?

- Yes
- No
- Never owned a dog

When was the diagnosis made?

What is the veterinarian's name?

What is the veterinarian's phone number?

Past Clinical Illness?

Interviewer only (don't ask client): Is client a known blastomycosis case?

- Yes
 No

Since September 1, 2021, have you been diagnosed with community acquired pneumonia?

- Yes
 No

What symptoms did you experience?

- Cough
 Coughing up blood
 Shortness of breath
 Fever
 Chills
 Night sweats
 Weight loss
 Poor appetite
 Headache
 Fatigue
 Chest pain
 Back pain
 Single skin lesion
 Multiple skin lesion
 Other _____

When did you start showing symptoms _____

For how long were you sick? (Answer in days)

Where you prescribed any medication, such as an antibiotic?

- Yes
 No

Since September 1 2021, Have you had a respiratory illness with no known cause?

- Yes
 No

What symptoms did you experience?

- Cough
 Coughing up blood
 Shortness of breath
 Fever
 Chills
 Night sweats
 Weight loss
 Poor appetite
 Headache
 Fatigue
 Chest pain
 Back pain
 Single skin lesion
 Multiple skin lesion
 Other _____

When did you start showing symptoms? _____

For how long were you sick? (Days)

Where you prescribed a medication, such as an antibiotic?

- Yes
 No
 Unknown
-

Have you ever been diagnosed with blastomycosis?

- Yes
 No
-

What symptoms did you experience?

- Cough
 Coughing up blood
 Shortness of breath
 Fever
 Chills
 Night sweats
 Weight loss
 Poor appetite
 Headache
 Fatigue
 Chest pain
 Back pain
 Single skin lesion
 Multiple skin lesion
 Other _____
-

When did your doctor test you for blastomycosis?

When did you start showing symptoms? _____

For how long were you sick? (days)

Did your doctor prescribe an anti-fungal medication (e.g. itraconazole or Sporanox)?

- Yes
 No
 Unknown
-

The fungus that causes blasto lives in previously undisturbed, moist, organically rich soil, often near the banks of waterways. Activities that disrupt the soil could allow the spores of the fungus to become airborne. Infection could occur when these spores are inhaled. Where do you think you were infected?

Pet Investigation Form

record ID

Investigation Household ID:

Pet ID

(should start with [household_id_a])

Please ensure that human investigation form is complete for all persons living in the home

Demographic Information

Owner's Name

Street Address

City

State

County

Zip

Telephone

Pet's name

Pet's weight (lbs)

Species

- Dog
- Cat

Breed

Age (years)

Sex

- Male
- Female

Spayed/neutered Yes
 No

When was pet adopted or acquired?

Pet is primarily Indoors
 Outdoors
 Both

Veterinary Clinic or Veterinarian

Clinic Phone

Interviewer Information

Date of Interview

Interviewer Name Andrea
 Dallas
 Hannah
 Karen
 Lindsay
 Lori
 Matt
 Other
 Shanna
 Staci
 Sue
 Summer
 Sam

Agency or Organization CDC
 WI-DHS
 SCC
 Other

We may contact the client again about this investigation. If they refuse any future contact, indicate here. Refuses future contact

Since September 1, 2021, has the pet been sick? (if no, skip to Pet's Blastomycosis History) Yes
 No
 Unknown

if yes, please list new symptoms:

	Yes	No	Unknown
Cough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coughing up blood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty breathing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skin bumps or sores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lameness/limping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seizures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eye or vision problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lethargy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor appetite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight loss	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other symptoms _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When did the pet start showing symptoms? _____

Did the pet recover or return to usual health? Yes
 No
 Unknown

For how long was the pet sick? _____

Did the pet receive veterinary care? Yes
 No
 Unknown

If yes, when? _____

Notes _____

Pet's Blastomycosis History

Was the pet ever diagnosed with blastomycosis? Yes
 No
 Unknown

When was pet diagnosed? _____

Has the pet recovered? Yes
 No
 Unknown

Was the pet hospitalized for blastomycosis? Yes
 No
 Unknown

If so, where?

Was the pet treated for blastomycosis?

- Yes
- No
- Unknown

Risk Factors

Does the pet have any underlying health issues?

- Yes
- No
- Unknown

If yes, please describe:

Do you own any other animals?

- Yes
- No
- Unknown

Please fill out additional Animal Blastomycosis Investigation forms for other animals

If yes, have any of these other animals ever been diagnosed with blastomycosis?

- Yes
- No
- Unknown

If yes, when?

Has any person in the home ever been diagnosed with blastomycosis?

- Yes
- No
- Unknown

If yes, when?

Did the pet travel away from home since September 1, 2021?

- Yes
- No
- Unknown

if yes, where?

Does the pet live on or near a lake, river, stream, creek, or wetland?

- Yes
- No
- Unknown

if yes, what is the name of the body of water?

If yes, how far away is it?

- less than 100 ft
- less than 1/4 mile
- less than a mile
- greater than a mile

Does your pet routinely dig or disturb soil? Yes No Unknown

if yes, when/where (eg. in the yard, garden, during hikes)? _____

Is your pet routinely allowed off leash outdoors? Yes No Unknown

if yes, when/where (eg. dog parks, during hikes)? _____

EXPOSURE HISTORY

Did the dog participate in any of the following recreational outdoor activities since September 1, 2021. For all yes answers, please provide months of participation and specific locations.

Hunting Yes No Unknown

During which months did the dog participate in hunting? September October November December

Where did the dog participate in hunting? _____

Fishing from shore Yes No Unknown

During which months did the dog participate in fishing? September October November December

Where did the dog participate in fishing? _____

Visiting a cabin Yes No Unknown

During which months did the dog visit a cabin? September October November December

Where did the dog visit a cabin? _____

Camping Yes No Unknown

During which months did the dog go camping? September October November December

Where did the dog go camping?

Hiking/running

Yes No Unknown

During which months did the dog participate in hiking/running?

- September
- October
- November
- December

Where did the dog participate in hiking/running?

Visiting parks

Yes No Unknown

During which months did the dog visit parks?

- September
- October
- November
- December

Where were the parks the dog visited?

Visiting dog parks

Yes No Unknown

During which months did the dog visit dog parks?

- September
- October
- November
- December

Where were the dog parks the dog visited?

Kayaking, canoeing, or tubing

Yes No Unknown

During which months did the dog participate in kayaking, canoeing, or tubing?

- September
- October
- November
- December

Where did the dog participate in kayaking, canoeing, or tubing?

Other activity (specify)

Yes No Unknown

Specify activity

During which months did the dog participate in the activity?

- September
- October
- November
- December

Where did the dog participate in the activity?

Was the pet exposed to disturbed earth or present for any of the following activities since September 1, 2021? Provide activity months and specific location information for all yes responses.

Lawn care (exposure to lawn refuse, present for raking, mowing) Yes No Unknown

During which months was the dog exposed to disturbed earth from lawn care? September October November December

Where was the dog exposed to disturbed earth from lawn care? _____

Excavation/construction (road building, underground utilities) Yes No Unknown

During which months was the dog exposed to disturbed earth from excavation/construction? September October November December

Where was the dog exposed to disturbed earth from excavation/construction? _____

Gardening/landscaping (including exposure to mulch or compost) Yes No Unknown

During which months was the dog exposed to disturbed earth from gardening/landscaping? September October November December

Where was the dog exposed to disturbed earth from gardening/landscaping? _____

Other activity (specify) Yes No Unknown

Specify _____

During which months was the dog exposed to disturbed earth from the activity? September October November December

Where was the dog exposed to disturbed earth from the activity? _____

Exposure History-Current Investigation Supplement

How close does the pet live to the Willow River?
 (likely same as owner and can determine on map)

less than 100 ft
 less than 1/4 mile
 less than a mile
 greater than a mile

Since September 1, 2021, has the pet walked along the in-neighborhood Willow River trail and conservancy area?

Yes
 No

If yes, which of these paths do they use to enter and exit the trail and conservancy area? Path may run behind backyard

	Enter	Exit
Southwest path off 150th Ave near turnabout (closest to 95th and Glen View neighborhood)	<input type="checkbox"/>	<input type="checkbox"/>
West path off 96th Ave	<input type="checkbox"/>	<input type="checkbox"/>
Northcentral path off 154th Ave (runs N-S between 9 backyards in ravine, has stairs)	<input type="checkbox"/>	<input type="checkbox"/>
Northeast path off 152nd Ave (east-most path with multiple branches, closest to 100th St, has stairs)	<input type="checkbox"/>	<input type="checkbox"/>
Other path; Describe _____	<input type="checkbox"/>	<input type="checkbox"/>

if yes, how frequently did they walk along or use the trail during the following months of 2021?

	May-Aug	Sept	Oct	Nov	Dec
Daily (5 or more days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multiple times per week (2-4 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Once weekly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multiple times a month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Once a month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Never	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe conservancy sections used: _____

Is the pet allowed off-leash along the trail or in the conservancy area?

Yes
 No

Since September 1, 2021, has the pet gone in or close to the Willow river near the neighborhood trail and conservancy area? (eg. swimming, wading, playing, exploring, marking)

Yes
 No

if yes, describe activity and month _____

notes:

Since September 1, 2021, has your pet walked by or been near ongoing excavation or construction in the neighborhood?

- Yes
- No

notes

Thinking about the time from September 1 through December, on average, how many hours a week did your pet spend outdoors, including in their home yard?

	Greater than 10 hours	5-10 hours	3-5 hours	1-3 hours	Less than 1 hour
Sept & Oct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nov & Dec	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Complete only if pet is known to have blastomycosis diagnosis, (skip if they have not been diagnosed)

The fungus that causes blasto lives in previously undisturbed, moist organically rich soil, often near the banks of waterways. Activities that disrupt the soil could allow the spores of the fungus to become airborne. Infection could occur when these spore are inhaled. Where do you think your pet was infected with Blastomyces?

Other comments on outdoor activities

Investigation notes and details
