PhenX Toolkit

Data Collection Worksheet

Please Note: The Data Collection Worksheet (DCW) is a tool to aid integration of a PhenX protocol into a study. The PhenX DCW is not designed to be a data collection instrument. Investigators will need to decide the best way to collect data for the PhenX protocol in their study. Variables captured in the DCW, along with variable names and unique PhenX variable identifiers, are included in the PhenX Data Dictionary (DD) files.

Instructions to Interviewer:

Start with PART I. Put all cities and exposure periods on one answer sheet. Use additional sheets, if necessary.

Unless otherwise noted, all questions refer to the corresponding column on the answer sheet.

When you have completed Part I for all cities/towns, return to top of first answer sheet and begin with PART II. Ask PARTS II and III for each exposure period on your answer sheet.

Explanation to the Participant/Interviewee:

In this study we are studying how sunlight influences eye diseases. I would like to ask you some questions about how much sunlight you have been exposed to at different times in your adult life, particularly during the non-winter months. To help you remember your exposure to sunlight at different times in your life, I will first ask you about where you have lived, starting with where you were living when you were 18 years old, and then about your activities in each of these places. I will also be asking you to estimate the number of hours you spent outside in direct sunlight. We want to concentrate on just the months of April through September and the peak sun times of 10 AM through 4 PM. You may choose not to answer some or all of my questions. The information we are asking for is important to the study. It will remain confidential like all other information that we have about you.

PART I: CITIES AND EXPOSURE PERIODS

A. In what city or town were you living when you were 18?

[For subsequent cities/towns...] To what city or town did you move to next?

B. What year did you turn 18?

[For subsequent cities/towns, record response to C from previous city/town]

C. What year did you move from (CITY/TOWN)?

D. What was your main daytime activity or job when you turned 18?

[For subsequent daytime activities or jobs within a city/town...] What was your new daytime activity or job?

[For subsequent cities/towns...] What was your main daytime activity or job when you first moved to (CITY/TOWN)?

E.**[Record year turned 18]**

[For subsequent daytime activities or jobs within a city/town, record answer to F. from previous daytime activity or job and go to [If NO] below]

[For subsequent cities/towns, record answer to B.]

F. When you were living in (CITY/TOWN) did your exposure to direct sunlight in April through September stay pretty much the same for all your daytime activities between the hours of 10 AM and 4 PM?

[If YES, record answer to C. and go to A. above]

[If NO, or for subsequent periods of exposure within a town...] What year did your sunlight exposure change? **[Record year and go to D. above]**

[ASK PARTS II. AND III. FOR EACH EXPOSURE PERIOD ON YOUR ANSWER SHEET]

PART II: EXPOSURE DURING TYPICAL WORK WEEK

G. When you were living in [CITY/TOWN] as a/an [ACTIVITY], how many hours each day during a typical 5-day work week in April through September did you spend outside in direct sunlight between 10 AM and 4 PM? Please exclude time spent in a car or in other transportation.

Less than 1 hour: Record 0 and go to PART III below

Less than 3 hours: Skip to question I.

H. Did your main daytime activities during a typical work week have you on water for a total of three or more hours a day, for example working on a boat? (N=No, Y=Yes)

I. During your work time, when you were outside in direct sunlight, how often did you wear a hat with a brim?

1 [ ] never

2 [ ] less than half time

3 [ ] half the time

4 [ ] more than half the time

5 [ ] all the time

J. During your work time, about how often did you wear prescription or non-prescription sunglasses when you were outside in direct sunlight? **[If answer is "All the time," skip to PART III below.]**

1 [ ] never

2 [ ] less than half time

3 [ ] half the time

4 [ ] more than half the time

5 [ ] all the time

K. How often did you wear ordinary glasses or contact lenses when you were outside in direct sunlight?

1 [ ] never

2 [ ] less than half time

3 [ ] half the time

4 [ ] more than half the time

5 [ ] all the time

PART III - LEISURE/NON-WORK PERIOD SUNLIGHT EXPOSURE

L. Now, I want you to think about a typical 2-day work-free period when you were living in [CITY/TOWN] as a/an [ACTIVITY]. During the months of April through September, how many hours each day of this leisure time did you spend outside in direct sunlight between 10 AM and 4 PM? Again, exclude time spent in a car or in other transportation.

Less than 1 hour: Record 0 and continue with next city/town or exposure period

Less than 3 hours: Skip to question N.

M. Did your main daytime activities during your leisure time have you over water for a total of three or more hours a day, for example sailing, fishing or swimming?

(N=No, Y=Yes)

N. During your leisure time, when you were outside in direct sunlight, how often did you wear a hat with a brim?

1 [ ] never

2 [ ] less than half time

3 [ ] half the time

4 [ ] more than half the time

5 [ ] all the time

O. During your leisure time, about how often did you wear prescription or non-prescription sunglasses when you were outside in direct sunlight? **[If answer is "All the time," skip to next city/town or exposure period.]**

1 [ ] never

2 [ ] less than half time

3 [ ] half the time

4 [ ] more than half the time

5 [ ] all the time

P. How often did you wear ordinary glasses or contact lenses when you were outside in direct sunlight?

1 [ ] never

2 [ ] less than half time

3 [ ] half the time

4 [ ] more than half the time

5 [ ] all the time

Answer Sheet:

[[SUNEXP51_answersheet.jpg|Answer Sheet]] [[.nl]]

Scoring Procedures The following procedures are used to convert an individuals responses to estimate that individuals Ultraviolet light exposure:

SAS code used for analysis:

Variable Name:	Variable Label:
Wehours	workday exposure hours
Wewater	workday exposure over water
Wehat	workday exposure hat
Wesungl	workday exposure sunglasses
Weglass	workday exposure glasses
Lehours	leisure exposure hours
Lewater	leisure exposure over water
Lehat	leisure exposure hat
Lesungl	leisure exposure sunglasses
Leglass	leisure exposure glasses
Regno	regno
ID	dummy ID number
Zzlink	linking variable
Yearbeg	exposure beginning (yr)

Yearend	exposure end (yr)
Citytown	city/town of exposure
Stcntry	state/county of exposure

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proc sort data = anl.sunlocat out = locat; by regno zzlink; run;

proc sort data = anl.sunactiv out = activ; by regno zzlink; run;

data sun_anl1;

merge locat activ;

by regno zzlink;

array cvar $20. c1-c10;

array svar $20. s1-s10;

center = substr(regno,1,2);

if center = 62 then center = 55;

month=month(zzentdat);

year=year(zzentdat);

yrmo=year*100+month;

if stcntry = ALASKA then lf = 0.3;

if stcntry = MAINE or stcntry = MINNESOTA or

stcntry = NEW HAMPSHIRE or stcntry = VERMONT or

stcntry = WISCONSIN then lf = 0.8;

if stcntry = CONNECTICUT or stcntry = DELAWARE or

stcntry = MASSACHUSETTS or stcntry = NEW YORK or

stcntry = NORTH DAKOTA or stcntry = OHIO or stcntry = OREGON or

stcntry = PENNSYLVANIA or stcntry = RHODE ISLAND or
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stcntry = WASHINGTON or stcntry = WEST VIRGINIA then lf = 0.9;
if stcntry = DIST OF COLUMBIA or stcntry = DC or stcntry = HAWAII or
stcntry = ILLINOIS or stcntry = INDIANA or stcntry = IOWA or
stcntry = KENTUCKY or stcntry = MARYLAND or stcntry = MONTANA or
stcntry = NEW JERSEY or stcntry = SOUTH DAKOTA then lf = 1.0;
if stcntry = MISSOURI or stcntry = TENNESSEE or
stcntry = VIRGINIA then lf = 1.1;
if stcntry = ARKANSAS or stcntry = IDAHO or stcntry = NEBRASKA or
stcntry = NORTH CAROLINA then lf = 1.2;
if stcntry = ALABAMA or stcntry = GEORGIA or stcntry = KANSAS or
stcntry = LOUISIANA or stcntry = MISSISSIPPI or
stcntry = MICHIGAN or stcntry = OKLAHOMA or
stcntry = SOUTH CAROLINA or stcntry = WYOMING then lf = 1.3;
if stcntry = COLORADO or stcntry = TEXAS then lf = 1.4;
if stcntry = UTAH then lf = 1.5;
if stcntry = CALIFORNIA or stcntry = FLORIDA
or stcntry = NEVADA then lf = 1.6;
if stcntry = ARIZONA or stcntry = NEW MEXICO then lf = 1.7;
do i = 1 to 10;
cvar[i] = substr(citytown,1,i);
svar[i] = substr(stcntry,1,i);
end;
if (length(stcntry) <> 0 and lf = .) then do;
if s2 = AN then lf = 0.1;
if s3 = ALU then lf = 0.3;
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if s5 = GREEN or s2 = IC then lf = 0.4;
if stcntry = ALASKA TO FRANC then lf = 0.5;
if s2 = E or s2 = AB or s3 = ALG or s6 = AUSTRI or
s4 = BELG or s2 = CE or s2 = CI or s2 = CZ or s2 = DE or
s2 = EN or s4 = ESTO or s2 = EU or s3 = FIN or s3 = FRA or
s3 = GER or s4 = GREA or s5 = GREEC or s3 = HOL or
s2 = HU or s3 = IRE or s2 = IT or s2 = LA or
s3 = LIT or s5 = N. AT or s3 = N.A or s3 = NET or
s4 = NORM or s8 = NORTH AT or s6 = NORTHE or s4 = NORW or
s3 = NOV or s2 = PO or s2 = RO or s4 = S. E or
s4 = S. G or s4 = S. I or s3 = SCO or s3 = SIC or
s7 = SOUTH G or s7 = SOUTH W or s2 = SP or s3 = SWE or
s3 = SWI or s5 = THE N or s8 = UNITED K or s4 = W. G or
s3= W.G or s6 = WEST E or s6 = WEST G or s5 = WESTE
then lf = 0.6;
if s3 = ALB or s5 = CANAD or s5 = CANAN or s5 = MANIT or
s3 = MON or s4 = NEWF or s3 = ONT or s6 = QUEBEC
then lf = 0.7;
if s5 = NEW E or s3 = US/ or s5 = USA/E or s5 = USA/I
then lf = 0.8;
if stcntry = N. CAROLINATOEN or s5 = NEW Y or s3 = ORE or
s3 = SCH or s3 = VIR or s3 = W.V then lf = 0.9;
if s2 = AT or s3 = BER or s5 = CANAL or s3 = CBI or s3 = CHE or
s3 = COA or stcntry = COLORADO/KANSAS or s3 = COR or
s3 = CUR or stcntry = D. C. or stcntry = D.C. or s4 = DIST or
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s2 = EA or s5 = ERITA or s2 = EV or s3 = GEO or s3 = HAW or

stcntry = ISLAND or s3 = MED or s4 = MID- or s3 = MIL or

s2 = OC or s4 = TEXA or s4 = THEA or s2 = U. or

s8 = UNITED S or s3 = UNK or stcntry = USA or s3 = VA, or

s2 = WA or s2 = WO then lf = 1.0;

if s4 = MARY or s4 = ON G or s4 = TX, then lf = 1.1;

if s2 = IL or s5 = MISSO or stcntry = N. CAROLINA or

s7 = NORTH C or s6 = WEST C then lf = 1.2;

if stcntry = ALABAMA/GEORGIA or s2 = LO or s5 = MIDWE or

s4 = TX,G then lf = 1.3;

if s3 = AFR or s3 = CAM or s2 = EG or s5 = ERITR or

s3 = FLA or s5 = FLORI or s3 = FR. or s3 = GUI or

s2 = KA or s2 = KE or s3= LIB or s2 = LY or s4 = MALT or

s3 = MOR or s5 = N. AF or s3 = NIG or s8 = NORTH AF or

s4 = S. T or s8 = SOUTH AF or s10 = SOUTHERN S or

s10 = SOUTHERN U or s2 = SU or s3 = SWA or s3 = TAN or

s2 = TO or s4 = W. A or s3 = W.A or s2 = ZA then lf = 1.4;

if s3 = CA or s5 = MISSI or s4 = TEX then lf = 1.5;

if s3 = CAL or s5 = FLORD or s10 = SOUTHERN F or s4 = USA, or

s5 = USA/G then lf = 1.6;

if stcntry = ALABAMA/JAPAN then lf = 1.9;

if s4 = BELI or s3 = COS or s2 = EL or s4 = GREN or

s4 = GUAT or s4 = HOND or s3 = MEX or s3 = NIC or s3 = W.C

then lf = 2.0;

if s3 = ARG or s2 = BA or s2 = BO or s2 = BR or s3 = CAR or

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s4 = CHIL or s4 = COLU or stcntry = CUBA or s3 = DOM or
s2 = EQ or s2 = GA or s3 = HAI or s3 = JAM or s3 = PAN or
s2 = PR or s2 = PU or s8 = SOUTH AM or s8 = SOUTH AT or
s2 = TR or s3 = VEN or s4 = W. I or s6 = WEST I then lf = 2.2;
if s2 = AD or s6 = AUSTRA or s5 = DUTCH or s3 = FIJ or
s4 = GUAD or stcntry = GUAM or s8 = ISLAND O or s4 = MARI or
s4 = MARS or s4 = MIDW or s5 = NEW C or s5 = NEW G or
s5 = NEW Z or s3 = PAA or s3 = PAC or s2 = PH or
s4 = S. P or s3 = S.P or s3 = SAM or s3 = SO or s3 = SO. or
s3 = SOL or s7 = SOUTH P or s7 = SOUTH S or s4 = SW P or
s5 = THE P then lf = 2.3;
if s3 = AFG or s3 = ARA or s2 = AS or s4 = CHIN or
s4 = ESTI or s2 = FA or s4 = HONG or s2 = IN or s3 = IRA or
s3 = ISR or s3 = JAP or s2 = JE or s2 = KO or s4 = MALA or
s4 = MIDD or s3 = N.K or s3 = NE or s3 = NOT or s2 = OK or
s4 = ON T or s3 = ORI or s3 = PAK or s2 = PE or s2 = RU or
s4 = S. K or s3 = SAI or s3 = SAU or s3 = SIN or
s7 = SOUTH K or s10 = SOUTHERN J or s3 = TAI or s3 = THA or
s2 = TI or s2 = TU or s2 = UK or s3 = USS or s3 = VIE
then lf = 2.5;
end;
if stcntry = and lf = . then do;
if c2 = AL or c2 = IL then lf = 0.3;
if c2 = EU or c3 = GER or c2 = IT then lf = 0.6;
if c2 = HA then lf = 0.9;
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if c2 = AI or c9 = ATLANTIC or c2 = EA or c3 = MED or
c2 = N. or c5 = NORTH or c7 = SOUTH H or c3 = USA or
c3 = WAS then lf = 1.0;
if c5 = GREAT then lf = 1.1;
if c2 = AC or c3 = SEN then lf = 1.4;
if c6 = SOUTHE then lf = 1.6;
if c9 = ATLANTIC/ or c3 = CAR or c7 = DUTCH W or c3 = PAN or
c7 = SOUTH A or c3 = ST. then lf = 2.2;
if c3 = GUA or c4 = MARI or c3 = MID or c5 = NEW C or
c3 = PAC or c2 = PH or c4 = S. P or c3 = SOL or
c7 = SOUTH P or c5 = THE S then lf = 2.3;
if c2 = BU or c2 = CH or c2 = JA or c2 = KO or c2 = OK or
c2 = SA then lf = 2.5;
end;
drop yearbeg yearend zzentr zzfrmver no_msval i
c1 c2 c3 c4 c5 c6 c7 c8 c9 c10 s1 s2 s3 s4 s5 s6 s7 s8 s9 s10;
run;
/*
proc print;
title NO CLEAR LOCATION;
var regno citytown stcntry;
run;
*/
data sun_anl2 (keep=regno site years oe_eff oe_nloc lf
zzentdat updtdate yrmo);
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set sun_anl1;
years = (actend*1) - (actbeg*1); if years = 0 then years = 0.5;
hrsday = wehours*1;
if wewater = Y then water = 1; else water = 0;
if wehat = 5 then hatday = 1;
else if wehat = 4 then hatday =.75;
else if wehat = 3 then hatday = .50;
else if wehat = 2 then hatday = .25;
else hatday = 0;
if wesungls = 5 then sunday = 1;
else if wesungls = 4 then sunday =.75;
else if wesungls = 3 then sunday = .50;
else if wesungls = 2 then sunday = .25;
else sunday = 0;
if weglass = 5 then glsday = 1;
else if weglass = 4 then glsday =.75;
else if weglass = 3 then glsday = .50;
else if weglass = 2 then glsday = .25;
else glsday = 0;
hrsleis = lehours*1;
if lewater = Y then watleis = 1; else watleis = 0;
if lehat = 5 then hatleis = 1;
else if lehat = 4 then hatleis =.75;
else if lehat = 3 then hatleis = .50;
else if lehat = 2 then hatleis = .25;
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else hatleis = 0;
if lesungls = 5 then sunleis = 1;
else if lesungls = 4 then sunleis =.75;
else if lesungls = 3 then sunleis = .50;
else if lesungls = 2 then sunleis = .25;
else sunleis = 0;
if leglass = 5 then glsleis = 1;
else if leglass = 4 then glsleis =.75;
else if leglass = 3 then glsleis = .50;
else if leglass = 2 then glsleis = .25;
else glsleis = 0;
oe_eff = years *
(((hrsday*.714*lf) * (water*1.9 + (1-water)) *
(hatday*0.53 + (1-hatday)) * (sunday*0.07 + (1-sunday)) *
(glsday*0.21 + (1-glsday))) +
((hrsleis*.286*lf) * (watleis*1.9 + (1-watleis)) *
(hatleis*0.53 + (1-hatleis)) * (sunleis*0.07 + (1-sunleis)) *
(glsleis*0.21 + (1-glsleis))));
oe_nloc = years *
(((hrsday*.714) * (water*1.9 + (1-water)) *
(hatday*0.53 + (1-hatday)) * (sunday*0.07 + (1-sunday)) *
(glsday*0.21 + (1-glsday))) +
((hrsleis*.286) * (watleis*1.9 + (1-watleis)) *
(hatleis*0.53 + (1-hatleis)) * (sunleis*0.07 + (1-sunleis)) *
(glsleis*0.21 + (1-glsleis))));
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run;

Protocol source: https://www.phenxtoolkit.org/protocols/view/110801