
From: Mona Hanna-Attisha <MHanna1@hurleymc.com>
Sent: Tuesday, September 29, 2015 9:10 PM
To: Wells, Eden (DCH)
Subject: Re: Prelim GIS results

Follow Up Flag: Follow up
Flag Status: Flagged

That's right. I had my MSU white coat at the immun event, and I think I offended a few. Go blue and go green.
;)

Mona Hanna-Attisha MD MPH FAAP
Director, Pediatric Residency Program
Hurley Children's Hospital
Michigan State University

On Sep 29, 2015, at 9:05 PM, Wells, Eden (DCH) <WellsE3@michigan.gov> wrote:

Eat my hat- you are a UMSPH grad--- I owe you as I did NOT know that!!!
Go blue--
Eden

Sent from my iPhone

On Sep 29, 2015, at 7:51 PM, Mona Hanna-Attisha <MHanna1@hurleymc.com> wrote:

My undergrad was in env health (research in reproductive toxicology) and my mph was in health management and policy. My research team is awesome and we just enlisted a superstar public health geographer who is doing the GIS analysis.

Mona Hanna-Attisha MD MPH FAAP
Director, Pediatric Residency Program
Hurley Children's Hospital
Michigan State University

On Sep 29, 2015, at 7:48 PM, Wells, Eden (DCH) <WellsE3@michigan.gov> wrote:

Excellent! I did see that--- Did you do an MPH? You certainly have Epi experience...
Sent from my iPhone

On Sep 29, 2015, at 7:43 PM, Mona Hanna-Attisha <MHanna1@hurleymc.com> wrote:

Yes I agree. That is why we chose the same pre and post time periods to control for the natural seasonal

variations.

Mona Hanna-Attisha MD MPH FAAP
Director, Pediatric Residency Program
Hurley Children's Hospital
Michigan State University

On Sep 29, 2015, at 7:41 PM, Wells, Eden (DCH)
<WellsE3@michigan.gov> wrote:

Thank you- and yes-was discussing
this earlier, as regardless, it may be
difficult to quantify the contribution
of potential sources of lead in the
environment to aggregate EBL
cases-
---old houses in old cities with paint
and soil contaminations also have
old lead service lines...

Will be interested to see if our data
shows the pre and post findings as
yours, as temporality important.

Eden
Sent from my iPhone

On Sep 29, 2015, at 6:50 PM, Mona
Hanna-Attisha
<MHanna1@hurleymc.com> wrote:

FYI in regards to
seasonality, summer is
also the peak for lead in
water. Lots of literature
regarding this, see
attached article - most
notably fig 3 which
predicts the percentage of
EBL in summer due to
lead in water.

Mona Hanna-Attisha MD
MPH

Director, Pediatric
Residency Program

Hurley Children's Hospital
at Hurley Medical Center

Assistant Professor,
Department of Pediatrics
and Human Development

Michigan State University
College of Human
Medicine

Office: 810-262-7257

mhanna1@hurleymc.com

From: Wells, Eden
(DCH)
[WellsE3@michigan.gov
]

Sent: Tuesday,
September 29, 2015
5:58 PM

To: Mona Hanna-
Attisha

Subject: Re: Prelim
GIS results

Good evening, Mona,

I am looking forward
to our results as well.

I certainly understand
your role and the
need to address the
problem you
identified; as
physicians, our ethical
and professional
vows to care for and
prevent harm to our
patients is
paramount. No need
for data wars- I think
we are all just trying
to be sure, as you and
I said earlier, that we
are are

comparing the same data the same way-- "apples to apples".

Your point about water versus household sources is important, because that is certainly one of the issues here-- how to identify what potential sources of lead are responsible for EBLs in children, particularly in the CLPP database. Household (paint) is the most common culprit--- (this one contributes most to the seasonality), and need to get the best analysis of the data that can look at the association to potential water sources. More to follow!

I will follow-up in AM with our IRB folks and be sure they know that we have a wish to expedite--not sure how long the process is but will get an estimate.

Eden

Eden V. Wells, MD, MPH,
FACPM

Chief Medical Executive

Michigan Department of
Health and Human
Services

201 Townsend Street, 5th
Floor CVB

Lansing, MI 48913

Phone: 517-335-8011

wellse3@michigan.gov

From: Mona Hanna-
Attisha
<MHanna1@hurleymc.com>
Sent: Tuesday,
September 29, 2015
5:35 PM
To: Wells, Eden (DCH)
Subject: Re: Prelim GIS
results

Thanks Eden.

Looking forward to
seeing your analysis.

Our intent has never
been to go public
with anything.
However, when we
noticed our findings
and the glaring
correlation to
elevated water lead

levels in the same locations and learned that corrosion control was never added to the water treatment, we ethically could not stay silent. In addition, your annual EBL% supports our findings - annual decrease (as seen nationally) and then an increase post-water switch. We also knew that releasing our data would only incite a data war; however, the more we dig, the more alarming the results. (Do you know GM stopped using flint river water because it was too corrosive on their parts??? That should have alerted us to its effect on lead pipes.)

So as of now, no plans to release anything to public, although we did share some of the high risk location info to identify priority response areas (bottled water, filters, etc).

Lastly, the state lead screening programs underestimate risk from lead in water. Infants on formula are most at risk yet we screen when they are developmentally

likely to be exposed from lead from household sources (paint, dust, soil, etc). Lead levels could have peaked at 4 months and dropped by 12 months.

Finally, we do hope we can receive our data request soon so we can do the exact same analysis.

Thanks and sorry for the long email. Mona

Mona Hanna-Attisha
MD MPH FAAP
Director, Pediatric
Residency Program
Hurley Children's
Hospital
Michigan State
University

On Sep 29, 2015, at
2:59 PM, Wells, Eden
(DCH)
<WellsE3@michigan.gov> wrote:

Hi
Mona,

Quick
questi
on--

We
hope
to get
prelim
data
analysis
s
results

startin
g this
aftern
oon-
confir
med
likely
in next
day or
so----
not
sure
when
you
may be
going
public
with
the GIS
but do
you
think
will be
before
then?
Or are
you
doing
the
overlay
now?
Hoping
for
coordi
nation
of
"apple
s"--I
have
follow
ed-up
on
your
data
reques
t.

Eden

From:
Mona
Hanna-
Attisha
<MHanna1@hurleymc.com>

Sent:
Tuesda
y,
Septem
ber 29,
2015
12:25
PM

To:
Wells,
Eden
(DCH)

Subject
: Prelim
GIS
results

Dr
Wells,
thanks
for the
phone
call. I
appreci
ate
your
reachin
g out.
Below
is our
most
recent
analysis
looking
more
specific
ally at
the City
of Flint
and

focusing on wards/neighborhoods via GIS analysis. This is very preliminary, but even more frightening. Our next steps include overlaying this with the locations of lead service lines.

I would appreciate your efforts to expedite our data request for the raw data so that we can run similar analysis with your larger sample size. Th

anks
again,
and let
me
know if
I can be
of any
assistan
ce.
Mona

Updat ed Findin gs:

Using
GIS
(Geogr
aphic
Inform
ation
System
) map
technol
ogy,
we
have
further
analyz
ed
our blo
od lead
level
data.
Our
initial
analyssi
s
examin
ed
childre
n
living
in Flint
zip
codes,
48501-
48507;

however, this included households receiving non-Flint water. Our refined GIS-based analysis now includes only those households who receive water from the City of Flint.

The results reveal an even greater increase in the percentage of children with elevated blood lead levels (EBL). Pre-switch, the

proportion of children with EBL was 2.4%, and post-switch the proportion was 4.9% ($p=0.019$). This is compared with our initial zip code-based analysis that showed pre-switch 2.1% and post-switch 4.0% ($p=0.025$). Once again, the change in non-Flint EBL% was not statistically significant.

Preliminary GIS analysis has identified certain areas within the city limits that experienced the greatest rate of EBL% increase. Specifically, we found the greatest increases in wards 5 and 6 (particularly in neighborhoods near Dupont St between University Ave and Pasadena Ave); the EBL%

more than **tripled** in these wards. In ward 5, the EBL % increased from 4.9% to 15.7% (p=0.038). The area of intersection between wards 3, 4, and 5 (in the east side of the city) also appeared high. Lastly, ward 7 had high pre and post-levels EBL% above 5% (specifically in the western

portion
of the
ward).

Of
note,
our
results
continu
e to
correlate
with
the
high
water
lead
levels
from
the
Virgini
a
Tech s
amples
. Most
notably
, the
high
percent
age of
EBL%
in
wards
5, 6,
and 7
also
corresp
ond
with
the
high
water
lead
levels
in
wards
5, 6,
and 7.

**Mona
Hanna-
Attisha
MD
MPH
FAAP**
Progra
m
Directo
r
Pediatri
c
Residen
cy
Hurley
Childre
n's
Hospita
l at
Hurley
Medical
Center
Michiga
n State
Univers
ity
College
of
Human
Medici
ne
Depart
ment of
Pediatri
cs and
Human
Develo
pment
Mhanna1@hurleymc.com

<season water lead
article.pdf>