

REPORT: SEPTEMBER 25, 2014 PUBLIC INFORMATIONAL MEETING ON POTENTIAL PUBLIC HEALTH IMPACTS OF NATURAL GAS DEVELOPMENT AND PRODUCTION IN THE MARCELLUS SHALE IN WESTERN MARYLAND

REPORT

PREPARED BY:

GARRETT COUNTY COMMISSIONERS SHALE GAS ADVISORY COMMITTEE

OCTOBER 3, 2014

I. PURPOSE OF THIS REPORT

The Garrett County Commissioners Shale Gas Advisory Committee organized a public informational meeting held September 25, 2014 to discuss the *Maryland Marcellus Shale Public Health Study*. The objective of the public information meeting was to enable Garrett County citizens, especially those in the health and medical community, to hear directly about the study from the Maryland Institute for Applied Environmental Health, the developers and authors of the study. In addition, the local public health department, hospital, and non-governmental organizations were invited to give their perspectives on the study's potential impacts on the local community. Based on the presentations, attendees would then be able to make informed comments to aid in providing feedback to the Advisory Committee and the study authors.

This Committee Report does not judge the value of the comments; rather it is the mechanism for the Garrett County Commissioners and interested stakeholders to learn about public health impacts relating to Marcellus gas development, to collect informed comments on the Public Health Study, and to form the basis to forward comments to the Study authors.

Members of the Commissioners Shale Gas Advisory Committee attending the public information meeting were: John Quilty, Chairman; Nadine Grabania, Eric Robison, and James "Smokey" Stanton, members.

II. OVERVIEW OF THE FINAL REPORT: POTENTIAL PUBLIC HEALTH IMPACTS OF NATURAL GAS DEVELOPMENT AND PRODUCTION IN THE MARCELLUS SHALE IN WESTERN MARYLAND

On June 6, 2011, Governor O'Malley issued Executive Order (E.O.) 01.01.2011.11, which established the Marcellus Shale Safe Drilling Initiative. The purpose of the Initiative is to assist regulators in determining whether and how gas production from the Marcellus Shale and other shale formations in Maryland can be accomplished without unacceptable risks of adverse impacts to public health, safety, the environment, and natural resources.

The report, "Potential Public Health Impacts of Natural Gas Development and Production in the Marcellus Shale in Western Maryland" was released for public comment in July 2014, with comments to be received by October 3, 2014.

The purpose of the Marcellus Shale Public Health Study is to evaluate the potential public health impacts associated with drilling in the Marcellus Shale in Maryland, as prepared by the Maryland Institute for Applied Environmental Health, School of Public Health, University of Maryland:

On October 18, 2013, the Maryland Department of Health and Mental Hygiene (DHMH) signed a memorandum of understanding (MOU) with the Maryland Institute for Applied Environmental Health (MIAEH), School of Public Health, University of Maryland, College Park to conduct an assessment of the potential public health impacts associated with drilling in the Marcellus Shale in Maryland and to provide a Marcellus Shale Public Health Report. This document is the final report. The MOU specified that the “project is designed to provide a baseline assessment of current regional population health, an assessment of potential public health impacts, and possible adaptive and public health mitigation strategies in the event that natural gas extraction takes place within Maryland’s Marcellus Shale resource.” In particular, the project is not designed to make recommendations about whether or when to allow unconventional natural gas development and production (UNGDP) in Maryland. Rather this study is designed to inform decisions by clearly describing the risks and potential public health responses

The focus of the recommendations is on answering this question: “Given the baseline population health, vulnerabilities, and potential impacts of UNGDP, how can Maryland best protect public health if and when UNGDP goes forward?”

The Public Health Study assessed Marcellus gas development in eight areas: Air Quality, Flowback and Production Water Related, Noise, Earthquakes, Social Determinants of Health, Occupational Health, Healthcare Infrastructure, and Cumulative Exposures/Risk.

A total of fifty-two recommendations were made regarding public health impacts and prevention and mitigation strategies within the eight areas of concern.

The full, “Potential Public Health Impacts of Natural Gas Development and Production in the Marcellus Shale in Western Maryland” is available at: <http://www.marcellushealth.org/final-report.html>

III. PUBLIC HEALTH STUDY MEETING NOTES

(PUBLIC INFORMATION MEETING OF SEPTEMBER 25, 2014)

John Quilty, Chair, Garrett County Shale Gas Advisory Committee provided an overview of the Shale Gas Advisory Committee and a quick summary of the reports from the Governor’s Marcellus Shale Advisory Commission.

James “Smokey” Stanton, M.S.W., Garrett County Shale Gas Advisory Committee member, provided an overview of the agenda and introduced the presenters.

Dr. Clifford Mitchell, Maryland Department of Health & Mental Hygiene and **Dr. Donald Milton**, University of Maryland Institute for Applied Environmental Health presented information about the Final Report: Potential Public Health Impacts of Natural Gas Development and Production In The Marcellus Shale In Western Maryland. A full slide presentation is available here:

http://phpa.dhmh.maryland.gov/OEHFP/EH/Shared%20Documents/Reports/081814%20MD%20Public%20Health%20Study%20Advisory%20Commission%20Presentation_final.pdf

Rodney Glotfelty, Health Officer, Garrett County Health Department provided the following comments. Mr. Glotfelty's full testimony is included in the attachments:

- A major role of public health is to inform community of risks to public health and come up with strategies to mitigate those risks – this document is very important in that regard. The basic methodology is sound. Prefer high/med/low risk levels as originally proposed in the study – less confusing. Concur with many of recommendations of the report. During scoping, reliance on public comments from citizens at public hearings – total emphasis on these comments may not reflect the public concern or lack thereof. A well-designed and random study of GC and AC citizens may have been done as has been done elsewhere, usually after drilling was being done. A baseline opinion and risk hazard perception study may be helpful before drilling, another done after it starts. Realize funding limited, survey may not be feasible.
- Authors did nice job of describing health delivery systems in GC and AC. Don't totally agree with some conclusions – health system may be challenged in serving people in gas industry, in general it is resilient enough to serve increased demand without jeopardizing public health. Examples – new satellite office of Mt laurel opening in Grantsville this fall/winter, could include additional providers. CEO of hospital, Mark Boucot aggressive in attracting new physicians in GC and has set up strategic planning process at hospital to respond rapidly to changing conditions. GC & AC Health Depts provide mental health, substance abuse, sexually transmitted infection clinics, etc. that can be augmented to meet increased need. Will also be opportunities to integrate mental health services within private practice – something being supported by the state.
- Certainly the pace of gas development will determine the changes that need to be made to the system. Scope was not to look at econ issues, but econ status of community, and how poverty is determining factor of health of community would be nice to see. If positive economic benefit in community, reduced poverty, reduced unemployment, may expect positive health outcomes.
- Baseline health assessment in section 9 of appendix 1 – there is more up to date health info available md vital stats – and at GCHD website. In health impact assessment, much data has no reference dates, trend information, or whether data were age adjusted. Would prefer use of datasets for Maryland rather than national databases to be in conformance with what we use locally in planning and assessment processes.
- In conclusion, the decision will be decided by state / local authorities. Believe document highlighted adverse health effects that could be expected if control measures at state and county level reported to the commission aren't followed. Commend thoroughness of effort and the work of the local committee.

Response: Dr. Milton - Economic development is important – there are pluses and minuses to the economics of shale gas development – there was not time to work with Towson to get input from them to digest to get net pluses and minuses on health with respect to economic impacts. Extent that industry employs locals and money into economy, that's good. Poverty has serious health implications. Negative property values near development have important impacts on wealth and income too. We weren't able to address this issue but it is important.

Rodney Glotfelty - Use of 'CDC Wonder' for health stats – some was dated, no trend analysis?

Response: Dr. Milton – hoped to do more mapping, some of this will continue on, the health department is picking it up and using environmental public health tracking to work on it.

Response: Dr. Mitchell – that's a good point – DHMH is working with DNR and Don's group and MDE – to construct and host a site incorporating more up to date stats that are available. Talked about need to get

more up to date stats, but this was the quick and easy way. At end of day, whether using 2012 or 2010 statistics, it probably doesn't really affect, fundamentally, the conclusion they reached or quality of analysis.

Mark Boucot, President, Garrett County Memorial Hospital provided the following comments:

- Economics aside, there is a certain amount of elasticity in the health care system we can count on, I'm concerned from perspective of evidence based medicine as preventative medicine, demonstrates that the earlier we catch things upstream, we will be better able to solve long term health effects.
- I have a big issue from health perspective, this community has an at-risk population – the level of cancer in this community is fairly average compared to rest of state, but mortality rate is not. We don't have infrastructure for early detection systems. We have a mortality rate for breast cancer 25% higher than Maryland, prostate and colorectal cancers similar results. There is a great body of evidence demonstrating treatment and causality.
- I personally don't feel confident speaking on behalf of our local medical community, with so many varied opinions. As a Health Care Provider – I support the findings of the symposium from MS Public health draft report dated 9/23/14, that there is incomplete regulatory surveillance structure, and it doesn't have sufficient capacity for dealing with this issue in the community. It is anathema to me that we would proceed with this without a huge degree of caution around protecting long term health effects of the community. Can't pretend we know outcomes.
- Not enough evidence today to sustain a solid position. This report acknowledges 10 years of data required to find out long term effects. The report concludes that Maryland would benefit from waiting until the industry has proven out how to safely conduct this line of business. Agree that there are economic considerations, but I was not invited to speak to those, so I'd rather not. I came to the community nine months ago, and have spent my time figuring out how to bring a cancer care center here to cure the people with cancer in this community – I have a difficult time thinking about bringing causality for this disease at same time as trying to bring ways to heal people.

Dr. Ann Bristow provided the following presentation of Public Health Study Responses developed by the Maryland Environmental Health Network, Physicians for Social Responsibility, Chesapeake Chapter, and Ann Bristow, Governor's Marcellus Shale Advisory Commission:

<http://marcellusshale.garrettcountry.org/images/documents/Bristow.pdf>

- In summary, this presentation included the Hazard Evaluation Summary Chart; Best Management Practices impacts not based on research; Local costs impacts; Twenty-two MIAEH Recommendations to modify the Public Health Study recommendations; Limitations of the Public Health Study; Additional references available through the Southwestern Pennsylvania – Environmental Health Project.
- The audio file of Dr. Bristow's presentation as well as the following comments from Rebecca Ruggles is available here:

<http://marcellusshale.garrettcountry.org/images/documents/rebeccaruggles.mp3>

Invited Additional Information: Rebecca Ruggles, Maryland Environmental Health Network – Some of the information that Mr. Boucot cited came from a symposium Maryland public health advocates held on September 12. We brought in people from across the country, first listened to Dr. Mitchell and Dr. Milton and an expert panel, then asked the attendees, public health experts and environmental scientists, to tell us what

they would have us do. [Drafts](#) of the symposium report are available on the website and will be part of the comments from the Maryland Environmental Health Network to the commission.

PUBLIC COMMENT PERIOD

Steve Sherrard

- I'm the Environmental Health Director – a lot of this has to do with environmental health.
- At local level, environmental health is very different locally than we're hearing here. We do restaurants, rabies, perc tests, subdivision plats, nuisance complaints, etc. One place I take issue with the report is we also issue permits for private wells. Wells are regulated by COMAR and we enforce it. We permit the wells; licensed well drillers must drill wells. Has to be constructed to specifications for casing, and they are tested before use. After that point, yes, wells are not monitored and regulated, and it's up to individual responsible for well to take responsibility for the well. I think the report did say public water and community supplies are safer because they fall under Safe Drinking Water Act. Somewhat safer because they are monitored, but as we saw at the beginning of the year, Charleston WV was out of water for months. In Toledo Ohio there have been issues with Lake Erie and microcystin algae. A public water supply well is drilled and constructed to same specifications as an individual well, and that may not be necessarily reassuring.
- Another area we have lately been getting calls on noise complaints – not associated with natural gas, but with coal mines, with deep coal activity. MDE a number of years ago stopped enforcing noise regulations and put it on the counties to enforce. So, I spoke with Monty Pagenhardt, the County Administrator and as a result of that conversation, I'm drafting a noise ordinance for Garrett County. Monty will send to the Shale Gas Advisory Committee for review. We will also run it by the county attorney. Hopefully we can get it on books. Right now, when we get complaints about noise from coal mines, I'm powerless to help them – we have no regulatory authority.
- The report tries to characterize Garrett County and does a good job of that. It mentions three superfund sites and two toxic release inventory sites. I wish there were more details on these. Toxic release inventory sites, the amount of materials being released have gone way down in the last few years; the material is manganese oxides, associated with the spoils of coal mining. One reason for the reduction is that one site, Metikki, has moved operation to West Virginia. The other site is Vindex coal. The superfund sites in Garrett County - one was in Grantsville, the former Yoder's Locker plant. I got a call from Mayor Paul Edwards, who was concerned, because the site was unsecure and abandoned - unclear who was responsible. There were lots of unsafe things on site; kids were getting into the building. It was a health concern. I contacted MDE who called EPA, and we tapped the superfund to clean it up. The next superfund site was at Southern High School, when kids got in, took a vial of mercury, a couple of pounds, and spread it around school. Moved kids out of school and used the superfund money clean up. Dry cleaning establishment was the last one. I wish more detailed information had been provided.

Ruth Yoder

- Earlier the presenter said that water effects are less clear than air effects. I wonder how we then say it's only a moderately high risk. I have a private well, I'm a private citizen, and I'm alarmed

when I hear this. I'm a survivor of two kinds of cancer. We don't know what may happen – how can we give it a low risk? I hope this isn't the end.

Nadine Grabania

- For the Garrett County Shale Gas Advisory committee, one of the tasks I accepted was to analyze another set of studies – Multi State Shale Research Collaborative – studied four actively drilled shale counties – all have relevant data regarding impacts to public health, public safety and social services infrastructure. Looked from 2000 through 2012 from before and during drilling activity, and includes drilling boom and bust.
- I encourage all to look at the studies, links on the website. (<http://www.multistateshale.org/>) If you have concerns, communicate them to the county. The state makes decisions and they look closely to the county.
- If they do this in MD, should do a baseline study – we're the first place to look at these things before jumping in. It's giving us time to look at public health, baseline water, baseline air. Look at this area. Use what we learn here.

Rodney Glotfelty

- I agree with Nadine – baseline studies are so, so important. The Health Department recently completed work with MD Geological Survey – over 1,500 wells in database, one gas study, a radon study, along with routine sampling. These are fascinating the reports – can see formations in the county with elevated arsenic levels. The report that MD Geological Survey put out made some strong recommendations to add parameters to test for – the issue is, do we have lab capacity in MD, how pay for it, etc. We really do have a unique opportunity to study this before activity.

Eric Robison

- I looked at the MD Geological Society study and agree more studies are needed. I tried to get a bill passed to study water resources, a continuation of Wolman report, covering the area from Frederick west. I'm going to try to push for this legislation again this year as well.
- Thanks for coming out - The Shale Gas Advisory Committee members have been working hard on these issues.
- It's hard to not be too biased. Everyone comes with bias on anything. I think we're trying to find factual information on both sides, to get to what's the net, the bottom line, but there's not enough information yet. We do have some information showing that some of the fiscal considerations we're looking at as a community are starting to get a little more upset than we first thought. I think that's an important to note. As we move into the health study part of this, we'll also see this upset again, so we need to be cautious. One reason I've been talking to Dr. Alvarez so often, is I'm very worried the facilities, the hospital, has other resources to support and carry them to handle an influx of uninsured. But private practitioners - we have so few - need to be cautious about overburdening them.

- I think it's important to look at private practitioners as part of the costing. We don't have that, there is no costing/impact to private practitioner - this should be considered. We need to review this in the near future. We should have the best information available to make an informed decision.
- One of the other issues is about EMS - Smokey worked with John Henry Frank on emergency preparedness. We know some things are lacking and in this study MIAEH didn't address emergency workers; who are the primary contacts for upset events - our local EMS is all volunteer. They are the first ones impacted. This too should be addressed.
- The committee is looking at all these studies to find the gaps, and then we'll submit these to the Garrett County Commissioners, so these are the things the county has as part of their conversation. If we're not addressing the gaps, not being fiscally responsible to the community.

Leo Martin

- Some of you know, my town was the first and only town in Maryland to ban fracking. The longer this thing goes, the more we think we did the right thing. Appreciate comments made tonight, especially those from the new hospital administrator.
- Some of us have been concerned about having capacity to handle things happening next door in WV. People have accidents at these wells, how do we take care of them? I don't think we have the capacity right now to do this.
- As you know, we're going to shortly have three new commissioners – all have different views than those in the past. It's something different. Thank health professionals for their comments. If we can't take care of the health in our county we're in trouble. I think Mark mentioned having a cancer center here – that's a key thing to think about rather than drilling for gas.

Annie Bristow

- I think we're all in agreement that we would love to see some baseline data collection – who funds baseline data collection? It's tough to get funding for that. Once the threat is there, it is easier. We are doing some baseline water quality monitoring, SRWA has been monitoring 60-some stream reaches associated with previously leased properties, starting in March 2012. Smokey has been engaged with that too with the YRWA. But we're only testing 10% of all stream reaches that could be affected. It's not adequate to protect all of us if we need to demonstrate a change in water quality if it comes pre/post.

John Quilty

- I want to elaborate on comments by committee members – we were appointed by the Commissioners as a set of citizens with different viewpoints, widely different in some cases. As I tried to comment earlier, we are doing our best to focus on local things - actions and initiatives. A number of things, including the basic fracking decision, are in the hands of state. Decisions will be made with strong doses of political as well as substantive input; our committee can deal only with the latter.

- There is a pile of issues, and the 11 members surely do not represent all of the local wisdom and concerns. Smokey made it clear that we will listen the best we can to your issues and questions, and send these to the commissioners as well as to the study team. Some of you may generate your own commentary as input to the public health study folks.
- I encourage you to also copy our committee one way or another. Who knows what the committee's future will be, but if you put things in our hands that the committee may address over time, you will be helping set an agenda that is consistent with your interests. Thank you for participation.

Cliff Mitchell

- On behalf of the Department of Health and Mental Hygiene, thanks to those who spent time here tonight. I have listened and taken notes.
- For those of you submitting comments, you live there, and no one else can talk about conditions on ground like you can. One thing helpful to DHMH, MDE, DNR, etc. is to hear from you directly about local conditions and local concerns, and perhaps things UMD may not have captured. The more you can give the local information and perspective, as well as your personal views, the more you can inform us. It helps the commission with responses. The commission will look at comments and appreciate, urge you, add those specific background and details not captured in study.

Jerry Plauger

- With rescue squads and responses, it's not shale gas, but at one time we had a factory with 1,000 people on four shifts, and that involved a lot of back and forth at that time. So that shows we're not novices. At that time, we had less infrastructure than we do now, but we took care of it. We've experienced it here before. At one time Metikki had lots of potential for explosive events. It's not fair to say we're not prepared for any of this, from what we've seen in the past.

Gina Angiola, Chesapeake Chapter, Physicians for Social Responsibility

- I wanted to mention a couple of resources – [physicians, scientists and engineers for healthy energy](#) website – video lectures are fantastic. There are risks to everything. Other point – one concern, is the issue of chemical disclosures – there are literally hundreds used. Some have known hazards. Some we don't know how they interact. It's critical we force the industry to be transparent. It's difficult to get good studies – without knowing what people were exposed to in first place.
- We are saying if the industry comes here, we need them to be completely transparent - no trade secrets. Right now, with current BMPs, they're allowing industry to determine what's a trade secret and what's not. We're calling on complete disclosure of all chemicals, with toxicological and epidemiologic data. Provide info on these. We're asking that non-disclosure agreements can't be signed. It's incredible that people could be harmed, and they have to sign non-disclosure agreements before they get the finances they need – that completely shuts that information off from study. <handouts – brochure and petitions>

Mark Boucot

- I can't get paid to treat the diseases that we know what they are and what caused them. I can't get paid as a hospital for COPD. How can we get paid if we don't know what the causality is?

James "Smokey" Stanton

We've had a tremendous amount of expertise here tonight – that tells me we do have the ability to come together and look at problems and come up with reasonable solutions. I'm proud that you came, that you were civil and respectful, and you participated. Thank you.

ATTACHMENTS:

1. Meeting Attendees
2. Full testimony by Rodney Glotfelty
3. DRAFT 9/25/14 Shale Gas Public Health Study Meeting CITIZEN HANDOUT from Maryland Environmental Health Network
4. Hydraulic Fracturing: Will Maryland hinder the work of medical and health professionals? A view from Chesapeake Physicians for Social Responsibility and Clean Water Action
5. Information for Garrett County Medical Providers On Public Health Report on Marcellus Shale Of the Maryland Institute for Applied Environmental Health (MAIEH) Highlights Developed by Health Advocates 9/22/14
6. CALLS FOR RESEARCH ON UNCONVENTIONAL GAS DEVELOPMENT AND ITS HEALTH EFFECTS AUGUST 2014 from Maryland Environmental Health Network and Dr. Ann Bristow

MEETING ATTENDEES:

Dona Alvarez
Gina Angiola
Natalie Atherton
Barbara Beelar
Wendel Beitzel
Mark Boucot
Ann Bristow
Daniel Buckingham
Cheryl DeBerry
Paul Edwards
Chad Fike
Marjorie Fridkin

Rodney Glotfelty
Robert Goralski
Patricia Gotsch
Nadine Grabania
Jeff Hovis
Jerry Knutson
Arthur Lak
Leo Martin
Joanna Miller
Jerry Plauger
Bill Pope
John Quilty

Jim Raley
Rodney Rice
Eric Robison
Rebecca Ruggles
Elyzabeth Savage
Bob Sharp
Steve Sherrard
Wayne Spiggle
Betty Spiggle
James "Smokey" Stanton
Debby Ward
Ruth Yoder



Department of Health and Mental Hygiene

State of Maryland

Garrett County Health Department

"Working Together for a Healthier Tomorrow"



Public Health
Prevent. Promote. Protect.

Rodney B. Glotfelty, RS, MPH, Health Officer
1025 Memorial Drive
Oakland, Maryland 21550

301-334-7700 or 301-895-3111
FAX 301-334-7701
Equal Opportunity Employer

**Testimony from Rodney B. Glotfelty, Garrett County Health Officer, regarding the
"Marcellus Shale Development Public Health Impact Assessment"
Presented to the Garrett County Marcellus Shale Advisory Committee
September 25, 2014**

A major role of public health is to inform the community of potential risks to health, and to develop strategies that will mitigate or lessen those risks. It is our belief that this document is very useful in this regard. While some subjective analysis appears to have been possible by the authors in assigning scores when doing the hazard analysis, the basic methodology utilized seems sound. We would have preferred to keep the designation of public health risk at high, medium or low as originally proposed in the study. As the authors note, many of the adverse health effects identified in the report may be minimized if strict regulations and appropriate local policies are put into place. We concur with many of the recommendations made in the report, recognizing that some tweaking may be necessary in certain areas.

During the scoping process in developing this report, much reliance was given to comments submitted at various public hearings to identify hazards. While this seemed to work well, total emphasis on comments made by those willing or able to attend meetings may not be totally reflective of public concern or lack thereof. A well-designed and executed random survey of Garrett and Allegany residents may have been useful in this regard. This has, in fact, been done for health impact assessments (HIAs) in other areas of the Country that are experiencing a boom in unconventional natural gas development and production (UNGDP), but most were initiated after drilling had already begun. A baseline survey, documenting public opinion of perception of risk, would have been valuable if UNGDP ever occurs in Garrett County. Follow-up surveys could help determine how well regulatory and policy measures are actually working. We recognize that funding was limited for this study and that such a survey may not have been feasible.

The authors did a nice job in describing the health delivery system in Garrett and Allegany Counties; however, we do not agree with the conclusions drawn by the authors. While our health system may be challenged in serving an influx of relatively young people working in the gas development industry, in general we feel it is resilient enough to meet the increased demand without jeopardizing public health. In late fall or early winter, a new satellite office of Mountain Laurel Medical Center (FQHC) will be opening in Grantsville. This means additional providers will be recruited to serve Garrett County residents. The new CEO of the hospital has also been very aggressive in recruiting new physicians and services to the community and in developing strategic planning processes that can allow the hospital to rapidly respond to

Toll Free Maryland DHMH 1-877-4MD-DHMH
TDD For Disabled Maryland Relay Service 1-800-735-2258

changing conditions. Finally, the Garrett and Allegany Health Departments provide mental health, substance abuse, and STI clinics that can be augmented to meet increased need. There will also be many opportunities to integrate mental health services with somatic care in the next few years in local provider offices. Certainly the pace of natural gas development in Garrett County, if it ever occurs, will determine how rapidly changes to the delivery system must be made.

Somewhat lacking in the study was a discussion of the socio-economic status of the community and how poverty is a major factor in adverse health outcomes. Should unconventional natural gas development in Garrett County have the effect of increasing income, reducing unemployment rates, and lowering the percentage of our population in poverty, one might expect improved health status outcomes.

The Baseline Health Assessment contained in Section 9 and Appendix 1 of the report could be improved in certain areas. More up to date status of health information is available from the Maryland Vital Statistics web portal. Much of this data can also be found by accessing the Garrett County Health Department's website which contains updated status of health reports, the Maryland SHIP report, and hundreds of other health indicators that are updated as soon as the information is available. In the HIA, much of the data reported does not contain reference dates, trend information, or whether rates reported are age adjusted. We would have preferred the authors of the report to use data sets from Maryland rather than relying on National databases which at times contain dated information. This would bring the report into conformance with the data we use in our local community health planning process and with that depicted on various State and County websites.

In conclusion, the decision on whether or not to proceed in allowing unconventional natural gas development and production in Garrett and Allegany counties ultimately will be decided by our elected officials. I do believe this document has highlighted the potential adverse health effects that one could expect if control measures at the State and County levels do not incorporate many of the best practices already reported to the Commission along with many of the recommendations contained in this HIA. Although I have outlined some areas of concerns related to this report, we commend the University of Maryland Institute for Applied Environmental Health for the thoroughness of their effort given the limited funding. We also commend the work done by our local committees over the past 4 plus years in making recommendations to mitigate the adverse health effects that may occur if UNGDP proceeds forward in Allegany and Garrett counties.

**CALLS FOR RESEARCH ON
UNCONVENTIONAL GAS DEVELOPMENT AND ITS HEALTH EFFECTS
AUGUST 2014**

The following list indicates how many national groups -- from government, academia, and industry -- have recently called for more research into the health effects of hydraulic fracturing.

CALLS FROM GOVERNMENT:

1) Trevor M. Penning, Patrick N. Breyse, Kathleen Gray, Marilyn Howarth, and Beizhan Yan Environmental Health Research Recommendations from the Inter-Environmental Health Sciences Core Center Working Group on Unconventional Natural Gas Drilling Operations July 2014 <http://ehp.niehs.nih.gov/1408207/>

This is a working group of the National Institutes of Health. “Conclusions: Exposure and health outcomes research related to [Unconventional Natural Gas Development Operations] is urgently needed and community engagement is essential in the design of such studies.”

2) The Health Effects Institute (HEI) June 2014 workshop: an independent research body focused on air pollution and funded in equal measures by the US Environmental Protection Agency and the motor vehicle industry.

HEI's intent is to "work toward development of a strategic scientific research plan to better understand potential impacts of unconventional oil and gas development". The stated reason for this effort is that “questions remain about potential impacts of unconventional oil and gas development on people and the environment. While oil and gas development is well underway in the Appalachian region, it represents only a fraction of what is expected in coming years.

CALLS FROM ACADEMIA:

1) Seth B. Shonkoff, Jake Hays, & Madelon L. Finkel Environmental Public Health Dimensions of Shale and Tight Gas Development *Environmental Health Perspectives* <http://dx.doi.org/10.1289/ehp.1307866> 16 April 2014

“Conclusion: Despite a growing body of evidence, a number of data gaps persist. Most importantly, there is a need for more epidemiological studies to assess associations between risk factors, such as air and water pollution and health outcomes among populations living in close proximity to shale gas operations.”

2) Adgate, J. L., Goldstein, B. D., & McKenzie, L. M. Potential public health hazards, exposures and health effects from unconventional natural gas development. *Environmental Science & Technology*. 24 February 2014 <http://pubs.acs.org/doi/abs/10.1021/es404621d>

“Overall, the current literature suggests that research needs to address these uncertainties before we can reasonably quantify the likelihood of occurrence or magnitude of adverse health effects associated with UNG production in workers and communities.”

3) Jerome Paulson, MD Medical Director for National & Global Affairs; Director of the Mid-Atlantic Center for Children's Health & the Environment; Child Health Advocacy Institute *Children's National Health System* and Professor of Pediatrics and of Environmental & Occupational Health *George Washington University* – public letter to Christopher Abruzzo, Secretary, Pennsylvania Department of Environmental Protection 30 June 2014

“As a physician with significant expertise in environmental health, I want to point out that there is no information in the medical or public health literature to indicate that [Unconventional Gas Exploitation] can be implemented with a minimum of risk to human health. “

CALLS FROM INDUSTRY:

1) American Petroleum Institute: Request for proposals – due August 29, 2014

“This Request for Proposals (RFP) solicits research proposals designed to quantitatively assess community exposure from operations related to unconventional resource development (URD), ... evaluate whether a causal relationship exists between community exposure to URD operations (including well construction, hydraulic fracturing and well production) and selected health outcomes. ... We anticipate that this work will lead to publications in peer-reviewed journals...”

2) Alan J. Krupnick, Raymond J. Kopp, Kristin Hayes, and Skyler Roeshot The Natural Gas Revolution: Critical Questions for a Sustainable Energy Future March 2014

This report published by Resources for the Future (RFF) identifies 24 critical questions that need to be addressed because: “It is time to take stock of what is known, what is uncertain, and what is unknown about the economic and environmental consequences of the natural gas revolution.”

Critical Question # 22 is: “The public is concerned about potential health effects from shale gas development, yet there are few studies that adequately demonstrate the impacts. How has public health (both mental and physical) been affected by shale gas development? What potential future impacts exist? And how could such impacts be reduced through policy?”

The report states that “... conflicting studies, unavailable data, an evolving regulatory landscape, and public concern could hamper the potential for economic benefits and environmental improvements from natural gas” and states that “experts at RFF aim to undertake research in as many areas as possible, working with other researchers and knowledgeable stakeholders who are also seeking to reliably resolve many of these ‘known unknowns’.”

For further information:

Rebecca Ruggles, Director
The Maryland Environmental Health Network
rebeccaruggles@gmail.com
410-903-9498

Ann Bristow PhD
Professor Emeritus, Frostburg State
piperannie@gmail.com
301-338-1101

**Information for Garrett County Medical Providers
On Public Health Report on Marcellus Shale
Of the Maryland Institute for Applied Environmental Health (MIAEH)**

**Highlights Developed by Health Advocates
9/22/14**

- **Hazard Evaluation Summary:** 7 of 8 hazard areas assessed were ranked as High or Moderately High Likelihood of Negative Public Health Impacts (Table 6-1, Hazard Evaluation Summary, p. xx). Studies evaluating health outcomes are just starting to come out, with most being published in 2013 and 2014; several key studies were released after the MIAEH report. Industry non-disclosure agreements have impaired health research. In addition, many providers are prioritizing direct patient care for those affected by unconventional gas development and simply do not have time to write journal articles that will take years to get published.

- **Best Management Practices not based on Research on Health Impacts:** Health hazards will be observed even if proposed Best Management Practices are implemented by regulators. Many recommendations lack research support.
 - **Setbacks** are not supported by literature – safe distances from wells and compressor stations have not been demonstrated empirically. Evidence of safety is needed.
 - **Chemical Disclosure:** MIAEH proposed full chemical disclosure (page 89): *“Implement the provisions of H. B. 1030 for timely access to disclosed information by medical professionals, emergency responders, poison control centers, local officials, scientists, and the public.”* This recommendation exceeds MDE’s recommended Best Practice; however, telling people what they’ve been exposed to is not the same as preventing exposure.

- **Local Costs:** MIAEH makes many recommendations to involve local citizens, health care providers and/or county health departments to insure the health and safety of citizens and workers; however, suggested funding mechanisms or leadership for implementation is not specified. (pgs. 88-99).
 - Recommended that local health care providers participate in identifying and preparing for impacts to the healthcare infrastructure (p.97), thus further taxing providers in these Health Professional Shortage and Medically Underserved Areas.
 - Did not quantify the costs to local government and health institutions of needed capacity to handle traffic accidents, pipeline leaks, chemical spills, explosions, worker injuries, resident health problems, domestic violence, and increased sexually transmitted diseases. The state-funded economic study also did not address these costs.
 - MIAEH does not address Garrett County’s capacity for emergency response (e.g., all volunteer fire departments, relies on Allegany County’s HAZMAT team).

- **Water Contamination:** Air contamination was prioritized over water contamination due solely to a relative lack of research on water contamination.
 - PA-DEP found residential well contamination of VOCs, ethylene glycol and 2-butoxyethanol among 243 cases of contaminated residential water wells; PA-DEP records released 8/28/14 after MIAEH report
 - Dr. Ingraffea’s 2014 data suggest unconventional wells show a 6x higher incidence of cement and/or casing failures compared to conventional wells. Unconventional wells drilled in the NE PA region since 2009 (2,714 wells) show a high failure rate – 9.18%. Rates go up over time as wells age.

Maryland's Hydraulic Fracturing Proposal

Hydraulic fracturing involves injecting millions of gallons of fluid deep underground to break up shale rock and to force out gas or oil. These fluids contain toxic chemicals that can cause cancer and other serious ailments.

They also have been known to leak into drinking water supplies and into the environment.

The state's proposal would shield the disclosure of some chemical formulas as trade secrets, and would make it difficult for medical and health professionals to get the information they need.

It also does nothing to stop companies from restricting what local residents can say about actual health harms caused by hydraulic fracturing.



How can I get involved?

Please contact Tim Whitehouse, Director, Chesapeake PSR at 240-246-4492 or whitehouse@psr.org.

Sign up for our newsletter at www.psr.org/chapters/chesapeake

We will let you know about upcoming legislation and opportunities to comment to the state on issues related to hydraulic fracturing in Maryland.



Hydraulic Fracturing

Will Maryland hinder the work of medical and health professionals?

Clean Water Action

711 W. 40th Street
Baltimore, MD 21231
410-235-8808

www.cleanwateraction.org/md

Chesapeake PSR

325 East 25th St.
Baltimore, Maryland 21218
410-235-7760

www.psr.org/chapters/chesapeake

A view from
Chesapeake Physicians for
Social Responsibility
and
Clean Water Action

Keep Secrets Out of Hydraulic Fracturing



Hydraulic fracturing companies want to shield information on the toxic chemicals they are injecting into the environment from public scrutiny and examination. They have also resisted conducting health studies on the chemicals they use and have relied on non-disclosure agreements to suppress public discussion about health issues related to hydraulic fracturing. Unfortunately, the draft *Best Management Practices* for hydraulic fracturing in Maryland proposed by the Maryland Department of the Environment and the Department of Natural Resources would allow these practices to continue in Maryland.

You have a right to know

That is why we are proposing that Maryland:



- Require drilling companies to provide comprehensive data to the Department of Health and Mental Hygiene (DHMH), including toxicological profiles and epidemiological evaluations of chemicals and agents used in the production of natural gas.
- Require drilling operators to report the chemicals they use to a publicly accessible on-line database managed by the DHMH and paid for by permitting fees.
- Set up a process that would allow Maryland's health professionals to expeditiously obtain and share information needed to treat patients and to report public health concerns.
- Prohibit the use of non-disclosure agreements between drillers and local residents that restrict the ability of parties to disclose environmental or health issues associated with natural gas production.
- Ensure that chemicals and other agents injected into our environment are NOT subject to restrictions on disclosure under trade secret rules.

Sign Our Petitions at:

www.change.org/p/american-petroleum-institute-don-t-let-fracking-companies-suppress-important-health-information
http://action.psr.org/site/Survey?SURVEY_ID=9340&ACTION_REQUIRED=URI_ACTION_USER_REQUESTS

9/25/14 Shale Gas Public Health Study Meeting CITIZEN HANDOUT

The following recommendations are drawn from the **Southwest Pennsylvania Environmental Health Project**. This non-profit organization provides access to public health information and health services for PA citizens affected by natural gas extraction. www.environmentalhealthproject.org

SWPA-EHP Helping Citizens:

- Real time air and water monitors
- Devices to remove particulate and gases from home air
- Provide an air model to determine periods of high risk
- Management guidance for cleaning homes
- Warning signs of health effects
- Worry and anxiety support systems
- Access to immediate safe locations
- Need to know conditions that make citizens susceptible to injury
- Clear understanding of the limitations of government to assist citizens

Other concerns for citizens to consider:

- Test residential wells/springs BEFORE drilling operations; \$1000+ for single test for all parameters that could be necessary to determine causality if contamination occurs; DNR completed baseline methane monitoring
- No Surface Owners Protection Act; surface owners with severed mineral rights should be told what to expect with UNGDP property access
- Nighttime lodging for citizens who can't sleep due to noise
- Protection/evacuation of livestock & pets; safety of eating wild game

Public comments on "Potential Health Impacts of Natural Gas Development and Production in the Marcellus Shale in Western Maryland" will be accepted

through close of business on **Friday, October 3, 2014**. The final report can be found at:

- www.marcellushealth.org/final-report.html

Comments on the report can be made directly to dhmh.envhealth@maryland.gov or sent to Environmental Health Bureau, Marcellus Shale Comments, Maryland Department of Health and Mental Hygiene, 201 W. Preston Street, Rom 327, Baltimore, MD 21201

Another helpful resources for citizens:

Maryland Environmental Health Network: www.mdehn.org

- Issues for consideration for public comment will be posted here: <http://mdehn.org/resources/public-health-study-of-fracking/>