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2 COUNCIL OF THE CITY OF PHILADELPHIA
JOINT COMMITTEES ON:

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PUBLIC HEALTH & HUMAN SERVICES

4

THE ENVIRONMENT

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Room 400, City Hall

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Philadelphia, Pennsylvania

Monday, April 14, 2008, 10:40 p.m.

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Resolution 080288 - Authorizing the Council
Committees on Public Health and Human
Services and the Environment to hold
hearings regarding the safety of the City's
drinking water.

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13 COUNCILMEMBERS PRESENT:

14 Marian B. Tasco, Chair, Health and Human
Services

15 James F. Kenney, Chair, The Environment
Blondell Reynolds-Brown

16 Curtis Jones, Jr.

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2 COUNCILWOMAN TASCO: Good

3 morning. The Council Committee on

4 Public Health & Human Services and the

5 Environmental Committee will come to

6 order. I'm Marian Tasco, Chair of the

7 Public Health and Human Services

8 Committee, and Councilman Jim Kenney is

9 Chair of the environmental -- the

10 Committee on the Environment.

11 We will have the clerk read

12 the resolution.

13 THE CLERK: Resolution 080288,

14 authorizing the Council Committees on

15 Public Health and Human Services and

16 the Environment to hold hearings

17 regarding the safety of the City's

18 drinking water.

19 COUNCILWOMAN TASCO: Thank you.

20 As we move through the

21 hearing, we will -- certainly more

22 Councilmembers will join us, but we

23 will begin. This is a resolution and

24 does not require a quorum.

25 Water is the elixir of life.

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2 We depend on a healthy source of water
3 for so many things that are vital to
4 our lives: To nourish our bodies, to
5 feed our plants, to maintain or
6 animals. For these and various other
7 reasons, we depend on a health source
8 of water.

9 Philadelphia, like many of the
10 world's great cities, was founded near
11 major sources of water. From the Nile
12 River in Cairo, Egypt, to the
13 Mississippi River in St. Louis,
14 Missouri, these waterways have
15 nurtured and sustained our towns,
16 neighborhoods and communities for
17 hundreds of years.

18 For Philadelphia's America's
19 birthplace, we have relied upon the
20 Delaware and Schuylkill Rivers to
21 become a true metropolis. Considering
22 reliance, it was troubling to learn
23 from a March 11th article in the
24 Philadelphia Inquirer and a March 10th
25 in the Associated Press that traces of

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2 pharmaceuticals or their by-products
3 were detected in the City's drinking
4 water.

5 We receive our water from two
6 treatment plants located on the
7 Delaware River and the Schuylkill
8 Rivers, and these plants treat the
9 water that eventually end up in the
10 City's kitchen taps and drinking
11 water.

12 Our concern stems from the
13 fact that the Water Department did not
14 inform City residents regarding these
15 items in our water. Accordingly, this
16 committee is holding this hearing to
17 hear testimony regarding any impact
18 that pharmaceuticals or their
19 by-products may have in our water.

20 So we now call the Water
21 Department to begin the testimony.

22 Thank you for your time.

23 (Witnesses come forward.)

24 COUNCILWOMAN TASCO: Good
25 morning. Would you state your name for

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2 the record, please, and begin your
3 testimony.
4 COMMISSIONER BRUNWASSER: Good
5 morning, Chairwoman Tasco and Chairman
6 Kenney. Thank you for this opportunity
7 -- oh, my name is Bernard Brunwasser.
8 I am the Water Commissioner. To my
9 right is Debra McCarty.
10 And also inside the bullpen
11 here are three of our experts on
12 drinking water quality:
13 Dr. Christopher Crockett, who's head of
14 our planning and research division;
15 Dr. Alexa Obolenski, Supervisor of
16 Research; and Mr. John Muldowney,
17 who's Manager of Water Treatment.
18 Thank you for this opportunity
19 to clarify the Philadelphia Water
20 Department's role in the issue of
21 trace levels of pharmaceutical
22 compounds being found in drinking
23 water.
24 I'd like to begin with a
25 little background on the Water

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2 Department's drinking water
3 appropriations and our well-earned
4 reputation for top-quality water to
5 our citizens. This should place into
6 context the department's mission and
7 our related response to recent media
8 attention regarding pharmaceuticals in
9 the water supply.

10

11 The Philadelphia Water
12 Department provides 260 million
13 gallons of high-quality drinking water
14 to approximately 1.7 million people
15 each day. Our drinking water is
16 tested continually each day to ensure
17 that our treatment facilities remove
18 or treat a long list of strictly
19 regulated contaminants, as required by
20 state and federal authorities.

21

22 Philadelphia's drinking water
23 consistently meets or surpasses
24 national standards. Not only is our
25 record in this regard unblemished, but
the Water Department has always set
internal performance criteria well

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2 above established water-quality
3 standards.

4 The Water Department is a

5 nationally recognizes utility as a
6 result of its commitment to continuous
7 improvement through research and
8 innovative pilot studies designed to
9 better understand and meet potential
10 challenges to our water supplies and
11 our tap water. The Water Department's
12 research programs address the
13 occurrence of, source control of, and
14 treatment of emerging contaminants
15 where national standards do not yet
16 exist because of the absence of
17 science or evidence of human health
18 impacts.

19 "Research" is a broad term for
20 the many different ways that the Water
21 Department embodies continuous
22 improvement. Most of the Water
23 Department's research is very
24 practical, finding better ways to
25 conduct daily operations. Some

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2 research is future-oriented; that is,
3 gathering data to better forecast
4 decisions that the Water Department
5 will have to make in the future such
6 as optimizing its treatment processes
7 or seeking controls for contamination
8 at the source.

9 Research is just one of the
10 many ways that the Water Department
11 fulfills its mission to provide safe,
12 high-quality drink water. Our work,
13 and the work of other utilities and
14 national research foundations, is
15 being conducted voluntarily, at our
16 own cost, in our quest to understand
17 the emerging issue of pharmaceuticals
18 in drinking water.

19 The Water Department has been
20 keeping abreast of the issue of
21 pharmaceuticals in water for a decade
22 now. This issue arose outside the
23 United States at first but, in time,
24 became an issue for this nation to
25 address. The Water Department has

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2 been monitoring the Delaware and
3 Schuylkill Rivers, which are the
4 sources of our drink water, and our
5 treated water for pharmaceutical
6 compounds for several years now
7 following a U.S. geological study
8 conducted in 1999 through 2000 that
9 detected these substances in a
10 sampling of the nation's waterways.
11 We have been working actively
12 with the Environmental Protection
13 Agency (EPA), the Pennsylvania
14 Department of Environmental Protection
15 (the DEP), and the American Water
16 Works Association Research Foundation
17 to participate voluntarily in regional
18 and national monitoring studies; and
19 have, in addition, designed and
20 implemented our own monitoring
21 programs, utilizing specialized
22 contract analytical services.
23 What we have -- what have we
24 and our research partners found? That
25 these pharmaceutical compounds occur

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2 at such low concentrations -- in
3 nanograms per liter or less -- in
4 rivers and treated drinking water that
5 they cannot be detected unless the
6 most advanced analytical methods are
7 used. Only a few specialized
8 laboratories in the United States have
9 the ability to perform these tests.
10 The development of working
11 relationships with these labs has
12 afforded the Water Department the
13 opportunity to obtain monitoring data
14 that few other U.S. water utilities
15 have available.
16 Researchers, using the
17 appropriate methods, have found these
18 contaminants virtually everywhere they
19 have looked in river water supplies.
20 The growing body of evidence from the
21 scientific community would indicate
22 that differences between what we have
23 found and what has been found in other
24 U.S. cities' water supplies are
25 largely driven by differences in the

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2 lists of compounds tested for and in
3 the methodologies used for testing,
4 rather than differences in the water
5 supplies themselves.

6 This is not a Philadelphia
7 issue or even a United States issue;
8 it's an issue that affects all
9 societies that benefit from the use of
10 pharmaceutical products.

11 The majority of pharmaceutical
12 compounds that have been detected in
13 Philadelphia's drinking water, as a
14 result of the department's extensive
15 monitoring efforts, were found very
16 rarely and/or at concentration levels
17 near the very low thresholds of method
18 capabilities.

19 When it comes to our drinking
20 water, the Water Department adopts an
21 extremely conservative approach: If
22 any level of detection is ever
23 achieved, even this level could not be
24 validated in a subsequent test, our
25 policy has been to note it as a

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2 possible presence. For example, a
3 compound that was not detected in nine
4 out of ten samples over a number of
5 years of testing, but was detected in
6 one sample at one time, is included in
7 the list of substances that we have
8 found in the water. No results in
9 excess of parts per trillion
10 concentration levels -- that's a
11 nanogram per liter is -- have ever
12 been observed.

13 To provide some tangible sense
14 of how low these observed
15 concentrations are, I will use
16 caffeine and acetaminophen -- that's
17 Tylenol's active ingredient -- as
18 examples.

19 Assuming the highest-ever
20 observed Water Department
21 concentration levels, a person would
22 need to drink eight glasses a day for
23 more than 1200 years to obtain the
24 amount of caffeine in a single cup of
25 coffee, which is 100 milligrams; or,

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2 they would have to do the same, drink
3 eight glasses a day for 40,000 years,
4 to obtain the equivalent of a single
5 infant dose, which is 80 milligrams,
6 of Tylenol. This kind of gives you a
7 way to look at these infinitesimally
8 small, trace-amounts in our water.
9 These are the types of levels
10 we are finding. There is currently no
11 indication that such infinitesimal
12 concentrations pose any public-health
13 risk.
14 Now, how they get into our
15 system: First to note is that many
16 compounds -- many of these compounds
17 are, of course, used by humans. The
18 largest portion of what is taken -- of
19 what is taken in by human beings is
20 excreted by the human body unused. So
21 wherever medications and others
22 products are used and excreted or
23 otherwise drained into the waterway
24 systems by humans or animals such as
25 pets and livestock, these medications

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2 will eventually pass through the
3 waste-water treatment processes, as
4 they do the human body, processes
5 designed to significantly reduce
6 bacteria and other pollutants before
7 the treated water is returned to our
8 waterways.

9 According to a recent on
10 pharmaceutical use in the United
11 States, the average person in the year
12 2004 obtained 12 prescriptions, and
13 nearly 50 percent of the population
14 was on at least one prescription a
15 day. In addition, unused medications
16 are often flushed down the toilet.

17 Not all compounds of concern
18 come through the waste-water treatment
19 plants. Medications that are given to
20 livestock and found in agricultural
21 applications can be washed into our
22 waterways following a storm.

23 Currently, there is little
24 information about human health effects
25 at these trace-levels in water.

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2 Concern over human exposure has been
3 raised, though, based on possible
4 effects observed in aquatic life such
5 as fish and amphibians. Ecological
6 impacts on fish and other organisms
7 that live in the water and come into
8 contact with water in very different
9 ways than humans are also the focus of
10 ongoing scientific studies.

11 The Water Department is going
12 to continue to be a player in these
13 research areas until conclusive
14 results are available. We will also
15 continue to participate in studies
16 that evaluate alternate treatment
17 technologies that can address these
18 and other emerging compounds of
19 interest as they become available.

20 Now I'm going to address what
21 the department and what citizens can
22 do. First of all, what the department
23 is doing is participating with the
24 Environmental Protection Agency, the
25 Pennsylvania Department of

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2 Environmental Protection, and other
3 partners on the development of
4 pharmaceutical take-back programs
5 which provide a means for pharmacies,
6 health-care centers, senior centers,
7 and others to collect and return
8 unused medications. We are continuing
9 to participate in and fund ongoing
10 research to build a sound, scientific
11 understanding of this issue.

12 We're continuing our watershed
13 base protection and preservation
14 efforts, working on a regional basis,
15 to improve our waterways for all
16 users.

17 The Water Department, you may
18 remember, received the 2003 Source
19 Water Protection Award from the
20 Environmental Protection Agency for
21 its model watershed protection
22 program.

23 We will continue to provide
24 information to the media,
25 organizations, partners, City

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2 administration, and other customers
3 when we have substantive information
4 to share. Engaging the public to
5 better understand these concerns and
6 to properly direct our education
7 strategies is a challenge that the
8 department embraces.

9

10 We want to participate with
11 our national organizations, such as
12 the American Water Works Association,
13 in discussions with the United States
14 EPA over how to protect water from
15 contamination, how to develop sound,
16 scientific background on new compounds
17 of concern, and whether national
18 regulations are needed to address the
19 issues that are raised today.

20 The public has its role as
21 well. We would ask the public not to
22 flush unused medicines down the toilet
23 but to dispose of them in the trash by
24 mixing them with either cat litter or
25 coffee grounds in a secure bag to
discourage reuse.

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2 We are telling the public as
3 well that do not -- do not used
4 bottled water as a surrogate or a
5 replacement for tap water because tap
6 water is much more stringently
7 regulated than the bottled water. In
8 fact, I would say that nothing that we
9 consume, food or beverage, has
10 probably gone through the kinds of
11 tests that our tap water in this
12 country has gone through.

13 Also, the filters that are
14 available in the marketplace do not --
15 are not set up or are not geared up to
16 remove pharmaceuticals from drinking
17 water.

18 We want the public to support
19 state and national efforts to develop
20 pharmaceutical take-back programs, and
21 we also support state and national
22 funding efforts for environmental and
23 public-health research.

24 So in summary, these trace
25 amounts of pharmaceuticals that we

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2 have found in our water supply, and
3 what we did is, we found 32 of these
4 pharmaceuticals in our source water
5 and we specifically looked for 75
6 pharmaceutical compounds in our source
7 water, and we did find 32. In our
8 finished water, we also looked for
9 those 75 compounds and found 17.
10 Those are the correct number of times;
11 there was a clerical error in the
12 original list given to the Associated
13 Press, which wrote the article back in
14 March.
15 So what we've discovered in
16 these infinitesimally small amounts
17 and the scientific -- the majority of
18 the scientific community does not
19 believe that these amounts pose any
20 health risk at this time for human
21 beings.
22 And our role is to continue to
23 be out there looking. I think we
24 probably tested as thoroughly as any
25 water municipality in the country or

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2 any water utility in the country,
3 perhaps more so, and I think we may
4 have looked for the most compounds.
5 And our idea is, we want to know
6 what's in the water regardless of the
7 quantity and regardless of what the
8 scientific community feels is a risk
9 or not a risk at this particular time.
10 At this point, I'd be glad to
11 take your questions.
12 COUNCILWOMAN TASC0: Thank you
13 very much. Thank you for your
14 testimony.
15 And the Chair would like to
16 recognize that Councilwoman Blondell
17 Reynolds-Brown has joined us.
18 What made you begin to test
19 for pharmaceuticals? Have you always
20 tested for pharmaceuticals? And --
21 because you stated you had to go to a
22 specialized research center to have
23 the tests, the water tested for
24 pharmaceuticals, what gave you that --
25 COMMISSIONER BRUNWASSER: I

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2 think that this harkens back to a study
3 performed by the United States
4 Geological Survey back in 1999 and the
5 year 2000, when the ability to measure
6 quantities in this minute level of
7 parts-per-trillion came about. And I
8 think what the USGS did was, go around
9 and survey waterways throughout the
10 country, many parts of country, and
11 pharmaceuticals were showing up in
12 their studies.

13 Again, I think, over the
14 years, we were also improving our
15 tests. And we test at parts-per-
16 billion; and at parts-per-billion,
17 none of these pharmaceuticals show up,
18 not even today, they do not show up at
19 parts-per-billion.

20 And when we had heard that
21 there may be pharmaceuticals in the
22 waterways in the country, we
23 determined that when we had the
24 opportunity to do so, we would test
25 for those also.

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And we began testing
officially in 2004, when we joined a
group in Nevada and a research
project. The American Water Works
Association Research Foundation was
beginning to do research in this
emerging area.

9

You should note that the
Philadelphia Water Department is
considered one of the leaders in the
country for water quality, water
treatment, waste-water quality,
environmental quality, and all of
these things.

16 We have experts that sit on
17 the top committees in the country,
18 both on the American Water Works
19 Association and the Water Environment
20 Federation, and other major
21 organizations. And we are looked upon
22 as leaders in -- within these
23 organizations.

24

And, naturally, when we had
25 the opportunity to join them in

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2 testing for pharmaceuticals, we jumped
3 at the chance to take a look and see
4 what we have. We are not afraid to
5 look, and, you know, we want to know
6 what's out there.

7 COUNCILWOMAN TASCO: Prior to
8 the article that appeared in the paper
9 relative to the fact that
10 pharmaceuticals are in the water, what
11 discussion had taken place in your
12 environment amongst peers relative to
13 this? And why do you believe that --
14 why do you think that this story
15 created sort of like the firestorm that
16 it did?

17 COMMISSIONER BRUNWASSER:

18 Mm-hmm. Well, it's understandable that
19 people are quite concerned with their
20 drinking water; they come into contact
21 with it all the time, their children,
22 their friends and relations. Clearly
23 one thing that, you know, we do here in
24 Philadelphia, you know, I know that my
25 family is consuming this water, all of

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2 my neighborhoods are consuming this
3 water, and my friends are consuming
4 this water. And so, it's
5 understandable if there's a concern.
6 I think that the article that
7 came out in March was useful in
8 directing attention at this emerging
9 science. And because of the nature of
10 drinking water, people want it to be
11 as pure as it can humanly be possible.
12 We have the finest water
13 product in Philadelphia that we have
14 ever had, and it's, in great part, due
15 to some of the people that are sitting
16 behind me today, and they work very
17 hard every day.
18 So it's not surprising when
19 people begin to question the quality
20 of their drinking water there's major
21 concern, but I think that the AP
22 article has focused this concern, and
23 I know there are hearings in
24 Washington, D.C. -- I think it's
25 Senate hearings tomorrow on this exact

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2 topic, because what we do know is that
3 this is a national and international
4 problem.

5 What Philadelphia ultimately
6 found in its source water and in its
7 drinking water is very, very similar
8 to what we have found all over the
9 country. And that's simply because
10 many of us take drugs, both over-the-
11 counter drugs and prescription drugs.
12 And when you measure these quantities
13 where you have to drink 40,000 years'
14 worth of water to get one dose of a
15 child Tylenol, you can see that now
16 our -- the science of discovery, the
17 science of finding these things, has
18 outstripped our ability to deal with
19 it. Yet we are -- we have to study
20 it.

21 It's analogous -- to me, it's
22 analogous to the Hubbell telescope. I
23 don't know, ten, twelve years ago, the
24 country put the Hubbell telescope out
25 in outer space, and we were able

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2 beyond earth to see so much further
3 than we had -- than the scientists had
4 seen in the past. And what they had
5 seen -- what they began to see for the
6 very first time were things that were
7 not easily explained at first, so it
8 led to much more research.

9

10 And this is kind of -- you
11 know, when you scroll down to looking
12 at your water in such incredibly small
13 quantities, you -- your ability to do
14 that outstrips your understanding of
15 exactly what this does to you, what
16 does this mean. And that's why we're
17 still in the research phase here. And
18 we are in the forefront of trying to
19 understand what these minute
20 quantities mean for human health.

21 COUNCILWOMAN TASCOT: I guess
22 the other question along with that was,
23 had there ever been any publications or
24 reports on the studies that have been
25 made by any -- by your association or
any of your colleagues and any of the

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2 major trade publications about this
3 issue? Was this -- the AP story the
4 first time that the whole issue of
5 pharmaceuticals in water was made
6 public?

7

COMMISSIONER BRUNWASSER:

8 Actually, we -- when we began our study
9 in 2004, you know, through the American
10 Water Works Association Research
11 Foundation and a group out in Nevada,
12 which had a very sophisticated lab and
13 was able to measure in parts-per-
14 trillion, the story made the Inquirer
15 in 2004, and we had discussed that with
16 them.

17

COUNCILWOMAN TASCO: Mm-hmm.

18

COMMISSIONER BRUNWASSER: So it
19 had been out to some extent, but there
20 was -- it was so early in the
21 research -- and it's still relative
22 early in the research today because we
23 know many water utilities have yet to
24 do this testing, and they will have to
25 get in line because there are very few

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2 places that can help them with that
3 testing, and there are thousands,
4 literally thousands, of water utilities
5 in the country.
6 COUNCILWOMAN TASCO: Councilman
7 Kenney.
8 COUNCILMAN KENNEY: Thank you,
9 Madam Chairperson.
10 Could you define "nanogram"
11 for me?
12 COMMISSIONER BRUNWASSER:
13 Nanogram?
14 COUNCILMAN KENNEY: Could you
15 give me some description --
16 COMMISSIONER BRUNWASSER: I --
17 I think it's --
18 COUNCILMAN KENNEY: -- or a
19 comparison to what it actually is?
20 COMMISSIONER BRUNWASSER: It's
21 part-per-trillion, which means 1,000
22 nanograms per billion, one million
23 nanograms per million. It's just a
24 measurement, I guess, of size, but I do
25 have the staff here.

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2 COUNCILMAN KENNEY: It's kind
3 of like Carl Sagan -- "millions and
4 billions and millions"?
5 (Laughter.)
6 COMMISSIONER BRUNWASSER: Yes.
7 COUNCILMAN KENNEY: And I'm not
8 making light of it. In the terminology
9 of it, I'm not clear on what it is and
10 have difficulty in conceptualizing it.
11 COMMISSIONER BRUNWASSER:
12 Right. These are difficult.
13 COUNCILMAN KENNEY: I mean, how
14 small is "small"?
15 COMMISSIONER BRUNWASSER:
16 Right. Approximately, I'm told, a
17 teaspoon in an Olympics-size swimming
18 pool.
19 COUNCILMAN KENNEY: Okay. Do
20 you have the technological capacity now
21 to remove even the trace elements that
22 you're in your testing?
23 COMMISSIONER BRUNWASSER: Well,
24 I think what we discovered was that --
25 we didn't find -- almost half of the

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2 compounds we found in our source water
3 did not appear in our finished water.

4 Some of the most common ones were
5 caffeine and, not surprisingly, you
6 know, the Tylenol.

7 COUNCILMAN KENNEY: So the

8 caffeine and the Tylenol appeared in
9 the source water but not in the

10 finished water?

11 COMMISSIONER BRUNWASSER: No, I
12 think in both.

13 COUNCILMAN KENNEY: In both.

14 But in the finished -- do we have the
15 ability or capacity either

16 technologically or -- to remove the 17
17 elements in the finished?

18 COMMISSIONER BRUNWASSER: We do
19 not -- there's -- the federal

20 government and the Environmental

21 Protection Agency and the Pennsylvania

22 Department of Environmental Protection

23 has yet to figure this out themselves.

24 I mean, it's going to take -- that's

25 why we're in a research situation.

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2 The cost of -- I don't think
3 we have -- it may take more filtering;
4 we're not sure. Certainly, the reason
5 we're tied in with these research
6 foundations and all of these other
7 things is to try to get our arms
8 around this ourselves.

9 First of all, we don't believe
10 at this time that this is a- public
11 health situation; we do not believe
12 that at these incredibly small levels.

13 But what we will begin to do,
14 I'm sure, at the national level is,
15 look at this further and then look at,
16 are there treatment methodologies that
17 we don't know yet that can eliminate
18 some of these.

19 COUNCILMAN KENNEY: But your
20 answer today is, we don't have the
21 capacity to do it. Or is it?

22 COMMISSIONER BRUNWASSER: There
23 are certain -- some of the research
24 shows promise versus certain compounds.

25 COUNCILMAN KENNEY: And --

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2 COMMISSIONER BRUNWASSER: But,
3 you know, there are different ways
4 to -- you know, some things -- we use
5 another element or another, you know,
6 water-treatment chemical may dissipate
7 them or -- and then in other cases,
8 it's more filtering as opposed to
9 treatment.
10 COUNCILMAN KENNEY: Sure.
11 COMMISSIONER BRUNWASSER: And
12 we -- again, we're just in the early
13 stages, Councilman. I don't think we
14 -- we don't have -- we have a lot more
15 questions than answers right now.
16 COUNCILMAN KENNEY: I'm sorry.
17 Did you want to add something?
18 MS. McCARTY: Yes.
19 COUNCILMAN KENNEY: Just
20 identify yourself first.
21 MS. McCARTY: Yes. I'm Debra
22 McCarty, Deputy Commissioner for the
23 Water Department.
24 I mean, as the Commissioner
25 said, you know, there are some

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2 emerging technologies that show
3 promise, but at this time, you know,
4 there's no human health concern that
5 leads us to really jump on this
6 without knowing the big picture. You
7 don't want to have any unintended
8 consequences.

9 COUNCILMAN KENNEY: So what
10 you're telling us is that you test more
11 than anybody else does, or at least
12 deeper.

13 COMMISSIONER BRUNWASSER: I
14 don't think anyone has tested any more
15 than we have. I don't want to say that
16 no one else has looked for 75
17 compounds, but some of the -- I believe
18 the water companies, water utilities
19 have tested but perhaps not to the
20 extent of Philadelphia.

21 COUNCILMAN KENNEY: But we test
22 beyond what we're required to test.

23 COMMISSIONER BRUNWASSER:
24 Absolutely, absolutely.

25 COUNCILMAN KENNEY: And what

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1
2 you found, you believe, is not a public
3 health hazard.
4 COMMISSIONER BRUNWASSER:
5 That's true.
6 COUNCILMAN KENNEY: And --
7 MS. McCARTY: Can I -- if I
8 could --
9 COUNCILMAN KENNEY: Go ahead.
10 I'm sorry.
11 MS. McCARTY: If I may add, we
12 tested for everything that you can test
13 for.
14 COUNCILMAN KENNEY: Yeah. So
15 we --
16 MS. McCARTY: I mean, so there
17 are other -- we know there are other
18 pharmaceuticals, there are more than
19 75. But, you know, right now, this
20 is -- this testing is all -- these
21 methods aren't the research methods.
22 COUNCILMAN KENNEY: But we're
23 testing probably more than anybody
24 else.
25 MS. McCARTY: Or as much as.

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2 COUNCILMAN KENNEY: As much as
3 or --
4 MS. McCARTY: Yes.
5 COUNCILMAN KENNEY: Or more
6 than most --
7 MS. McCARTY: We're trying to
8 be aggressive --
9 COUNCILMAN KENNEY: Okay.
10 MS. McCARTY: -- and know
11 what's out there so we can address what
12 we need to address.
13 COUNCILMAN KENNEY: I'm trying
14 to craft this for you so we can have
15 some definitive statement about what it
16 is we do here. We test more than we're
17 required to test, correct?
18 COMMISSIONER BRUNWASSER:
19 Correct.
20 COUNCILMAN KENNEY: And at this
21 point in time, you view no public
22 health hazard.
23 COMMISSIONER BRUNWASSER:
24 Correct.
25 COUNCILMAN KENNEY: And even

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2 wanted to take out the 17 in the
3 finished water, we don't have the
4 capacity or technology to do it right
5 now.

6 COMMISSIONER BRUNWASSER:
7 Right. There are certain technologies
8 that are already being looked at, but
9 it's very, very early in the stage
10 research.

11 COUNCILMAN KENNEY: And
12 we'll -- continue to stay plugged into
13 the process --

14 COMMISSIONER BRUNWASSER:
15 Absolutely.

16 COUNCILMAN KENNEY: And to the
17 research advancement. And at some
18 point in time, we get to a point where
19 we could take the 17 out.

20 COMMISSIONER BRUNWASSER:
21 Correct.

22 COUNCILMAN KENNEY: Right now,
23 we are where we are.

24 COMMISSIONER BRUNWASSER: Yes.

25 COUNCILMAN KENNEY: And the

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2 water's safe.
3 COMMISSIONER BRUNWASSER: Yes,
4 sir.
5 COUNCILMAN KENNEY: Thank you.
6 COUNCILWOMAN TASCO:
7 Councilwoman Brown.
8 COUNCILWOMAN BROWN: Good
9 morning and thank you for your
10 testimony.
11 COMMISSIONER BRUNWASSER: Good
12 morning.
13 COUNCILWOMAN BROWN: The first
14 comment is really an FYI. I introduced
15 a bill calling for the establishment --
16 not the establishment, but the
17 installation of amalgam separators for
18 dentists, and we haven't acted on that
19 yet because we wanted -- we're still
20 doing our homework to find out what
21 other cities are doing in the handling
22 of the installation of amalgam
23 separators so that mercury does not
24 travel down the same tube that our
25 drinking water does when we're sitting

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2 in dentists' offices.
3 So you should simply be aware
4 of that, and we'll be looking forward
5 to your testimony on that when we
6 bring that up probably this fall.
7 Secondly, give me just a few
8 specifics on this pharmacy take-back
9 program: How old is it? what's the
10 status of it? You say -- or maybe we
11 say in the resolution introduced that
12 we should be or could be -- it could
13 be the expansion of the City's
14 prescription drug take-back program.
15 So just update us, if you will, on the
16 status of that.
17 COMMISSIONER BRUNWASSER: Sure.
18 I'll let Dr. Chris Crockett, who's head
19 of our Planning and Research Unit,
20 describe what he knows.
21 COUNCILWOMAN BROWN: Okay.
22 DR. CROCKETT: Thank you.
23 COUNCILWOMAN BROWN: Good
24 morning.
25 DR. CROCKETT: Good morning.

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2 I'll state my name:

3 Dr. Christopher Crockett. I'm

4 Director of Planning and Research for
5 the Water Department.

6 And actually, back in 2004,

7 when we talked to the Inquirer about

8 this, finding the pharmaceuticals, we

9 had actually initiated a regional

10 committee with the regional EPA, the

11 State of Pennsylvania Environmental

12 Protection, and other environmental

13 stakeholders. And we worked at how to

14 get at the flushing of the

15 pharmaceuticals down the toilet issue.

16 At that time, there were no

17 federal policies. And, actually, we

18 found that doing a pharmaceutical

19 take-back program in 2004 was

20 considered illegal.

21 COUNCILWOMAN BROWN: Illegal?

22 DR. CROCKETT: Illegal, because

23 you required a DEA agent, a pharmacist,

24 and a police officer because these are

25 controlled substances.

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2 And so we went through and
3 spent several years working with this
4 regional working group to look at the
5 different types of take-back programs
6 that were going out in the West and in
7 California and in other places. And
8 just -- we found a couple of partners,
9 including the Women's Health
10 Environmental Network, who were
11 spearheading a pilot take-back program
12 that we're hoping to start any day
13 here in the next couple of months;
14 hopefully in May.

15 And we're going to pilot this
16 program to look at three elderly-care
17 facilities; two of those are upstream
18 of our water supply, and --

19 COUNCILWOMAN BROWN: So what
20 does that mean? That's professional
21 terminology. What does that mean?

22 DR. CROCKETT: Two of those
23 upstream?

24 COUNCILWOMAN BROWN: Yes.

25 DR. CROCKETT: Two of those

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2 facilities, actually, if you flush down
3 the unused medication, it would go to a
4 waste-water plant that discharges into
5 a stream upstream of where take in the
6 City's water.

7 COUNCILWOMAN BROWN: Okay.

8 DR. CROCKETT: So through that
9 and a grant with EPA, we were able to
10 start this take-back program, and it
11 took a while to get off the ground, but
12 we're looking to start that this spring
13 or summer.

14 We're doing this for a
15 three-month period. We're going to
16 evaluate the costs and the results and
17 the findings and figure out how to
18 expand that.

19 And part of this regional
20 group also includes the pharmaceutical
21 companies, including Merck and
22 SmithKline.

23 COUNCILWOMAN BROWN: Mm-hmm.

24 DR. CROCKETT: And so we're
25 hoping to then see if these results can

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2 be expanded to more of these
3 elderly-care facilities or on a more
4 regional basis.

5 COUNCILWOMAN BROWN: Okay. All
6 right. Well, thank you for that 'cause
7 I did -- there -- my subsequent was
8 going to be: What partnerships do you
9 have in place with the Philadelphia
10 Corporation of Aging or the
11 Philadelphia Department of Health? So
12 your response indicates that you're
13 starting with the elderly community,
14 with the expectation, hopefully,
15 depending upon your findings, that you
16 will expand that.

17 DR. CROCKETT: Yes. We're
18 hoping to.

19 COUNCILWOMAN BROWN: Okay. If
20 I heard your testimony correctly, you
21 stated, Commissioner, that there's some
22 question on whether or not national
23 regs are essential.

24 If I misunderstood you,
25 forgive me, but I would think there's

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2 no question that we probably need to
3 have national regulations that speak
4 to this issue that's been raised by
5 way of this resolution.

6 COMMISSIONER BRUNWASSER: Yes.

7 What I'm saying is I'm not sure how
8 regulated this has to be, but it is a
9 national -- it would be a national
10 concern.

11 It's certainly not -- what
12 we've discovered and I know what the
13 reporters of the AP discovered was
14 that pretty much, when you look for
15 these compounds at these very, very
16 minute amounts, generally, you're
17 going to find them. And that's no
18 matter where you look in the United
19 States.

20 COUNCILWOMAN BROWN: Mm-hmm.

21 COMMISSIONER BRUNWASSER:

22 Because, you know, virtually every --
23 so many of us take medication and we
24 excrete most of the medication, most of
25 the parts of medication actually get

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2 excreted. And it shows up in the water
3 cycle, so to speak.

4 COUNCILWOMAN BROWN: Mm-hmm.

5 COMMISSIONER BRUNWASSER: And
6 it's in such minute quantities that
7 they will show up.

8 Now, if you subjected bottled
9 water or soda or food to the same
10 strict level of criteria as you do tap
11 water, I would be shocked if you
12 didn't find at least as much.

13 COUNCILWOMAN BROWN: Mm-hmm.

14 COMMISSIONER BRUNWASSER: Or
15 more. But, you know, that's not --
16 that's not required.

17 This is not yet required of
18 water utilities. But, again, we pride
19 ourselves in being in the forefront of
20 water treatment and waste-water
21 treatment and all of the things
22 surrounding both of these industries.

23 So we want to be topnotch. We
24 have an excellent laboratory in-house
25 and -- but we do not have the

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2 parts-per-trillion, that capability at
3 this point in time. We have an
4 EPA-approved laboratory here in
5 Philadelphia, which is very powerful,
6 and we test our water, I think
7 something, like 300,000 tests per
8 year.

9

COUNCILWOMAN BROWN: I see.

10

COMMISSIONER BRUNWASSER: So

11 we're constantly looking at it. And we
12 have an early warning system in place
13 now along our rivers and streams. And
14 we are constantly improving our
15 security.

16

COUNCILWOMAN BROWN: Mm-hmm.

17

COMMISSIONER BRUNWASSER: And

18 we're constantly improving the quality
19 of our water.

20

21 I think right now, it's -- for
22 those who haven't tried tap water in
23 Philadelphia because of bad memories
24 from days of old, they should try it,
25 because it's really an excellent
product, and we know that it's good to

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2 drink and healthful to drink. And
3 it's tested more so than anything else
4 we consume, so --

5 COUNCILWOMAN BROWN: Okay.
6 And, finally, on Page 4 of your
7 testimony, you speak to what you're
8 currently doing, and you mention
9 providing information to organizations,
10 partners, et cetera, on all that you're
11 doing, 'cause, I mean, if you go with
12 the educational premise that folks got
13 to hear something seven times before it
14 even begins to stick let alone
15 understand it.

16 So in the partners, who --
17 just share with us who some of them
18 are with regards to getting the
19 information out about this and other
20 programs by the Water Department.

21 COMMISSIONER BRUNWASSER: Well,
22 certainly we have a lot of partners for
23 a lot of programs, but this particular
24 facet, the pharmaceuticals, the reason
25 that it wasn't out in force -- I mean,

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2 we didn't really put a blanket on it
3 because it's been -- you know, the
4 Inquirer knew about it in 2004. But
5 since we're sort of in the middle of
6 research on it, we're not quite ready
7 to take off all of the wraps on this
8 particular facet.

9 But we have partners all over
10 the place as far as water quality in
11 general, but we can certainly tell you
12 who we've been working with as far as
13 pharmaceuticals are concerned.

14 COUNCILWOMAN BROWN: Just a
15 snapshot.

16 COMMISSIONER BRUNWASSER: Yes,
17 sure.

18 DR. CROCKETT: We have a
19 citizens advisory committee made up of
20 stakeholders throughout, environmental
21 groups throughout the City. We're
22 going to be communicating with them in
23 our upcoming quarterly citizens
24 advisory committee for the Water
25 Department.

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2 COUNCILWOMAN BROWN: Mm-hmm.
3 DR. CROCKETT: Again, that
4 regional work group that we've been
5 involved with through the Schuylkill
6 Action Network includes state and
7 federal regulators as well as other
8 environmental organizations.
9 COUNCILWOMAN BROWN: Okay.
10 DR. CROCKETT: And we also are
11 planning on putting this information
12 out in our annual water quality report
13 that goes out to everybody that has
14 water.
15 COUNCILWOMAN BROWN: In the
16 what report?
17 DR. CROCKETT: Our annual
18 water-quality report.
19 COUNCILWOMAN BROWN: Okay.
20 DR. CROCKETT: Do you ever get
21 the little newspaper-looking thing in
22 your mailbox?
23 COUNCILWOMAN BROWN: Yes, yes,
24 yes.
25 DR. CROCKETT: That is also

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2 going to have information about it as
3 well.

4 And we also already have
5 information on our website about this.
6 So if you check our website, it will
7 have information about the
8 pharmaceuticals there as well.

9 COUNCILWOMAN BROWN: Okay.

10 DR. CROCKETT: And we'll
11 continue to improve upon that.

12 COMMISSIONER BRUNWASSER: I
13 should also add that the Community
14 Advisory Committee on Water Quality
15 will have a staff member of City
16 Council on it from now on, so she would
17 be able to update the Council after
18 each meeting.

19 COUNCILWOMAN BROWN: Okay.
20 Well, I would only suggest -- but thank
21 you for that it's an excellent
22 beginning. Thinking in the
23 non-traditional way outside of the box,
24 meaning entities that are no way at all
25 connected with the professional work

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2 that you do like the Philadelphia
3 Corporation for Aging, like the School
4 District. I mean, there are some
5 schools in the School District that
6 actually focus on environmental
7 curriculum, if you will. So to think
8 in a non-traditional sense as well as
9 you seek to educate citizens across the
10 board.

11 Thank you for your testimony.
12 COMMISSIONER BRUNWASSER: Thank
13 you.

14 COUNCILWOMAN TASC0: Thank you
15 I just have one other question.

16 Now that the EPA is focusing
17 in on this issue and having hearings,
18 at the end of the day, what are your
19 expectations from them? what action do
20 you think they might take? And if
21 they take any action, do you think
22 they'll provide funding to the
23 states -- the utilities to further --
24 to do further research?

25 COMMISSIONER BRUNWASSER: I

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2 think -- my first reaction to that
3 question -- it's a very good
4 question -- is the logical thing for
5 them to do at this stage of the game is
6 research, research, and more research,
7 because what they will have is
8 information on Philadelphia, of course.
9 They will have information on, I guess,
10 the 40 -- I mean, the utilities that
11 have tested already.

12 And I think -- I think the AP
13 article said that about 41 million
14 people are affected in those
15 particular areas, and I think it's
16 time for more and more of the large
17 water utilities in particular to begin
18 testing for this, and they have to
19 work in cooperation with
20 municipalities such as ourselves to
21 try to get their arms around all of
22 this, and, first of all, to assure
23 people that this does not pose a
24 public-health risk at this time.

25 And, you know, for us, we plan

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2 to keep monitoring. We plan to make
3 sure that it stays that way, if not
4 gets better. If there are ways to
5 remove this in a reasonable fashion,
6 we certainly shall do it.

7 And, again, sometimes it's
8 hard to be in the forefront because,
9 you know, there's nobody in front of
10 you, and you're not gaining all of
11 that experience that someone else went
12 through.

13 But we are looked to for
14 leadership in these areas, and we're
15 very happy to provide it. We have the
16 leaders here in this department.

17 COUNCILWOMAN TASC0: Does the
18 testing cost very much? I mean, is
19 that a part of your budget requests, or
20 is this part of the normal -- how much
21 does it cost you to get this especially
22 testing?

23 DR. CROCKETT: Well, when we
24 did the special testing through a
25 research project, we were able to pool

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2 our money together with other water
3 utilities in the water industry to get
4 a reduced cost on the sample, but this
5 could cost upwards of a thousand
6 dollars a sample, depending on the
7 specialized nature and the array of
8 emerging trace chemicals that you're
9 looking for.

10 So this is not inexpensive
11 testing because it has to go to
12 special laboratories, and that's just
13 for the analysis.

14 COMMISSIONER BRUNWASSER: I
15 think some of the pharmaceutical
16 manufacturers have to start looking at
17 ways to take, you know, take their
18 compounds and see that they break down
19 in some way perhaps to -- in their
20 material after a certain period of time
21 so that they don't hang in the
22 environment for long periods of time.

23 So I think, you know, they're
24 certainly listening because they don't
25 want -- you know, they want to be

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2 ahead of curve as well so that they
3 don't get more and more regulated than
4 they already are. So there's -- it's
5 so -- this is emerging science.
6 COUNCILWOMAN TASC0: How do the
7 pharmaceutical companies dispose of
8 their outdated medicine?
9 DR. CROCKETT: I think that's a
10 good question to ask the pharmaceutical
11 companies.
12 COUNCILWOMAN TASC0: Okay.
13 Are there any other questions?
14 (No further questions.)
15 COUNCILWOMAN TASC0: Thank you.
16 Would you just stick around a little
17 bit?
18 COMMISSIONER BRUNWASSER: Sure.
19 COUNCILWOMAN TASC0: This
20 should not be an all-day-event hearing.
21 COMMISSIONER BRUNWASSER: Sure.
22 COUNCILWOMAN TASC0: Because we
23 might want to call you back for some
24 questions once we hear other testimony.
25 COMMISSIONER BRUNWASSER: Sure.

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2 And we're interested in listening to
3 your other witnesses today.
4 COUNCILWOMAN TASC0: Thank you
5 very much for your testimony.
6 Mike Ewal, ActionPA.
7 (Witness comes forward.)
8 COUNCILWOMAN TASC0: Good
9 morning.
10 MR. EWAL: Good morning. Thank
11 you for having me today.
12 So, yes, my name is Mike Ewal
13 and I'm with ActionPA. We're a
14 statewide environmental group based
15 here in Philadelphia. And what I'm
16 here to talk to you about is the
17 single most dangerous drug that is in
18 the water and the one that's most
19 preventible.
20 Others here are talking about
21 pharmaceuticals that are found in the
22 drinking water in parts-per-trillion,
23 and the debate is whether, at
24 parts-per-trillion, these chemicals
25 and combinations of them can cause

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2 health effects, and I think it's a
3 serious concern that the science is
4 still trying to figure out the
5 conclusions about that, whether there
6 are health effects at that level.

7

8 However, Philadelphia pays
9 about \$1 million a year now to
10 intentionally put fluoridation
11 chemicals in the drinking water at
12 one-part-per-million, a million times
13 higher than the levels that we're
14 talking about with these other drugs.
15 And they do so with the intention of
16 creating a pharmaceutical effect.

16

17 The chemicals that are
18 purchased, however, is called
19 hydrofluosilicic acid. It's not
20 pharmaceutical-grade fluoride, it's
21 not the stuff that they put in
22 toothpaste; it's a hazardous-waste
23 byproduct of the phosphate mining
24 industry mostly based in Florida.

24

25 Literally if they took the
same chemicals and dumped it directly

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2 into a river or a stream or an ocean
3 or a lake, it would be regulated as
4 hazardous waste. Yet putting it in
5 the drinking water is considered a
6 medicine. It's treated as if it's a
7 pharmaceutical and it's not regulated
8 as such, though. It's not FDA-
9 approved in a pharmaceutical sense at
10 all.

11 Now, the purpose of putting it
12 in at one-part-per-million is to
13 create a pharmaceutical effect of
14 reducing tooth decay; that's the
15 stated purpose of this. And so it's
16 put in in a concentration where it's
17 intended to create effects.

18 However, the data that the
19 Pennsylvania Department of Health has
20 from its own dental survey just about
21 a few years ago shows that the worst
22 tooth decay in the state is in
23 Pittsburgh; the second-worst is here,
24 in Philadelphia. Both of these cities
25 have been fluoridated since the 1950s.

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2 So it's not doing any real benefit in
3 terms of tooth decay, and that's been
4 backed up by national data and
5 international data, of which I have
6 colored charts over there on the
7 table: one showing tooth decay trends
8 in countries throughout the world, and
9 you'll see that the trends are that
10 tooth decay is dropping in countries
11 that use fluoride and countries that
12 don't. It's dropping regardless of
13 fluoridation.

14 The national data shows that
15 regardless of whether a state is
16 fluoridated or not -- and some are at
17 zero-percent fluoridation, some are at
18 100 percent, and Pennsylvania is right
19 in the middle, and you'll see that it
20 has no effect on tooth decay.

21 What does have an effect is
22 whether people have enough money to
23 afford dental care. And so, in the
24 cities, we have the worst tooth decay
25 because there are more people that

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2 cannot afford dental care, not because
3 fluoride is in the water making a
4 difference on that.

5 Yet, what the Pennsylvania

6 Department of Health data does show is
7 that the worst dental fluorosis, which
8 is the white, brown, or yellow pitting
9 or modeling of tooth enamel, the funky
10 teeth that you see in some people,
11 that dental fluorosis is caused by
12 fluoride exposure; it's named after
13 the chemical that causes it.

14 And the worst dental fluorosis
15 that they see in this state, according
16 to our own state's data, is in
17 Philadelphia and Pittsburgh, where
18 they're been fluoridated since the
19 1950s.

20 Now, that dental fluorosis
21 effect has been enough of an issue to
22 cause concern even among the agencies
23 that have been so vigorous in
24 promoting fluoridation. Groups like
25 the Centers for Disease Control and

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2 the American Dental Association both
3 issued warnings in late 2006 saying
4 that parents of infants should not mix
5 infant formula with fluoridated water
6 because that water can actually cause
7 dental fluorosis and damage that
8 child's teeth.

9 They issued press releases on,
10 but there was no requirement for water
11 companies or for the promoters of
12 fluoridation in these agencies to
13 notify people through water bills or
14 any other means so that mothers or
15 fathers of small children would know
16 not to mix infant formula with tap
17 water.

18 Now, there are many other
19 health problems associated with using
20 these fluoridation chemicals in the
21 drinking-water supply. The Scientific
22 American Journal just put out a big
23 article on it a couple months ago, but
24 a couple years ago, the National
25 Research Council, which is a part of

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2 the National Academy of Sciences, did
3 a very exhaustive study of over 1,080
4 reports and scientific papers on this
5 topic -- it's the most exhaustive
6 scientific review of water
7 fluoridation -- and they found that
8 the level that is considered safe by
9 the Environmental Protection Agency is
10 actually not safe, is not protective
11 of public health, and needs to be
12 lowered, that level that they said is
13 four-parts-per-million, yet what they
14 put in drinking water is one-part-per-
15 million.

16 And since you can't control
17 the dose, you have diabetics -- like
18 my brother is diabetic and drinks a
19 lot more water because of it, you have
20 athletes and others who are drinking a
21 lot more. Since the dose cannot be
22 controlled, there are some people who
23 are already exposing themselves to
24 more than what's considered safe, and
25 that officially-safe level is going to

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2 have to drop at some point once the
3 EPA follows the National Research
4 Council's advice on lowering that
5 level.

6

7 The union that represents
8 eleven different -- actually, eleven
9 different unions that represent EPA,
10 the Environmental Protection Agency,
11 staff scientists, including the one in
12 the office here in Philadelphia, have
13 come out and called for a national ban
14 on water fluoridation in part because
15 of the studies that have been coming
16 out on bone cancer in young boys,
17 studies that were initially covered up
18 at Harvard University, when they came
19 out a couple of years ago.

19

20 There are other studies
21 showing increases in lead exposure
22 when fluoride is in the drinking
23 water -- some of it from causing lead
24 to leech from pipes more, some because
25 of differences in calcium absorption.
And some people -- particularly

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2 African-Americans and Latinos -- have
3 more of an affinity for absorbing the
4 lead, having lead absorbed into the
5 brain, because of the fluoride that's
6 in the drink water, than other folks
7 do.

8

9 And the cause of that -- the
10 social implications of having some of
11 that go on is increases in learning
12 disabilities; we know very well that
13 lead causes decreased IQ in children.
14 We also see that it affects the
15 serotonin levels in the brain, which
16 is tied to an increased affinity for
17 violence and an increased affinity for
18 cocaine addiction.

18

19 So some of the same issues
20 socially that we're dealing with in
21 the city are tied to some of the
22 chemical exposures from the
23 fluoridation chemicals that are being
24 added to our water, and that means
25 that that increases that exposure.

25

Now, fluoridation chemicals,

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2 since they come from the phosphate
3 fertilizer industry, it would not be
4 affordable at all if we tried to buy
5 pharmaceutical grade, and that's why
6 buy it from the industry. Phosphate
7 mining is actually on decline, and so
8 the hazardous-waste byproducts that
9 are being used for fluoridation
10 programs are on the decline as well.
11 And because of that -- and I
12 spoke with the Philadelphia Water
13 Department just a few weeks ago to get
14 the updated numbers on this -- the
15 amount of money that's being paid to
16 purchase the fluoridation chemicals
17 has gone up and up. It's about half a
18 million dollars this past year. And
19 when I spoke to them a few weeks ago,
20 they said they're putting it out to
21 bid again for this next year's
22 purchase of chemicals, and they're
23 expecting the bids to be about double.
24 So we're talking about \$1
25 million a year just to buy chemicals

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2 that are being put in the water that
3 are not even shown to be creating the
4 healthful effects that are intended,
5 but which are showing to be creating a
6 number of health problems.

7

8 Now, there's statewide
9 legislation being promoted right now,
10 House Bill 49, that would mandate
11 water fluoridation in the State, and
12 doing so will roughly double the
13 amount of chemical purchases of these
14 fluoridation chemicals, which won't
15 affect Philadelphia in the sense that
16 Philadelphia is already fluoridating,
17 however, doubling the demands for
18 these chemicals when the American
19 Water Works Association and the State
20 DEP are already issuing warnings just
21 late last year that there are national
22 shortages of these chemicals and that
23 some water companies can't even secure
24 buying the stuff because there's not
25 enough.

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And if we double demand in the

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2 state and create a mandate, that's
3 just going to increase the prices
4 already increasing a lot for
5 Philadelphia to keep buying these
6 chemicals to put in the water.
7 And so from a medical
8 perspective, there's the tenet called
9 "First do no harm," and if we're
10 worried about pharmaceuticals in the
11 drinking water, the first thing we
12 should do is stop paying a million
13 dollars a year to intentionally put
14 them into the drinking water.
15 It's part of the precautionary
16 principle. Basically if there's
17 evidence of harm and there's not a
18 compelling reason to be doing this,
19 it's not mandated, then the prudent
20 thing to be doing would be to save the
21 money and take it out of the water.
22 There's a 1955 ordinance that
23 requires it at the City level to be in
24 the water. Philadelphia passed that
25 ordinance in 1955, and the only reason

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2 that the Philadelphia Water Department
3 can't their make own decision to file
4 for a permit with DEP and take it out
5 of the water is because City Council
6 would first need to repeal that 1955
7 ordinance.

8 And so I would suggest adding
9 fluoridation and the issues around it
10 to the hearings that will come up if
11 this resolution is passed.

12 And I also just wants to
13 support (indiscernible) in their
14 comments about other pharmaceutical
15 agents in the water and what can be
16 done out about them.

17 Thank you.

18 COUNCILWOMAN TASC0: Thank you
19 very much for your testimony.

20 Could we ask the Water
21 Department to come back and respond,
22 please.

23 (Water Department
24 representatives return to the witness
25 table.)

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2 COUNCILWOMAN TASCO: Can we
3 have the doctor talk about fluoride?
4 And make it brief, please.

5 COMMISSIONER BRUNWASSER: Well

6 --

7 COUNCILWOMAN TASCO: You heard
8 his testimony. Could you respond to
9 it?

10 COMMISSIONER BRUNWASSER: Yes.
11 Well, clearly, if the gentleman is
12 correct in what he is saying -- I think
13 there's some controversy in the health
14 community about that, but if he's
15 correct, it -- the Water Department
16 does put fluoride in the water and, I
17 guess, has done so since 1955 because
18 of the ordinance and because the Health
19 Department, I believe, sponsored that
20 ordinance back in that day.

21 And it's not a requirement of
22 water treatment nationally, but we
23 have basically just complied with the
24 regulations -- the ordinance and the
25 desire of, I think, the Health

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2 Department to have fluoride in our
3 drinking-water supply.

4 Now, I've heard people -- I've
5 heard stories from dentists who have
6 said that they've seen more -- they've
7 seen more cavities in some of the
8 kids, and when they got -- scrolled
9 down a little deeper and found out
10 why, they found that the parents had
11 given their kids bottled water in
12 place of fluoride water, and perhaps
13 that was the cause of more cavities.

14 And I know there's some
15 bottled waters that have now come out
16 and said that they are fluoridated so
17 that you will not miss the fluoride in
18 your tap water.

19 But, again, we stand ready to
20 do whatever the Health Department
21 deems appropriate.

22 COUNCILWOMAN TASC0: Let me
23 just ask you another question now that
24 you're back. Why are the standards
25 different for bottled water than for

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2 water that's provided by a
3 municipality?

4 COMMISSIONER BRUNWASSER: Well,
5 I think you can't avoid your municipal
6 water to some extent, so it has to be
7 stricter in a sense. The Food and Drug
8 Administration oversees bottled water,
9 and their standards are not quite as
10 stringent.

11 As you may know, the
12 department began bottling its own tap
13 water about 18 months ago. We've now
14 run into a problem with the contractor
15 for that water. The cost of plastic
16 has been skyrocketing also, and they
17 cannot deliver our bottled water
18 product, called "Philly Tap," for the
19 price that was negotiated, you know,
20 by the Procurement Department.

21 But in any event, our tap
22 water was taken to the bottler, which
23 was a woman-owned firm in Bristol,
24 Pennsylvania, and in order to give it
25 a two-year shelf life, they have to

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2 put it through other processes, which
3 may be reverse osmosis so that it
4 gives the tap water a two-year shelf
5 life in the bottle, and that is
6 regulated by the FDA.

7 COUNCILWOMAN TASCO: Mm-hmm.

8 COMMISSIONER BRUNWASSER: Now,
9 that particular bottled water has both
10 our imprimatur -- it's gone through the
11 most stringent testing, which is
12 required by the EPA and the DEP, and
13 then it's gone on to get FDA approval
14 sale, but most bottled waters just
15 require FDA approval, and it just is
16 not -- it does not require the kind --
17 the quantity and kinds of testing that
18 we do to our tap water.

19 COUNCILWOMAN TASCO: Thank you
20 very much.

21 Councilman?

22 COUNCILMAN KENNEY: Thank you.

23 You say that you stand ready
24 to do what the Health Department would
25 request relative to the fluoridation.

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2 Have we asked them? I mean, what -- I
3 mean, I don't know the answer to the
4 question, and yet people who come to
5 testify, who apparently are prepared
6 and have some data to show you, and I
7 don't know what the other side has to
8 say.

9 I mean, if it's not helping
10 and is not a requirement, I mean, do
11 you think that the Health Department
12 feels strongly that it should stay in?

13 COMMISSIONER BRUNWASSER: I'm
14 not certain about the, you know, the
15 latest research. Apparently, there's
16 been some recent research that has at
17 least raised the questions that we
18 heard here from the gentleman just now.

19 And, again, I don't think -- I
20 know that we are familiar with
21 fluoride and the way we use it and
22 believe that it's safe, but if new
23 research has shown that it's not
24 required any longer, we would take our
25 cue from the Health Department.

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COUNCILMAN KENNEY: An
assertion was made in the prior
testimony that somehow the grade of
fluoride we use is not dental-grade
fluoride, that it's some byproduct of
some phosphate mining operation or
something.

Do you know whether that's
true or what's that all about?

COMMISSIONER BRUNWASSER: I'll
let Mr. John Muldowny answer that.
He's the Chief of Water Treatment.

MR. MULDOWNY: John Muldowny,
Manager of Water Treatment.

It is true that it is a
byproduct of the phosphate fertilizer
industry, but the level of the -- the
cleanliness of the product, by the
time it's added to the water, doesn't
add anything to the water, which would
be detrimental to our customers.

Once again, trace levels of
other chemicals in the fluoride
product added to our drinking water

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2 would result in very, very, very low
3 concentrations.

4 COUNCILMAN KENNEY: Do you know
5 the difference between dental-grade
6 fluoride and what we use? I mean, what
7 makes --

8 MR. MULDOWNNEY: No, I don't,
9 sir. I do not.

10 COUNCILMAN KENNEY: Madam
11 Chair, what I would suggest is that
12 maybe we jointly, as chairs of the
13 committee, write a letter to the Health
14 Department and ask them for some type
15 of an update on where they are right
16 now.

17 I mean, it's not the biggest
18 issue, but it's something I'd really
19 rather just get an answer to one way
20 or another from where their
21 perspective is, okay?

22 COMMISSIONER BRUNWASSER: Thank
23 you.

24 COUNCILMAN KENNEY: Thank you.

25 COUNCILWOMAN TASCO: Thank you

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2 very much.
3 Don't go away. We want to get
4 the witnesses, who have been sitting
5 here for a few minutes, to come and
6 testify, and then we'll call you back
7 to -- the Water Department back to
8 answer a question or two from
9 Councilman Jones.
10 Robert Wendelgass?
11 (Witness comes forward.)
12 COUNCILWOMAN TASC0: Good
13 morning.
14 MR. WENDELGASS: It's still
15 morning, just barely.
16 COUNCILWOMAN TASC0: Mm-hmm.
17 MR. WENDELGASS: Good morning,
18 Madam Chairperson, Councilman Kenney,
19 and Councilwoman Brown. My name is
20 Robert Wendelgass, and I'm the National
21 Deputy Director for Clean Water Action.
22 I served as Pennsylvania State Director
23 of Clean Water Action for 16 years
24 before I took the national position.
25 And I've been a resident of

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2 Philadelphia for almost 30 years now.
3 Clean Water Action is a
4 national environmental organization
5 with over 100,000 members in
6 Pennsylvania and roughly 10,000
7 members in Philadelphia. We have a
8 long history of working for safe and
9 affordable drinking water, both
10 locally and at the state and national
11 levels; and, in fact, have been
12 talking with the Pennsylvania DEP
13 about the pharmaceuticals issue since
14 2005.

15 We appreciate the opportunity
16 to discuss this issue with Council
17 today.

18 The presence of hundreds of
19 unregulated pharmaceuticals and other
20 manmade chemicals in the nation's
21 rivers, streams, and drinking waters
22 is becoming increasingly well-
23 documented due to increased
24 monitoring, better testing techniques,
25 and greater use.

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2 While the data to date reveals
3 concentrations at relatively low
4 levels, current conventional treatment
5 does not effectively remove them.
6 This is cause for certain, although
7 not panic, and for timely action.
8 More research and other commonsense
9 measures are needed.

10 In terms of occurrence, the AP
11 investigation that was published in
12 March brought to light what the
13 scientific literature has been
14 documenting for a decade or more: A
15 potential toxic stew of organic
16 pollutants, human and veterinary
17 medicines, personal-care products, and
18 various industrial and commercial
19 products are in our waterways.

20 The primary sources of these
21 pollutants include waste-water due to
22 pharmaceuticals excreted by the body,
23 industrial discharge, disposal of
24 unused drugs, biosolids and manure
25 used as fertilizer, and agricultural

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2 runoff.

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4 More than 100 different
5 pharmaceuticals have been detected in
6 lakes, rivers, reservoirs, and streams
7 throughout world. In 2000, the U.S.
8 Geological Survey conducted sampling
9 of streams in 30 states and found
10 pharmaceuticals in 80 percent of the
11 streams, with the majority of the
12 streams having at least five different
13 pharmaceuticals.

14 Closer to home, researchers at
15 Villanova University sampled 21
16 streams in Chester County in 2004
17 finding pharmaceuticals in all of the
18 streams they tested, including
19 hormones, antibiotics, and
20 antidepressants. And you've heard
21 from the Philadelphia Water Department
22 about their own findings now with 32
23 pharmaceuticals in our watersheds and
24 17 in the finished tap water.

25 In addition to knowing that
pharmaceuticals are in our rivers and

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2 streams, we also know that they're
3 having an impact on aquatic species.
4 Species of fish in the Allegheny River
5 in the Pittsburgh area and in the
6 Potomac watershed have found intersex
7 fish -- feminized male fish -- along
8 with evidence of exposure to
9 estrogenic hormones in the water.
10 Estrogen compounds are one of the more
11 frequently found pharmaceuticals in
12 water sampling and represent a
13 potential threat to the ability of
14 fish and other aquatic species to
15 reproduce.

16 In terms of human health
17 risks, common sense suggests that it's
18 not a good idea to drink somebody
19 else's medicine.

20 Dr. David Carpenter, who
21 directs the Institute for Health and
22 Environment at State University of New
23 York at Albany, said, quote: We know
24 we are being exposed to other people's
25 drugs through our drinking water, and

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2 that can't be good.
3 The ecological and public
4 impacts of low doses are largely
5 unknown, but they can't be dismissed.
6 Pharmaceuticals, by their very nature,
7 are designed to be biologically
8 active. So while there is little data
9 on human health effects from exposure
10 to pharmaceuticals at these low
11 levels, we can't assume that this
12 means there are no human health
13 effects from these contaminants.
14 Finding harm to other species
15 in the environment, like fish, has
16 often been the first step for
17 researchers in understanding how
18 contaminants affect humans. Just
19 because the levels of the
20 pharmaceuticals are low at part-per-
21 trillion levels, we should not assume
22 that the consequences are also low.
23 Further, there are some
24 specific concerns about human health
25 effects, especially from estrogenic

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2 compounds being detected. Some
3 cancers, including breast cancer, have
4 been clearly linked to estrogen
5 exposures, and there are legitimate
6 concerns that increasing estrogen
7 exposures through our water supply has
8 the potential to cause harm.

9 Weaknesses in our current

10 regulatory scheme. As the folks from
11 PWD have noted, there are currently no
12 federal or state standards or even
13 monitoring requirements for most of
14 these pharmaceuticals in our drinking
15 water or in waste-water. Furthermore,
16 we would argue that the nation's
17 current regulatory framework is too
18 slow, too narrowly focused, and too
19 costly that it probably isn't a good
20 fit to address this problem.

21 Traditional waste-water
22 regulations and waste-water systems
23 are designed to create microorganisms
24 and nutrients, not pharmaceuticals and
25 other organic compounds.

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2 Advanced treatment techniques
3 like ozonation, granulated activated
4 carbon, reverse osmosis, and nano
5 filtration membranes have been shown
6 to remove significant amounts of
7 pharmaceuticals, but they're
8 expensive.

9 There are some states and
10 engineering firms and water utilities
11 working together on pilot projects to
12 explore treatment options. Clearly,
13 more research is needed along with
14 leadership from the US EPA to build on
15 this and other projects and on
16 information base that USGS has begun
17 to develop.

18 While we clearly need to learn
19 more, we believe that we know enough
20 to be concerned and to take some
21 precautionary actions. That includes
22 more research on health and ecological
23 impacts and occurrence, upgraded
24 treatment for waste-water and
25 drinking-water systems, and, most

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2 importantly, pollution prevention
3 through pharmaceutical, agricultural,
4 and water industry reforms.
5 Monitoring of pharmaceuticals
6 needs to be increased. We need more
7 data on the presence and
8 concentrations of pharmaceuticals in
9 our rivers and streams and in our tap
10 water, and this data should be
11 provided to the public.
12 We applaud the Water
13 Department for having taken the
14 initiative in doing the research that
15 they've done. We believe that they
16 should continue and that other water
17 systems should also do the same.
18 We would also suggest that
19 monitoring should be required from
20 potential waste-water sources of
21 pharmaceuticals as well such as
22 sewage- treatment outfalls.
23 Secondly, we need more
24 information on proper treatment
25 techniques for removing

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2 pharmaceuticals from both waste water
3 and drinking water.

4 As I noted above, some early
5 studies on ozonation, for example,
6 which a number of drinking-water
7 utilities around the country use, have
8 show some benefits in reducing
9 pharmaceuticals in tap water.

10 We hope the Philadelphia Water
11 Department will lead the way in
12 research initiatives to expand our
13 understanding of these treatments. We
14 also encourage PWD to incorporate any
15 findings from this sort of research
16 into its planning for future system
17 improvements both on the drinking-
18 water side and on its waste-water
19 side.

20 PWD will likely need to update
21 its treatment systems on both sides in
22 coming years as new federal
23 requirements come on line. As we
24 modernize our treatment facilities, we
25 should look at the full range of

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2 threats to both human health and the
3 health of aquatic species.
4 Thirdly, we need to look for
5 ways to prevent pollution of our
6 waterways with pharmaceuticals. I'm
7 glad to hear that the Philadelphia
8 Water Department is establishing a
9 pilot take-back program. We encourage
10 expansion of programs like that and
11 programs to discourages disposal of
12 unused pharmaceuticals.
13 I'd note that that is only
14 going to be a partial solution to the
15 problem because disposal of unused
16 pharmaceuticals is only a partial
17 source of the problem. The largest
18 source of the problem is what we
19 excrete after we've taken
20 pharmaceuticals. And a take-back
21 program isn't going to address that
22 issue.
23 But to the degree to which we
24 can eliminate unnecessary disposal of
25 waste pharmaceuticals and the flushing

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2 of them down toilets, that's an
3 important thing to do.

4 We also have been encouraging
5 the State to target monitoring efforts
6 at waterways downstream not just from
7 publicly-owned treatment works, which
8 it has been doing, but also
9 pharmaceutical manufacturing plants,
10 to just make sure that there are no
11 excess quantities of these chemicals
12 in their discharges.

13 And, finally, the federal
14 government needs to explore options
15 for better design of pharmaceuticals
16 so that there's less impact on the
17 environment and less excretion of the
18 drugs or their metabolites.

19 Fourth, we should support
20 efforts at the state level to improve
21 protection of the rivers and streams
22 that supply our drinking water. Out
23 of over 80,000 chemicals registered
24 with EPA, our federal drinking-water
25 rules require testing for less than

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2 one hundred.

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Like pharmaceutical
contaminants, many chemicals are
allowed to be discharged into our
rivers, relying on drinking-water
treatment systems to hopefully remove
them.

9

New legislation that has been
introduced in Pennsylvania's General
Assembly in the form of House Bill
2157 and Senate Bill 1109 would amend
the state's Safe Drinking Water Act to
ensure that discharges into drinking-
water sources do not degrade our water
quality. We encourage the Water
Department and City Council to review
these bills and to support them.

19

And, finally, we should ask
our federal representatives to support
better federal support for research
into pharmaceutical contamination.
President Bush's Fiscal Year '09
budget contains a \$10 million cut in
funding for the national water-quality

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2 assessment program that has been a
3 major source of research and
4 monitoring data on this issue.

5 While Philadelphia can't solve
6 this problem alone, there are some
7 actions that the City can take to make
8 progress on this issue.

9 We appreciate City Council's
10 interest and look forward to working
11 with City Council to help promote
12 safer drinking water and cleaner
13 rivers for all Philadelphians.

14 Thank you.

15 COUNCILWOMAN TASC0: Thank you
16 very much for your testimony.

17 Councilman Kenney has a
18 question.

19 COUNCILMAN KENNEY: Yes. Since
20 we're the Council of the City of
21 Philadelphia, our main responsibility,
22 obviously, is our own department, our
23 own drinking water. And while I
24 recognize and agree with you on the
25 macro picture that you're paying as it

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2 relates to more research and what we're
3 finding the more we test, how would you
4 rank the Philadelphia Water Department
5 both in leadership and in the actual
6 work that they do to keep the water as
7 clean as possible?

8 MR. WENDELGASS: Well, I --
9 certainly, I give lots of credit to the
10 Water Department for doing the testing
11 for pharmaceuticals; it's not required,
12 and so they've gone above and beyond
13 the law and the requirements in that
14 regard. So I certainly give the Water
15 Department lots of credit on that.

16 I haven't seen all of the
17 detailed numbers on which contaminants
18 were found at which level and would
19 love to see that, and I think that the
20 Water Department probably could do a
21 little bit better job of getting the
22 information out. I'm happy to hear
23 they're going to put in their water-
24 quality report or their consumer
25 confidence report.

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2 COUNCILMAN KENNEY: How would
3 you rank the quality of our water, it's
4 drinkability, its safety?

5 MR. WENDELGASS: Well, I would
6 answer in two different ways.

7 In terms of what the
8 Philadelphia Water Department does to
9 the water, I think they do an
10 excellent job of treating our water,
11 so, you know, they have a good record
12 of meeting state and federal
13 standards, and so I think the
14 department does a good job with the
15 water that they get.

16 On the negative side, I would
17 say that the water get isn't the
18 cleanest water in the world by any
19 means whatsoever. I mean, the
20 Delaware and Schuylkill water, by the
21 time it gets down to us, has, frankly,
22 cycled through a number of other
23 cities. A lot of the water we drink
24 comes from upstream sewage discharges.
25 So the water that they get isn't

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2 extraordinarily clean, and it does
3 require them to pay a lot of attention
4 to improving that.

5 COUNCILMAN KENNEY: But the
6 question I have is: The water that
7 they get you may not be the happy with
8 the quality, and maybe we shouldn't be
9 either, but the water that comes out of
10 our tap, how would you rank that?

11 MR. WENDELGASS: I drink the
12 water that comes out of our tap.

13 COUNCILMAN KENNEY: Okay.
14 That's pretty --

15 MR. WENDELGASS: I mean, I have
16 a water filter on it 'cause I don't
17 necessarily like the taste of chlorine
18 and 'cause I have a person in my home
19 who's been immune-compromised, and we
20 want to make sure that we're not
21 getting any microorganisms in our tap
22 water.

23 But certainly -- I mean, in
24 the debate that you had earlier about
25 tap versus bottled water, I would

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2 encourage people to drink Philly tap
3 water over most bottled water any day.

4 COUNCILMAN KENNEY: That's --

5 MR. WENDELGASS: So I agree

6 that I think that the Water Department
7 does a good job and produces a good
8 product. I think there are --

9 particularly with pharmaceuticals and
10 some of the compounds where we don't --
11 there are no regulations, then I think
12 there is lot more research that needs
13 to happen to figure out, is this a safe
14 level for pharmaceutical chemicals?

15 One thing I would disagree
16 slightly with some of what I think I
17 heard from the Water Department, I
18 would not necessarily characterize the
19 levels that we're finding of
20 pharmaceuticals as safe. I don't
21 think we know enough to say they are
22 either safe or not safe.

23 And that's the point that I
24 would make today, that we don't have
25 information enough to make that

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2 characterization and that parts-per-
3 trillion is not automatically a safe
4 level. Parts-per-trillion of some
5 chemicals can be unsafe.

6 COUNCILMAN KENNEY: Okay.

7 Thank you.

8 COUNCILWOMAN TASCO: Thank you
9 so much.

10 Any other questions?

11 Councilwoman Brown.

12 COUNCILWOMAN BROWN: Good
13 morning.

14 MR. WENDELGASS: Good morning,
15 Councilwoman.

16 COUNCILWOMAN BROWN: On Page 3
17 of your testimony, you address the
18 issue of educating the electorate and
19 you say that we need more information
20 on proper treatment techniques.

21 Did you have an opportunity to
22 hear from the Water Commissioner about
23 the number of ways where they're
24 already seeking to educating the
25 electorate?

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2 MR. WENDELGASS: I did.

3 COUNCILWOMAN BROWN: And what

4 recommendations or additional

5 suggestions would you offer to add and

6 enhance what they do already?

7 MR. WENDELGASS: Well, I think

8 putting the data in their consumer

9 confidence report or their water-

10 quality report that they send out to

11 all of their customers is an important

12 step, and so I would encourage them to

13 do that.

14 I think there are a number of

15 stakeholders within the environment

16 and public-health communities that

17 they could more aggressively reach out

18 to and provide information on this

19 topic.

20 COUNCILWOMAN BROWN: Such

21 as...?

22 MR. WENDELGASS: Well, for

23 example, my organization, I mean, we

24 first knew that the department had test

25 results that -- and the levels that

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2 they were finding when we saw it in the
3 AP story as well. So having worked
4 with the DEP on this issue for a couple
5 of years, we thought we were reasonably
6 current on the state of DEP, of state
7 and federal research on it. We had not
8 heard from the Water Department about
9 their data.

10 So, I mean, there's always

11 more groups and organizations the
12 department could talk to on this. My
13 guess is that they were not looking to
14 get information out too widely until
15 they completed more years of study on
16 it.

17 But I think there are groups
18 within the environmental community and
19 the public-health community where this
20 information would be helpful to know
21 at this stage as well.

22 COUNCILWOMAN BROWN: Mm-hmm.

23 MR. WENDELGASS: I mean, I
24 understand that they're not looking to
25 alarm people.

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2 COUNCILWOMAN BROWN: Sure.

3 MR. WENDELGASS: And, frankly,
4 neither are we, but we also think that

5 --

6 COUNCILWOMAN BROWN: But for
7 the professionals in the industry who
8 live and breathe the same issue that
9 you do, that that certainly is of
10 value.

11 MR. WENDELGASS: Yes.

12 COUNCILWOMAN BROWN: Okay.

13 Thank you, Madam Chair.

14 Thank you.

15 COUNCILWOMAN TASC0: Thank you
16 very much.

17 Don't leave.

18 MR. WENDELGASS: Okay.

19 COUNCILWOMAN TASC0: We may
20 recall some of the witnesses. I
21 certainly want the ActionPA to come
22 back. I didn't ask you a question.

23 But I do want to have this
24 last group up to testify because
25 people have schedules, and I don't

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2 want to hold them up, so we'll have
3 Roberta Perry from EPW Associates and
4 her panel to come forward --
5 Dr. William C. Miller and Marcella
6 Stokes -- to give their testimony.
7 And then I wanted to call you
8 back just for a question.
9 (EPW Associates witnesses come
10 forward.)
11 COUNCILWOMAN TASC0: Doctor,
12 you may pull a chair up from there, a
13 side chair.
14 Good morning.
15 MS. PERRY: Good morning. My
16 name is Roberta Perry and --
17 COUNCILWOMAN TASC0: And you'll
18 have to speak into the microphone so we
19 can hear you.
20 MS. PERRY: My name is Roberta
21 Perry and I'm an environmental engineer
22 with a master's in civil and
23 environmental engineering. And I am
24 the principal of EPW Associates. We do
25 technical-training development and EMS

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2 management program for EPA and OSHA
3 compliance.

4 My area of expertise is in the
5 area of environmental engineering. I
6 have 30 years of experience working
7 with a quasi-government agency and was
8 responsible for complete development
9 of the Mid-Atlantic, monitoring water
10 qualities and processing and detecting
11 (indiscernible) for contaminants
12 filtering and evaluation. One of the
13 key areas to get this task completed
14 was educating the public and the
15 employees there.

16 On my left is Dr. Miller.
17 Dr. Miller is a Ph.D. and an expert.
18 He has extensive professional
19 experience working as an environmental
20 engineer professional working for the
21 Department the Public Health, research
22 activities that involve filtration
23 devices and modeling, and quality
24 assurance for EPA. And he's also a
25 faculty member at Temple University in

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2 civil and environmental engineering.
3 In the middle is Marcella
4 Stokes, a mechanical engineering
5 consultant that works with engineering
6 firms and has experience with
7 green-building analysis. Her
8 professional activities involve
9 analyzing environmental impacts on
10 construction practices, methods to be
11 analyzed, countermeasures, clean-
12 energy resources, machinery,
13 non-polluting construction material.
14 Research activities involve material
15 research, nanotechnology device. She
16 sits on the Board of Students at
17 Drexel University. They do
18 sustainability building systems and
19 engineering. She also assisted in
20 sanitation with a military unit while
21 serving in Kuwait, which involved
22 tracking and safeguarding hazardous
23 waste and sanitary planning.
24 What we feel -- and
25 Dr. Miller's going to be the first

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2 person to talk about it. These are
3 some talking points: We wanted to
4 know:
5 How the pharmaceuticals get
6 into the Philadelphia drinking water?
7 Where are the pharmaceuticals
8 found?
9 What are the risks involved to
10 the general public?
11 Are the concentrations
12 harmful?
13 How long have the
14 pharmaceuticals been in the water?
15 How can they be removed and
16 what process will be used?
17 How pharmaceuticals are being
18 monitored?
19 And what are the effects on
20 human, fish, and wildlife?
21 I also want to say that I have
22 officially visited Baxter Water Plant,
23 doing research for Temple. I visited
24 the water plant at Belmont Avenue. I
25 visited the waste-water processing

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2 plant at the airport. And I do drink
3 Philadelphia drinking water, and I
4 know that they have one of the best
5 waters in the United States, or
6 quality of water.
7 So with the problem with the
8 pharmaceuticals being in the water,
9 Dr. Miller's got some discussion that
10 he wants to talk about on that.
11 DR. MILLER: Thank you. Good
12 morning.
13 COUNCILWOMAN TASC0: Good
14 morning.
15 DR. MILLER: One more minute
16 and it will be "good afternoon."
17 I'm here today to talk
18 basically -- first of all, I'm William
19 Miller, Temple University College of
20 Engineering. And prior to doing that,
21 I was with the Philadelphia Department
22 of Public Health for several decades,
23 let's say, working in the air
24 pollution agency. Much of that time
25 later in my tenure there, was with the

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2 laboratory operations involving air
3 monitoring, laboratory, computer
4 operations and so forth.

5 During that period of time, I
6 was also doing quite a lot of teaching
7 at Drexel and Penn State in the areas
8 of the environmental engineering,
9 civil engineering and public health.

10 My comments today are not
11 directly pointed toward the particular
12 focus or the topic of this hearing,
13 but I just wanted to make some
14 comments regarding what I call "risk
15 communication," the issue of when
16 scientific information becomes known
17 and then it is publicized, how the
18 processes of doing that publication or
19 notification is done and what the
20 problems are if it's not done in a
21 manner which we call "good risk
22 communication."

23 Generally, the purpose of
24 engineering in this case is to support
25 public health, security, and safety as

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2 a general, overarching process. And
3 the communication of scientific
4 information is in the purview of
5 scientists, and once the information
6 has been communicated and then goes
7 into the public-policy area, where
8 decisions are made regarding the
9 information, the scientific
10 information, then the policy is made,
11 regulations are created and passed,
12 and you move forward from there.
13 And those are under the
14 conditions where it's determined by
15 the scientific and the technical
16 communities that such moving forward
17 is necessary based on effects, the
18 evaluation of effects.
19 A couple of the issues is
20 that -- I'd like to say that a
21 scientist can't say no because in the
22 world of science you can never say for
23 absolutely, positively sure that the
24 answer is yes or no.
25 Scientists are trained, and

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2 from properly so, to speak in terms of
3 probabilities. And that's why, when
4 we start dealing with concentrations,
5 which are in the areas of parts-per-
6 trillion, parts-per-billion. And so
7 forth, that the certainty of the
8 knowledge of that molecule or compound
9 being there is very low, but you can't
10 say for sure that there is not one of
11 those molecules anywhere on the
12 planet, to take it to the extreme
13 So when you talk to
14 scientists, you have to understand
15 that you're talking about levels that
16 are detectable, levels that are
17 quantifiable. Even though they may be
18 detectable, they also have to be
19 quantifiable, and the quantifiable
20 levels are then what's used to take it
21 into the scientific and policy-making
22 area in terms of decisions about
23 making regulations in public health,
24 for example.
25 One of the areas in risk

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2 communication which is problematic is
3 the concept of voluntary versus
4 involuntary risk. Some people feel
5 that when you are walking around
6 outside and an airplane flies over,
7 that's an involuntary risk; you have
8 no control over that. However, when a
9 person gets into an automobile and
10 chooses to drive without a seat belt,
11 that's a voluntary risk

12 The issue that has to be
13 understood is that people are much
14 more willing to take voluntary risks
15 than involuntary risks. When
16 individuals are presented with an
17 involuntary risk, such as drinking
18 water, which is felt to be a public
19 right and a public utility, and they
20 find or hear something that's
21 problematic or potentially problematic
22 about that water, it becomes much more
23 of a serious, you know, psychological
24 or emotional issue because they have
25 no control over that. It's that loss

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2 or sense of loss of control which
3 creates, you know, a reaction, which
4 may actually be much too large
5 compared with the seriousness of the
6 problem.

7 And it's the responsibility of
8 the scientific and engineering
9 communities to properly communicate
10 when. They're going to release
11 information to the public, they also
12 have to be prepared to support and
13 provide information that the public
14 can understand in terms of how serious
15 is this problem. And I believe
16 certainly that's what the purpose of
17 your hearing is, is to deal with how
18 serious is the problem.

19 Another way to put that: Just
20 because you identify a problem doesn't
21 automatically make it serious. There
22 are -- there's a gradient or a level
23 of seriousness has to be discovered
24 and communicated to the public.

25 An example of that would be

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2 plutonium, okay? Plutonium is very
3 highly toxic material, one of the most
4 toxic materials on the planet. It's
5 not a natural material; it can only be
6 formed through nuclear reactions.

7 But at the same time, since
8 the 1970s and maybe a little before
9 that, plutonium has been used in a
10 number of satellite applications for
11 the power source. And as you may
12 know, these satellites eventually
13 enter the atmosphere and burn up.

14 So anyone who was born or
15 lived since the middle '60s and
16 forward, we also have some plutonium
17 in our body because the plutonium was
18 spread out all over the planet.

19 But the existence of the most
20 hazardous -- or one of the most
21 hazardous materials on the planet in
22 everybody's body is not necessarily a
23 cause for concern, because the
24 concentration that's there, even
25 though it's detectable, is much too

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2 low to cause any problems.
3 So that's an example. You
4 know, when you communicate that risk
5 and if you published a headline
6 tomorrow saying that everybody is
7 contaminated with plutonium, you would
8 want to be prepared to make it clear
9 that it's the level of seriousness or
10 the level of the problem which makes
11 it not a problem, even though it's a
12 very hazardous material.
13 The other issue is that
14 there's a concept called "a risk
15 matrix," which means that we can
16 discuss one particular type of risk or
17 one particular type of contaminant,
18 but everybody is subjected to a whole
19 spectrum of contaminants, and it's the
20 level and the exposure to each one of
21 those which adds up to the burden that
22 we each bear in terms of exposure to
23 these contaminants
24 So, again, the reaction to a
25 particular contaminant must be taken

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2 into consideration with respect to all
3 of the other contaminants that we're
4 being exposed to in terms of what is
5 serious, what do you attack first
6 from, let's say, a public health or an
7 economic point of view, because in the
8 end, all of these processes that are
9 necessary to address these issues at
10 some level will start costing money,
11 And in terms of funding for
12 public health for water treatment and
13 for other issues, the funding has to
14 be done and the decisions about
15 funding have to be done on a judicious
16 method so that we're not putting money
17 into a process which may have little
18 or no effect, such as removing
19 plutonium from our bodies, because
20 that funding and the public-health
21 problems in other areas must be
22 compared to that,
23 So there's a comparative risk
24 aspect. And so comparing the risk of
25 pharmaceuticals in water to other

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2 types of public-health and
3 environmental risk must be a part of
4 the overall decision-making processes.
5 I also want to comment on
6 Philadelphia's leadership in public
7 health and in environmental
8 protection. In the late 19th century,
9 the Water Department was among the
10 first cities to install at that time
11 advanced filtration systems because
12 the effect of pathogens became well
13 understood during that period of time.
14 And in post World War II --
15 when I first came to the City, I was
16 recruited by the Water Department,
17 although I never worked for them, but
18 they were recruiting engineers
19 nationwide. And I knew, as an
20 undergraduate coming out of school,
21 that Samuel Baxter was the national
22 leader in water-treatment systems, so
23 I had a lot of respect for that, and I
24 came here because the Philadelphia
25 Water Department at that time was

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2 recruiting all over the country.

3 Highly respected and recruited all

4 kinds of engineers

5 Also, in the Philadelphia

6 Department of Public Health, in that

7 period, since the Air Management

8 Services was formed in 1969, in that

9 period, that agency, along with, in
10 some regards, the City of New York,

11 cooperated on issues such as

12 asbestos-bearing materials in

13 buildings. Now, that was banned back

14 in the '70s. There was a tremendous

15 problem of apartment house

16 incinerators as a general problem.

17 Cooperation between

18 Philadelphia and New York addressed

19 those issues and allowed for the

20 establishment of nationwide standards

21 for regulating and looking at those

22 particular industries

23 The community right to know in

24 terms of hazardous air pollutants

25 being admitted, which came out of the

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2 right to know of employees within
3 companies to know what was being
4 stored, used, and manufactured, this
5 also came out as part of the research
6 done by the City of Philadelphia and
7 some of the -- and the State of New
8 Jersey, which is where it actually
9 started.

10 So these agencies have long
11 been in their years of
12 establishment -- the Water Department
13 for over hundreds of years and the Air
14 Management Services and the General
15 Air Pollution Agency in Philadelphia,
16 which actually began around 1948, both
17 of these agencies are well respected
18 in terms of -- certainly in terms of
19 their technical ability and their
20 technical interest in dealing with
21 public-health and environmental
22 problems.

23 Thank you.

24 COUNCILWOMAN TASC0: Thank you.

25 MS. STOKES: Thank you for

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2 allowing me the opportunity for my
3 voice to be heard. I want to speak
4 first as a --

5 COUNCILWOMAN TASC0: Please
6 identify yourself for the record.

7 MS. STOKES: Oh, I'm Marcella
8 Stokes and I'm here with EPW Associate.

9 I feel as though I'm qualified
10 due to my experience doing sanitation
11 control in Kuwait, where we did deal
12 with a lot of contaminants, both
13 airborne and also in our water supply.
14 And also through my nano technological
15 research, working with machinery, nano
16 machinery. And the way I want to
17 relate that is to possible nano
18 filtration device that could possibly
19 be used to address this issue.

20 My third qualified, I think,
21 is the fact that I drink the
22 Philadelphia drinking water and have
23 been for quite some time.

24 So as a consumer, my first
25 question would be: Even though some

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2 of the contaminant levels may be
3 considered acceptable by scientific
4 means, is it still acceptable for them
5 to be present? And do we know enough?
6 My answer, as an individual
7 here, is: No.
8 And also reading the
9 Philadelphia -- not to throw stones at
10 the Philadelphia Water Department
11 because we have all heard here today a
12 testament of what a fine organization
13 it is and the great work that they
14 have done over time.
15 However, it does clearly state
16 that those with compromised immune
17 systems and also the elderly shouldn't
18 drink the water. So if I had to
19 emphatically say if it is safe for all
20 people to drink the water, I would
21 say, I guess, in that case, it
22 wouldn't.
23 But stepping that aside, my
24 personal views, I bluntly feel that
25 though we have had the best -- while

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2 we have employed the best techniques
3 over time to filter the water, perhaps
4 it's time to step up to modern
5 technology and improve the techniques
6 that we do use.
7 I'm not arguing the fact that
8 perhaps the levels that's being found
9 are not harmful to humans that consume
10 them. What I am questioning is our
11 ability to remove contaminants from
12 the water. And I would be interested
13 in learning more about the techniques
14 that the Philadelphia Water Department
15 have used to actually test the water.
16 When they say "nanograms,"
17 it's my understanding that a nano is
18 one one-billionth of something. It's
19 kind of difficult for me to quantify
20 exactly what is meant by testing a
21 nanogram or using some nanogram-type
22 measurement when testing. And that's
23 my only question today.
24 I feel that I'm honored to sit
25 amongst experts in the field, you

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2 know, my aunt having done extensive
3 sanitation activities, you know, with
4 a quasi-government agency. And I feel
5 that working alongside of both
6 governmental and private and also
7 academic institutions would be the key
8 to addressing this issue and making
9 sure it's an answer -- I mean, we come
10 up with solutions that's viable for
11 everyone.

12 Because as a scientist, I
13 could appreciate the scientific jargon
14 that says okay, one-part-per-million
15 or one-part-per-billion is not
16 harmful, but if I have a small child
17 at home, if I have a family member who
18 fits into the category that perhaps
19 they shouldn't drink the water, that
20 leaves -- I would need more
21 reassurance.

22 COUNCILWOMAN TASC0: Thank you
23 very much. I think that certainly we
24 appreciate you're coming forth.

25 The safety issue was raised by

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2 Mike Ewal from the ActionPA relative
3 to the fluorides in the water, so
4 we -- we're going to ask him to come
5 back.

6 So I think, you know, the
7 fluoride issue is an issue that we can
8 address at another time, but I have a
9 couple of questions, but certainly the
10 Philadelphia water, like you said, is
11 pretty good water, but -- and they're
12 doing everything they can to make
13 sure.

14 This is a new development
15 around this whole pharmaceutical
16 issue, and it's good that we're having
17 this discussion 'cause they'll know
18 the seriousness that people feel about
19 it and want to go further in trying to
20 fine some resolution to it.

21 Yes, the Chair recognizes
22 Councilman Jones.

23 COUNCILMAN JONES: First of
24 all, thank you for coming here today.
25 And my question actually doesn't come

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2 from me as a Councilperson; it comes
3 from my granny, who is a superstitious,
4 paranoid person at times, so there's
5 always a conspiracy around everything.

6 But she asked that -- the
7 question is -- and I heard from
8 everyone who testified that they
9 still, irrespective of anything, have
10 a confidence level in drinking our
11 water, correct? I mean, that's what I
12 pretty much heard to a person.

13 MS. PERRY: Mm-hmm.

14 COUNCILMAN JONES: The second
15 thing is the paranoia that sometimes
16 happens when we start to leak
17 scientific information but don't have a
18 apples-to-apples comparison as to what
19 the danger level of the acceptable
20 risks are. And I thought that was very
21 important to have on the report.

22 A couple of wives' tales, I
23 guess they tell them. Does boiling
24 water make it safer? And that's what
25 my granny want to know. I mean, with

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2 all of these chemicals that can be
3 found in it, does it even make sense
4 to do that?

5 COUNCILWOMAN TASC0: We're
6 going to have the Water Department come
7 back, so if you will just let this
8 panel go --

9 COUNCILMAN JONES: Yes, ma'am.

10 COUNCILWOMAN TASC0: -- I'm
11 going to call the Water Department
12 back. Be patient.

13 Thank you so much for taking
14 time out to come down to testify.

15 These ladies are certainly
16 unique in the environmental field, and
17 we're real proud to see that you come
18 forth to share with us information.
19 Thank you.

20 And thank you, Dr. Miller.
21 You're right about the risk
22 communications; it's very important
23 that we communicate before the
24 question is, What did you know and
25 when did you know it and when were you

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2 going to tell it?

3 Mr. Ewal, would you come back,
4 please. I just have a couple of
5 questions to ask you. And then we're
6 going to ask our Water Commissioner to
7 come back for a couple of questions
8 from Councilman Jones.

9 (Mr. Ewal returns to the
10 witness table.)

11 COUNCILWOMAN TASCO: You had
12 talked about Philadelphia and
13 Pittsburgh having the worst
14 fluoridation -- I can't say that --
15 fluorides in our water.

16 Now, tell me about the cities
17 in between. I mean, what's happening?
18 Are they not using fluoride or they're
19 not using it to the levels or they're
20 using a different kind? So
21 Philadelphia and Pittsburgh are the
22 worst -- certainly, they're the most
23 populated cities, but we have hundreds
24 of cities between Philadelphia and
25 Pennsylvania.

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2 MR. EWAL: Okay. Let me
3 explain that.

4 First of all, it's not that
5 the fluoride levels in the drinking
6 water in these two cities are higher.
7 In all systems that are fluoridating,
8 they intend to put in one-part-per-
9 million, and it's actually a range on,
10 say, 0.08 to 0.12. So they'll try to
11 get within a certain range, but
12 basically we're talking the same
13 levels.

14 As far as the chemicals,
15 though, about 92 percent of drinking
16 water systems that fluoridate use
17 those chemicals that I described,
18 those hydrofluosilicic acids, the
19 waste product from that phosphate
20 industry, and that 92 percent figure
21 is from the Centers for Disease
22 Control; you can find it on the
23 website.

24 Now, in Pennsylvania, we have
25 about 9 to 10 percent of our drinking

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2 water systems in the state are
3 fluoridated. Those are primarily the
4 urban ones. And so, like, Harrisburg,
5 Erie and Allentown now and a number of
6 other cities are fluoridating, but
7 most of the rural areas are not. Some
8 of them, like if they're bigger like
9 towns in the rural areas, they will be
10 more likely to fluoridate, but a lot
11 of the other systems are not.

12 The largest unfluoridated
13 water system in the state is Aqua, PA,
14 which used to be known as Philadelphia
15 Suburban Water. So the suburbs, for
16 the most part, are not fluoridated.
17 Like, if you look at Delaware County,
18 for example, the City of Chester is
19 fluoridated, but all of the suburban
20 areas around it are not fluoridated.
21 So you have that dynamic going on.

22 Now, what the studies that I
23 mentioned show -- and this is the
24 Department of Health data that was
25 collected by the University of

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2 Pittsburgh for the Department of
3 Health in 2002, that data shows that
4 the worst dental fluorosis, which is
5 that modeling of tooth enamel, is in
6 Pittsburgh and Philadelphia, and that
7 the worst tooth decay in the state is
8 in Pittsburgh first, which has very
9 high levels, and then Philadelphia is
10 second to that.

11 COUNCILWOMAN TASCO: Well, you
12 know, Councilman Kenney and I are going
13 to communicate with the Health
14 Department, and so we'll probably be in
15 touch with you to further discuss this
16 because that effort does come under the
17 Health Department.

18 But I would say to the Water
19 Department, there ought to be some
20 collaboration between the Health
21 Department and the Water Department
22 around this issue. And so we'll be
23 following up on that. And I thank you
24 for coming down.

25 MR. EWAL: Okay. Well, let me

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2 add one more thing to clarify something
3 I said that I just realize I left out.
4 That 9 to 10 percent of the
5 water in the State that are
6 fluoridating, that's affecting about
7 55 percent of the State's water
8 customers. So it's about half of the
9 State's water customers that are
10 getting fluoride but it's only through
11 a minority of the systems, which are
12 those in the urban areas.
13 COUNCILWOMAN TASCO: Okay.
14 Thank you very much.
15 Do you have questions?
16 COUNCILWOMAN BROWN: Yes.
17 COUNCILWOMAN TASCO: Sure.
18 COUNCILWOMAN BROWN: I need to
19 underscore Chairwoman's Tasco's comment
20 that coordination, discussion, dialogue
21 in a formal way needs to happen with
22 those two departments, because anytime
23 you talk about fluoridation -- and I'm
24 trying to connect the dots there -- is
25 it the lack thereof or too much of it?

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2 MR. EWAL: The issue is whether
3 it actually does what it's intended to.

4 COUNCILWOMAN BROWN: Which
5 is...?

6 MR. EWAL: Which is to reduce
7 tooth decay. And all of the evidence
8 really points to the fact that it does
9 not. And whether it's actually causing
10 harm, and there's a growing, large body
11 of evidence showing that there is harm.

12 And the Health Department
13 is -- it shouldn't be any surprise,
14 but they have a longstanding history
15 of promoting this, as do the federal
16 health agencies, even though they've
17 admitted to some cautions about it,
18 like I mentioned earlier, about the
19 recommendations for infant formula.

20 So I would encourage, if
21 you're going to seek the truth on
22 this, not just to go to the Health
23 Department, but to go to the
24 scientists out there like the EPA
25 union that has come out strongly

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2 opposed to this and other scientists
3 who are leaders in this field who have
4 actually looked at the literature,
5 unlike the Health Department, which
6 tends not to, and have them be a part
7 of this dialogue well.

8 And I'll be glad to help bring
9 some of the expert voices to the
10 table.

11 COUNCILWOMAN BROWN: Okay. We
12 look forward to that because
13 ultimately, what affects adults is not
14 a good thing, and then it's compounded
15 to the extent that it affects children
16 and young people.

17 MR. EWAL: Absolutely.

18 COUNCILWOMAN BROWN: Thank you
19 very much for your testimony.

20 COUNCILWOMAN TASCOT: Thank you.

21 We do have to begin, though,
22 with our health commissioner; he is
23 new. So the dialogue has to begin
24 there. And certainly we'll be in
25 touch with you to have further

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2 discussion about it.
3 MR. EWAL: Great. Thank you.
4 COUNCILWOMAN TASC0: Thank you.
5 Now we'll have the Water
6 Department come back. Councilman
7 Jones has a couple of questions that
8 he would like to ask.
9 (Water Department reps return
10 to the table.)
11 COMMISSIONER BRUNWASSER: Good
12 afternoon, Councilman Jones. I am
13 Bernard Brunwasser, Water Commissioner.
14 And to my right is Debra McCarty,
15 Deputy Water Commissioner.
16 COUNCILMAN JONES: Good
17 afternoon. And I just want to say
18 again for the record, I think you
19 getting out front on this issue is
20 important. I think that as we start to
21 look at alarmism, that we have to
22 caution that with what scientific facts
23 and comparing to apples to apples,
24 oranges to oranges.
25 Now, having said that, there

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2 are hundreds of thousands of people
3 out there that really want to know:
4 Fundamentally, is our water safe? And
5 that's the first question.
6 And then you have folks like
7 my granny who want to know, Well,
8 should I be boiling my water? now that
9 this has come out. And I'm hearing
10 that the answer is probably no. I
11 want to hear you say that, though.
12 COMMISSIONER BRUNWASSER: You
13 do not need to boil the water.
14 COUNCILMAN JONES: Thank you.
15 COMMISSIONER BRUNWASSER: It's
16 dangerous. You could get burned.
17 (Laughter.)
18 COUNCILMAN JONES: There's more
19 risk to boiling it by getting burned.
20 COMMISSIONER BRUNWASSER: Yes.
21 COUNCILMAN JONES: The other
22 thing is that there were a couple of
23 other wives' tales that I would like to
24 dispel. Someone said that leaving your
25 water out a half hour deals with the

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2 chlorine smell and it dissipates
3 quickly. Is that true?

4 COMMISSIONER BRUNWASSER: Go
5 ahead.

6 MS. McCARTY: I'm Debra
7 McCarty, Deputy Commissioner of the
8 Water Department.

9 Councilman, for a lot of folks
10 that don't like the taste, you can put
11 the water in a pitcher and put it in
12 your refrigerator, and, you know,
13 sometimes the chlorine taste will
14 disappear. And people are really
15 bothered by that.

16 And though we don't
17 necessarily recommend it, folks do use
18 what they call "the point of source
19 devices," but the problem with those
20 is, you have to keep up with their
21 maintenance and changing them out,
22 because if don't, you can make
23 yourself sick essentially.

24 COUNCILMAN JONES: The second
25 thing that I heard that was a little

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2 disturbing is that based on us being
3 downstream, the water that you get to
4 clean and prepare for drinking is a
5 little bit -- or we're at a
6 disadvantage being downstream, and can
7 you elaborate on that? And is there
8 anything in the world that we can do
9 about that?

10 COMMISSIONER BRUNWASSER: Well,
11 yes, we are downstream. I believe we
12 are the last draw on both rivers, the
13 Delaware and the Schuylkill, which has
14 presented Philadelphia with monumental
15 challenges over decades and decades and
16 going back well into the 19th industry
17 primarily.

18 The positive spin on that, of
19 course, is that we know an awful lot
20 about cleaning up river water that has
21 been much worse than it is today. The
22 Clean Water Act of 1972 forced
23 everyone in the country to improve the
24 rivers and streams.

25 One of the -- we're worried

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2 about, you know, fish and wildlife in
3 our rivers and streams, and certainly
4 the pharmaceutical question that we
5 have in front of us today would
6 certainly affect small wildlife and
7 perhaps fish in these rivers and
8 streams.

9

10 The good news is: When I
11 started with the Water Department back
12 in 1970 we had about four species of
13 fish along the Fairmount Dam on the
14 Schuylkill. We now have about 45 or
15 46 species of fish that we see
16 regularly on the fish ladder at the
17 Fairmount Dam, and what we have seen
18 is life coming back to these
19 rejuvenated rivers and, in part, due
20 to what we are doing, but also in part
21 to what others above us, you know,
22 upstream from us have had to do over
23 the past 30 years or so.

24 So the water quality has been
25 getting better and better. And we
believe that the rivers now are -- the

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2 river environment, the rivers and
3 streams in Philadelphia, is probably
4 cleaner than it has been for about 150
5 years, pre-Civil War, because there
6 were no rules in those days, and
7 everything went into the river. And
8 whether it was from Reading or
9 Pottstown or Trenton, you know, it
10 would come past us.

11 And -- but we learned very
12 quickly, we had to learn very quickly
13 how to treat surface water and make it
14 good enough to drink.

15 And the City of Philadelphia
16 water has, I think, with Samuel Baxter
17 and the passage of the new City
18 Charter of 1951 has just been in
19 continuous improvement.

20 And that's what we try to do,
21 that's what these folks behind me try
22 to do on a daily basis, which is
23 really deal with everything from taste
24 and odor. And I think we've gotten
25 now to the point where on blind taste

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2 tests we fare pretty well now.

3 COUNCILMAN JONES: I heard.

4 COMMISSIONER BRUNWASSER: So

5 we're very proud of our product, we

6 believe that it's safe.

7 As one gentleman said,

8 parts-per-trillion, we -- I can say we

9 believe that that is not an issue

10 right now. I don't think most

11 scientists believe it's an issue.

12 But, again, this is a new

13 world. We are not -- can we be one

14 hundred percent sure? No one is one

15 hundred percent sure. The research

16 has to go on.

17 COUNCILMAN JONES:

18 Commissioner, I would only encourage

19 you to keep in mind what has been said

20 here today about different strokes for

21 different folks by way of impacts of

22 chemicals, whether it's someone's

23 immune system being impacted, whether

24 it is a propensity for people to have

25 addictions based on those kinds of

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2 chemicals being used or being in our
3 water so that -- let's stay ahead of
4 the curve.

5 If we need to do studies to
6 see what impacts there are on people,
7 let's continue what you've already
8 started by being proactive as opposed
9 to reactive.

10 And that would be my own
11 comment.

12 COMMISSIONER BRUNWASSER: Yes.

13 COUNCILMAN JONES: Thank you.

14 COMMISSIONER BRUNWASSER: Well,
15 we certainly agree.

16 COUNCILWOMAN TASC0: Thank you,
17 councilman. We appreciate your coming
18 in.

19 And we appreciate the Water
20 Department for coming in too.

21 Now, is there anyone else here
22 to testify on this resolution?

23 (No response.)

24 COUNCILWOMAN TASC0: Well, what
25 we'll do is, we'll just recess in case

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2 we might want to come back and have an
3 update later on, and that leaves the
4 record open, and we won't have to
5 adjourn. If we adjourn, well, then we
6 have to start all over again.

7 So we'll just recess this
8 hearing until the call of the chairs.

9 Thank you all very much. It's
10 been very informative and learned an
11 awful lot here this morning.

12 Thank you. Thank you for
13 taking the time out to come and
14 testify.

15 COMMISSIONER BRUNWASSER: Thank
16 you, Councilwoman Tasco.

17 (Proceedings end at
18 12:32 p.m.)

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JOSEPHINE CARDILLO

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Registered Professional Reporter

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