



BAY AREA POLLUTION PREVENTION GROUP

A Committee of Bay Area Clean Water Agencies

2015 Annual Report

Covering reporting period of 1/1/2015 – 12/31/2015



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BAPPG Co-Chair: James Parrish, Regional Board
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EXECUTIVE SUMMARY

The Bay Area Pollution Prevention Group (BAPPG), a committee of the Bay Area Clean Water Agencies (BACWA), is comprised of 43 Bay Area wastewater agencies that work together to coordinate pollution prevention activities and leverage resources for smaller agencies to reduce the amount of toxic pollutants discharged into the San Francisco bay and local waterways. Wastewater agency representatives meet bi-monthly to share information, leverage resources and develop regional activities that help member agencies meet regulatory outreach requirements and BAPPG goals.

2015 COMMITTEE UPDATES

BAPPG, with assistance from O’Rorke, Inc., conducted an audit of baywise.org, the BAPPG Yahoo group and the BACWA BAPPG webpage with the end goal of consolidating material and streamlining content. Baywise.org will continue to be the public facing site for pollution prevention messaging, and the BACWA BAPPG webpage will be used for internal committee communication, including password-protected areas with materials from previous campaigns. The BAPPG Yahoo group will be eliminated once the files have been transferred and/or saved. O’Rorke, Inc. moderated a training session for BAPPG team members on how to transfer files onto the BACWA BAPPG webpage. Work on this project started during 2015 and will continue in 2016. Training on adding content to baywise.org will occur during 2016.

CURRENT PROJECT UPDATES

This report serves as an update to BACWA and member agencies for all BAPPG projects, by pollutant, which took place from January 1 through December 31, 2015.

- 1. COPPER**
- 2. DIOXIN**
- 3. FATS OILS AND GREASE (FOG)**
- 4. MERCURY AND SILVER**
- 5. NUTRIENTS**
- 6. PCBS AND HAZARDOUS DEMOLITION WASTE**
- 7. PESTICIDES**
- 8. PHARMACEUTICALS**
- 9. TRICLOSAN**
- 10. TRASH AND WIPES**

1. POLLUTANT: COPPER

Pollutant Description

Copper pipe corrosion has been a major concern to the wastewater community for more than a decade. For many years, the messages have focused on proper installation, including the use of a water-based flushable flux. In California, there are also alternatives to copper pipe for potable and non-potable installations, such as PEX.

Key Messages

1. Select only ASTM B813 water-flushable flux rather than petrolatum-based flux (which is not flushable and increases pipe corrosion rates)
2. Incorporate additional BMPs during design, reaming, cleaning, and building commissioning that will reduce pipe corrosion rate

Project	Description	Timeline	Budget
Outreach to Plumbers and Building Inspectors	Offered to provide presentations to plumbing unions and building inspector associations about plumbing installation BMPs. Also offered to provide building inspector association with the preliminary results of the 2014 BAPPG study regarding life cycle and worker safety of copper versus PEX plumbing.	Calendar Year 2015	\$1,500

Results

Three plumbing presentations were provided in March-May 2015, reaching approximately **300 plumbers and apprentices**. At these presentations, there were significant discussions about copper pipe corrosion, flux choices, and PEX. There were also significant questions from the audience about “flushable” wipes, pharmaceuticals, and drinking water supply.

In August 2015, BAPPG conducted a presentation and had a discussion with the International Association of Plumbing and Mechanical Officials (IAPMO), a professional society for building inspectors, to discuss copper versus PEX life cycle analyses and flux issues. This was the first time BAPPG presented findings regarding life cycle and worker safety issues of the two plumbing materials. The audience included building inspectors, contractors, and PVC (not PEX) distributors. There was significant push-back from audience members who clearly prefer copper as a plumbing material.

Next Steps

BAPPG has been delivering the copper plumbing BMP messages for more than a decade, yet BAPPG learned in 2013 that the “best practice” of selecting water-flushable flux (“Key Message #1, and consistent with the Universal Plumbing Code standard) is being virtually ignored throughout the plumbing sector. In addition, in 2014 Stephanie Hughes completed an analysis of copper versus PEX from life cycle and worker safety perspectives that included information to support the use of PEX installations. These findings initiated discussions within BAPPG regarding whether to update plumbing messages.

The August 2015 presentation was the first time BAPPG reached out to the building inspector and contractor community regarding the lifecycle and worker safety findings. The resulting discussion made it evident that building contractors and inspectors will continue to use and approve of plumbing materials that they believe to be the most reliable irrespective of lifecycle or wastewater impacts.

Prior to continuing or developing outreach actions, it may be appropriate to update the copper source analysis for wastewater. The copper source analysis often cited within BAPPG is a 1996 document incorporating an assumption from a 1994 document. At the August 2015 IAPMO meeting, participants questioned the date of the analysis and suggested that there may be new or different sources at this time.

2. POLLUTANT: DIOXIN

Pollutant Description

When combustibles are burned, many pollutants, including dioxins, are emitted into the air, disperse over the land and are ultimately transported in runoff when it rains. These pollutants can then get into the wastewater stream via inflow and infiltration, so controlling burning ultimately helps reduce these pollutants in stormwater and wastewater. Since a previous BACWA study found that dioxins are uncontrollable in wastewater, BAPPG’s approach to reducing this pollutant at its source is to discourage the burning of wood and holiday wrapping paper, and to partner with the Bay Area Air Quality Management District (BAAQMD) to support their “Spare the Air” campaign.

Key Messages

1. Don’t burn holiday wrapping paper or wood, especially during “Spare the Air” days

Project	Description	Timeline	Budget
Wrapping paper press release	Worked with O’Rorke, Inc. to develop a press release discouraging the burning of wrapping paper and wood. The release was distributed during an alternative wrapping paper press event, held at Westfield Mall in San Francisco on December 10, 2015. The event and press release were covered by the local media as well as online news sources.	December 10, 2015-present	\$2,000

Results
<p>12 total stories</p> <ul style="list-style-type: none"> • 9 radio stories, all on KCBS • 2 TV spots, one on KTSF and one on KGO • One online story with World Journal • The total publicity value for this coverage is \$12,242. Radio publicity values are based on Arbitron P12 + Cume Estimate

Next Steps

Dioxin is not a pollution prevention issue that significantly affects wastewater treatment. To allocate BAPPG’s budget on higher-priority pollution prevention issues, BAPPG will not be funding a dioxin program during fiscal year 2016/2017. Monitoring at individual treatment plants will continue and funding a dioxin campaign will be reassessed if results indicate additional sources of the pollutant.

Materials



Poster from event at Westfield



Alternative Gift Wrap station

3. POLLUTANT: FATS, OILS AND GREASE (FOG)

Pollutant Description

FOG is a top priority due to the associated regulatory and financial impacts to member agencies. FOG is a major problem for sewer systems, causing sewer back-ups, sewer overflows onto streets, and foul sewer odors. In addition, cities can spend millions of dollars a year in infrastructure improvements and responding to grease-related sewer blockages.

Key Messages

1. Don’t pour grease down the drain – collect and recycle used cooking oil

Project	Description	Timeline	Budget
Spanish Holiday Outreach	<p>Through Univision Hispanic Radio (KSOL 98.9 FM, KSQL 99.1 FM and KBRG 100.3 FM), BAPPG promoted messages of proper grease disposal to the South Bay, East Bay and North Bay. Outreach included:</p> <ul style="list-style-type: none"> • PSA and collateral distribution at events • Educational flyers • Online digital banner for audio streaming spots • Baywise.org promotion 	November – December 2015	\$8,000

Results	
<ul style="list-style-type: none"> • 60 weekly spots • 180 total campaign spots 	

Project	Description	Timeline	Budget
Food Truck Regional Outreach	O’Rorke is developing a flyer designed to educate food truck owners and operators about proper Fats, Oils and Grease disposal and storage practices.	November – Present	\$3,500

Results
Ongoing project

Next Steps

In addition to continuing BAPPG’s FOG campaign with Univision, BAPPG plans to host a joint BAPPG / BACWA Pretreatment Committee meeting to present on mobile food trucks and discuss opportunities surrounding regional best management practice (BMP) and collateral development.

4. POLLUTANT: MERCURY AND SILVER

Pollutant Description

Outreach regarding best management practices for dental amalgam and silver fixer waste is essential to ensure member agencies continue to meet regulatory standards and prevent pollution of receiving waters.

Key Messages

1. Dental amalgam and silver fixer wastes are hazardous and shall not be disposed in dental office sinks.
2. Incorporate BMPs for dental amalgam, silver fixer, and other hazardous wastes within a dental office.
3. The mandated use of BMPs and amalgam separators has significantly decreased the mercury loads into the sewer.

Project	Description	Timeline	Budget
Dental Assistant/ Hygienist Outreach	Stephanie Hughes served as a guest speaker in dental assistant / hygienist classes in local colleges throughout the Bay Area.	Calendar Year 2015	\$5,000

Results

Reached a total of 297 students and instructors. The 2015 college site visits:

- Foothill College, Los Altos (two classes)
- Mt Diablo Adult Ed, Concord (four classes)
- San Jose City College (two classes)
- Santa Rosa Jr. College (one class)
- Carrington College, Pleasanton (two classes)
- San Francisco City College (one class)
- College of Marin, Novato (one class)

Next Steps

Continue to provide the guest speaker to local colleges. The instructors have come to rely on these annual visits and have incorporated BAPPG's program into their instructional calendar. Further, this is a very relevant audience for other messages, such as wipes, microbeads, and triclosan.

5. POLLUTANT: NUTRIENTS

Pollutant Description

While San Francisco Bay is a nutrient-enriched estuary, the Bay has not yet been significantly adversely impacted. However, recent evidence is showing the Bay's resiliency to adverse nutrient impacts (e.g., toxic algae blooms) is decreasing. A regional nutrients watershed permit came into effect on July 1, 2014, requiring dischargers to seek nutrient reduction strategies.

Key Messages

BAPPG is currently evaluating possible source reduction messages and audiences.

Project	Description	Timeline	Budget
Nutrient Source Reduction Strategies	Reviewed source reduction programs as well as "disruptive innovative" wastewater treatment technologies.	January – June 2015	\$1,100

Results

In December 2014, Stephanie Hughes provided a draft memorandum to the BAPPG project managers regarding source reduction activities in other jurisdictions. Following that report, the project managers and consultant discussed various innovative (rather than conventional) wastewater technologies. Stephanie then evaluated WERF-sponsored "disruptive innovation technologies" and peer-reviewed documents that describe opportunities to enhance the cyclical reuse of nutrients, as opposed to the linear system currently in-place. Stephanie submitted a second memo to the project managers in June 2015 summarizing her findings.

Next Steps

Next steps are yet to be determined and up for further discussion. Options that Stephanie Hughes identified in her June 2015 memorandum include:

Cross-Sector Communications

- Discuss atmospheric nitrogen sources with BAAQMD representatives, seeking to identify synergies.
- Further consider the concept of the “urban metabolism” of nutrients as a management guide.
- Reach out to interested parties in energy and food sectors, identifying pilot projects, benefits and resources.

Public Outreach

- Consider collaborating with agencies in the Delta watersheds regarding the promotion of agricultural BMPs within and upstream of the Bay watershed (per the Pennsylvania example).
- Develop and prioritize urban audiences and messages, incorporating near-term and long-term approaches. This could describe the general issue of nutrient cycling and encourage composting (whether municipal, backyard or worm bins) while discouraging the use of kitchen garbage disposals.
- For community leaders and upper management, consider developing higher-level and integrated educational messages, incorporating issues of greenhouse gas emissions, the non-renewable and limited US phosphate resources, and the seemingly linear “urban metabolism” versus natural biogeochemical cycles.

6. POLLUTANT: PCBs AND OTHER HAZARDOUS DEMOLITION WASTE

Pollutant Description

PCBs were components of external caulk and sealants prior to 1980. The EPA has developed messages about proper identification and management during building demolition and remodeling. BAPPG also identified a need to assemble information about hazardous material identification and management prior to building demolition, because the materials and regulations are numerous. Recent outreach efforts build on a brochure and web site created by BAPPG in 2012-2013.

Key Messages

1. Identify PCB and other hazardous materials prior to demolition.
2. Inspect buildings remodeled prior to 1980 for PCB-containing exterior caulk and sealants.
3. During removal of PCBs and other hazardous materials, protecting building residents and demolition staff and disposing of wastes according to state and federal disposal laws.
4. Utilize the BAPPG brochure and companion web site for more information:
www.baywise.org/demolition.
- 5.

Project	Description	Timeline	Budget
PCB and Demolition Outreach	Stephanie Hughes on-call to provide support of the web site and outreach opportunities.	Calendar Year 2015	\$500

Results
Stephanie Hughes reviewed the web site and updated outdated links. Stephanie also attended a regional PCB TMDL / demolition stakeholder meeting in Oakland and gave a brief presentation to ensure awareness of this online resource.

Next Steps

Continue to educate building inspectors and contractors about identifying and disposing PCB-containing products. Develop outreach messages targeting residents and homeowners. Reach out to the California State Licensing Board to request that they link their web site to the BAPPG web site. Continue to request that BAPPG members and local jurisdictions link their inspection web sites to the BAPPG web site.

7. POLLUTANT: PESTICIDES

Pollutant Description

Improper indoor and outdoor application of pesticides can result in chemical runoff into the sewer systems and receiving waters, leading to lower pollutant removal efficiencies at treatment plants as well as aquatic ecosystem degradation.

Key Messages

1. Promote integrated pest management and less-toxic products as alternatives to pesticides
2. Fipronil – await better alternatives prior to developing messaging

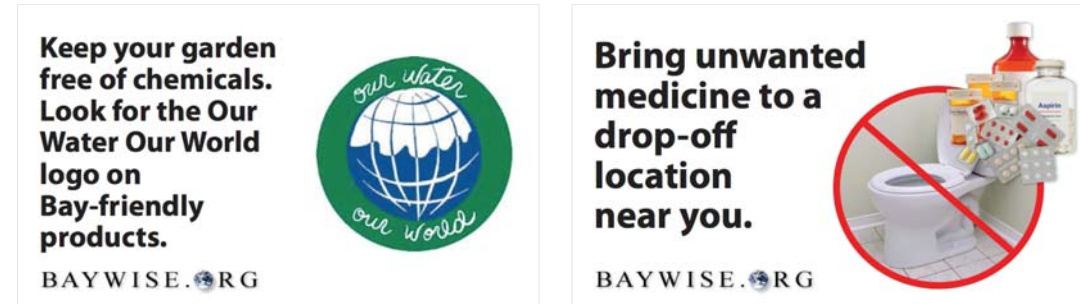
Project	Description	Timeline	Budget
Our Water Our World (OWOW)	OWOW is a Bay Area-wide outreach program that promotes the use of less-toxic pest control methods and products in the home and garden through local retailers.	Calendar Year 2015	\$10,000

Results
<ul style="list-style-type: none"> • Coordinated program implementation with major chains Home Depot, Orchard Supply Hardware (OSH), and Ace Hardware National. • Printed an inventory of the following: fact sheets, shelf tags, and Home Depot-specific pocket guide, from which participating agencies could purchase materials. • Updated less-toxic Product Lists: general plus OSH and Home Depot-specific lists/labels. • Maintained Our Water, Our World website. • Provided Ask-the-Expert service—which provides 24-hour turnaround on answers to pest management questions. • Provided and staffed an exhibitor booth at the NorCal trade show, San Mateo (February

2015)

- Provided on-call assistance (e.g., display set-up, training, IPM materials review) to specific stores (e.g., OSH, Home Depots).
- Provided print and web advertising – Chinook Coupon Book.
- Worked with Chinook Book to make changes to the mobile application (app) – OWOW mobile app.
- Continued to work with select local agencies and with Home Depot to implement, a pilot enhanced program in 10 Home Depots in the greater Bay Area and Sacramento. The enhanced program was implemented primarily by the IPM Advocates.
- Developed and conducted advanced regional trainings for Home Depot.
- Advocates trained 1,000 store employees and reached 4,300 customers at Our Water, Our World store events in 2015.

Materials



Chinook Book mobile ads

Project	Description	Timeline	Budget
Regulatory Tracking and Communications	Identify pesticide regulatory actions at federal and state level. Communicate with regulatory to ensure that wastewater issues are included in the analyses.	Calendar Year 2015	\$10,000

Results
<ul style="list-style-type: none"> • Coordinated with BAPPG to clarify the list of highest priorities pesticides for BACWA’s attention. Create a pesticides watch list for tracking purposes. • Provided a “crystal ball” schedule of anticipated pesticide regulatory activities on these pesticides. Prepared a detailed tracking spreadsheet for EPA activities, with docket numbers and EPA contact emails, and a near-term priorities tracking summary, updated monthly or bimonthly. • Tracked pesticide-related regulatory activities by EPA and DPR and new scientific information that have significant potential to affect BACWA member agencies. Notified BAPPG of such items as they arise. On the basis of regulatory documents, relevant scientific information, and the regulatory context, made recommendations regarding regulatory participation or other follow-up steps on multiple EPA and DPR actions relating to pesticides including nanosilver, diquat dibromide, copper, pyrethroids, triclosan, imidacloprid, and fipronil. When so directed, provided key points for comments and reviewed draft comment letters by BACWA and its allies. • Based on existing open lines of communication with pesticide regulators, pesticide

manufacturers, and scientists researching pesticides in wastewater, notified BAPPG of important information obtained through these contacts.

- Met with and encouraged DPR to pursue wastewater special studies. Provided DPR with scientific information to support development of pesticide source identification study work plans for an upcoming DPR “Sewershed” study (with Palo Alto) and currently ongoing DPR dog washing study (to estimate fipronil discharges from washing fipronil-treated pets).
- Provided technical support for BACWA’s coordination with NACWA on EPA pesticides regulatory activities and TSCA reform legislation.
- Evaluated outcomes of BACWA input to EPA and DPR and briefed BAPPG/BACWA pesticides leads on these outcomes to assess effectiveness of BACWA’s work
- Gave briefing to BAPPG (April 2015) on pesticides in wastewater, including watch list, current scientific and regulatory activities, evaluation of outcomes of BACWA’s regulatory engagement, regulatory outlook for next few years, and recommended next steps
- Submitted a letter to the EPA regarding diquat dibromide, a pesticide used for root control in collection systems that may impact activated sludge systems.
- Submitted a letter to the Department of Pesticide Regulation on copper fabric treatment product registration applications

Next Steps

BAPPG plans to continue funding OWOW to conduct regional IMP and less-toxic product outreach and education. BAPPG will continue working with Dr. Kelly Moran to track opportunities to comment on pesticide registration and evaluation activities by US EPA and the California Department of Pesticide Regulation, with consideration of water quality impacts via the POTW pathway.

8. POLLUTANT: PHARMACEUTICALS

Pollutant Description

Pharmaceuticals can enter water resources and the San Francisco Bay through improper disposal into wastewater streams (e.g., flushing pharmaceuticals down the toilet). Pharmaceuticals have endocrine disrupting properties, and unintended exposure of pharmaceuticals to aquatic life and humans can lead to adverse health effects. Outreach surrounding safe disposal of pharmaceuticals is essential to ensure member agencies meet regulatory standards and prevent pollution of receiving waters. There is potential to combine water quality messaging with broader messaging surrounding health and safety to target wider audiences while still ensuring that safe disposal is the key take-away.

Key Messages

1. No Drugs Down the Drain
2. Don’t Rush to Flush – Meds in the Bin, We All Win!
3. Prevent Accidental Poisoning, Drug Abuse and Water Pollution by disposing medicines properly.

Project	Description	Timeline	Budget
Hospice Outreach	Presented to hospice professionals regarding pharmaceutical disposal. In 2012, BAPPG presentation received accreditation from the Board of Registered Nursing, providing an opportunity to reach out to hospice professionals. Two-year accreditation was renewed in 2014.	Calendar Year 2015	\$1,000
Dental Assistant/ Hygienist Outreach	Insights about proper pharmaceutical disposal included as part of dental waste discussion.	Calendar Year 2015	N/A*

*Included above with mercury

Results
17 hospice and wastewater professionals participated in a January 2015 webinar funded by BAPPG and Sac Regional. Stephanie Hughes conducted the one-hour state-wide training event through the California Hospice and Palliative Care Association (CHAPCA); this was the second and final webinar in a set of via CHAPCA. In addition, 272 dental students and instructors were reached.

Next Steps

Continue reaching out to hospice professionals. BAPPG will consider reaching out to other health care professionals or perhaps to nursing or physician-assistant training programs (parallel to our dental outreach program). Coordinate and build upon messaging associated with pharmacy medicine collection bin placement projects in member agency areas. BAPPG will also investigate options for printing proper disposal messaging on privacy bags distributed at pharmacies throughout the region.

9. POLLUTANT: TRICLOSAN

Pollutant Description

Triclosan is found in various consumer products and has been linked to a range of adverse health and environmental effects. Though currently an unregulated pollutant, member agencies recognize that effective triclosan outreach may help residents recognize other constituents of emerging concern such as microbeads, and be more accepting to regulatory changes.

Key Messages

1. Targeted towards mothers and primary household purchasers

Project	Description	Timeline	Budget
Hospice Outreach and Dental Assistant / Hygienist Outreach	Stephanie Hughes includes insights on triclosan during pharmaceutical and dental waste disposal discussions.	Calendar Year 2015	N/A*

*Included above with mercury and pharmaceuticals

Results

- Reached 17 hospice professionals (same audience reached as “pharmaceuticals” results above)
- Reached 297 dental trainees and instructors (same audience reached as “pharmaceuticals” results above)

Project	Description	Timeline	Budget
Personal Care Product Outreach	O’Rorke developed and ran Facebook online ads to educate residents about the negative impacts of Triclosan.	Calendar Year 2015	\$3,000

Results

These results show the campaign performed above average considering typical CTR’s for Facebook Ads are generally well below 1%.

- 514,118 impressions
- 7,372 clicks
- 1.4% CTR (click through rate)

Project	Description	Timeline	Budget
Triclosan collateral development	O’Rorke developed a flyer in June 2015 with information for residents on the harmful impacts of Triclosan.	Calendar Year 2015	\$1,500

Results

The flyer source files were made available to BAPPG to share with all member agencies.

Next Steps

BAPPG will develop social marketing campaign and tailored collateral targeting outreach toward specific products and consumer groups.

Materials

Anti-bacterial soaps and cleaners are more harmful than healthy.

Check the label for triclosan — a registered pesticide.



ALWAYS READ THE LABEL

To avoid exposing your family and the environment to harmful chemicals such as triclosan, chloroxylenol, tetrasodium and EDTA, always read the label on household products before you purchase!

Use alternative products:

- Vegetable-based, glycerin or castile soaps
- Less toxic or natural products without dyes or synthetic ingredients
- Hand-sanitizing gels with a minimum of 60% alcohol or peroxide



TRICLOSAN FACTS

- Triclosan is a registered pesticide and is commonly used in antibacterial household products such as hand soap, toothpaste, all purpose cleaners and detergents.
- Studies have found that using just regular non-antibacterial soap and warm water is just as effective as using antibacterial soaps.
- Overuse of triclosan contributes to bacterial resistance to antibiotics. Triclosan has been found in human breast milk, urine and blood.
- Triclosan passes through the sewer system and into the Bay because our wastewater treatment systems are not built to remove triclosan and other antibacterial chemicals.
- Triclosan has been found in the San Francisco Bay and is toxic to marine life.

For more information on pollution prevention programs visit Baywise.org



Triclosan Flyer

10. POLLUTANT: TRASH AND WIPES

Pollutant Description

Trash is a top priority due to the improper disposal of non-woven wipes and other non-flushable trash items such as hair, ear swabs and all products claiming to be biodegradable or flushable. Most consumer wipes products (labeled flushable or not) take much more time to disperse in water than toilet paper, which has caused issues for many POTWs in the Bay Area, including damage to pumping station equipment, grinders and other infrastructure, stoppages, and sanitary sewer overflows. Wipes and other nondispersibles are also a safety issue for pump station employees that have suffered needle sticks from “deragging” pumps clogged with wipes.

Key Messages

1. Wipes Clog Pipes!
2. Toilets Aren't Trashcans

Project	Description	Timeline	Budget
Hospice Outreach	As part of the pharma disposal discussion, speaker includes insights about “flushable” wipes.	Calendar Year 2015	N/A*
Dental Assistant/ Hygienist Outreach	As part of the dental waste discussion, speaker includes insights about microbeads and “flushable” wipes. This audience is very receptive to all BAPPG messages. More than 95% female, they are typically the primary purchaser for their families, and as medical professionals, are concerned about health and water quality.	Calendar Year 2015	N/A**

*Included above with pharmaceuticals

**Included above with mercury

Results
<ul style="list-style-type: none"> • Reached 17 hospice professionals (same audience reached as “pharmaceutical” results above) • Reached 297 dental trainees and instructors (same audience reached as “pharmaceutical” results above)

Project	Description	Timeline	Budget
Toilet's Aren't Trashcans	O'Rorke will develop and submit articles to parenting magazines and develop a poster on multi-pollutants for parents groups.	December 2015 – Present	\$3,000

Results
<ul style="list-style-type: none"> • Media list of parenting publications created for article submission • Poster and articles to be finalized in early 2016

Next Steps

BAPPG will continue to include messages about trash and wipes when meeting with medical, hospice, and dental professionals and trainees. BAPPG will also distribute collateral during professional presentations and regional outreach events and continue outreach campaigns in conjunction with National P2 Week to continue stressing “Wipes Clog Pipes!” message.

NEXT REPORT TO BE DELIVERED: Mid-July 2016