

School-Based Health Centers: Leaders in Reducing Environmental Asthma Triggers

Today approximately seven million children under the age of eighteen in the U.S. have asthma, and low-income and minority children suffer a greater burden of the disease. Asthma is the most common cause of disability among children in the U.S. and is the leading cause of school absences due to chronic disease.



School-Based Health Centers (SBHCs) are uniquely positioned to comprehensively address asthma in order to help children breathe easier. While many SBHCs across the country have always played a key role in helping students manage their asthma by providing quality clinical care and education, in recent years, SBHCs have demonstrated they can also be leaders in managing the environmental factors that make asthma worse.

In 2015, Regional Asthma Management & Prevention (RAMP) and California School-Based Health Alliance (CSHA) developed the **Asthma Environmental Intervention Guide for School-Based Health Centers**, describing five broad strategies for reducing environmental asthma triggers: education, case management, improving indoor air quality in schools, improving home environments, and improving outdoor air quality. Since that time, we have supported twenty-seven SBHCs across the country in implementing these interventions. Based on their experiences, we have identified six key tips to follow, regardless of which intervention you choose. This document shares lessons learned, best practices, and tips for success.

We would like to thank the participating SBHCs from whom we have learned so much.

California

Carson Wellness Center, Carson, CA
Coronado Health and Wellness Center, Richmond, CA
Fremont Wellness Center, Los Angeles, CA
Greenwood Academy Health & Wellness Center,
Richmond, CA
Madison School-Based Health Center, Oakland, CA
Rice Family Health Center, Chula Vista, CA
Tulare Community Health Center, Tulare, CA
West Oakland Middle School Health Centers, Oakland, CA

Connecticut

East Windsor School Based Health Centers, East Windsor,
CT

Delaware

McKean School-Based Health Center, Wilmington, DE

Hawaii

Hawaii Keiki, Kealahou, HI

Louisiana

Outpatient Medical Center, Inc, Natchitoches School-
Based Health Center, Natchitoches, LA
Health Centers in Schools, Baton Rouge, LA

Massachusetts

Edward M. Kennedy Community Health Center's
Worcester-Based School-Based Health Center, Worcester,
MA

New Mexico

Cuba School-Based Health Center, Cuba, NM
Las Clinicas del Norte Pojoaque School-Based Health Center,
Pojoaque, NM
La Casa Family Health Center, Roswell, NM
Lion Care Health Center, Santa Rosa, NM

New York

Hempstead High Health Center, Hempstead, NY
North Country Family Health Center School Based Health
Center, North Elementary Watertown City School District,
Watertown, NY
Whitney Young Health SBHC at Giffen, Albany, NY

Ohio

Riverview Community Health Center, Cincinnati, OH
South Avondale School-Based Health Center, Cincinnati, OH

Pennsylvania

Education & Health's Belmont School Based Health Center,
Philadelphia, PA
St. James School-Based Health Center, Philadelphia, PA

Washington, DC

School-Based Health Center at Anacostia Senior High School

Wisconsin

Children's Hospital of Wisconsin School Nurse Program,
Milwaukee, WI

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TIP #1

Assess the problem creatively

If you're reading this, you know that asthma is a significant problem for students served by your SBHC, and you may be ready to launch an intervention to reduce environmental asthma triggers. But, where should you start?

There are many proven interventions to reduce environmental triggers and improve asthma outcomes in children and adolescents. **You'll want to select an intervention that addresses the greatest needs in your community.** Are there particular triggers that are causing problems? Are there particular settings where students are facing triggers—In their homes? In the school? When they play outside?

You might consider looking at what's already available, such as:

- Data from your local health department.
- Air quality data from your regional air district: Find your regional agency at www.4cleanair.org.
- Information from student health forms or medical charts.

Or, you may want to collect your own information by conducting:

- Key informant interviews with students, parents, teachers, or community partners.
- Observational data collection. For example, you may have observed cockroaches in classrooms or buses idling by the clean air intake vents of your school.
- A quick trigger assessment for students or parents: Ask them to place a checkmark next to the environmental asthma triggers they regularly see in their home, school, or outdoor environment.



LESSON LEARNED

Why learn more about the problem? **To make sure your**

intervention addresses an actual need. One SBHC in California chose to implement the EPA's flag program, in which you fly a different color flag corresponding to the level of air pollution that day. The goal is to increase awareness about outdoor air quality that can then lead



to action. What the staff hadn't anticipated was that the air quality was in the good zone (green flag) every day, so the intervention wasn't the best way to increase awareness about air pollution.



BEST PRACTICE

Tillie, the coordinator of a SBHC in New Mexico, learned about

the needs at her school before starting her intervention. She **asked students about which asthma triggers they most commonly face.** Fifty percent of students said they have trouble breathing around body sprays or colognes, both of which are commonly worn by middle schoolers. So, Tillie worked with a group of students to develop posters to hang in locker rooms, educating students about the impact of scented personal products on peers with asthma.



Once you have a good sense of the need, you can move on to selecting an intervention. We recommend following these steps:

- **Start with the “At-A-Glance” tool that lists all of the interventions you might consider on page 54** of the Asthma Environmental Intervention Guide,
- **You can then flip to the corresponding chapter for any interventions that look like a good fit.** For example, if students are experiencing asthma exacerbations in their homes, you’d want to read “Strategy 4: Improving the Students’ Home Environments”, which begins on **page 38**. If your assessment identified problems with mold and cockroaches, you may choose to establish a referral system for an asthma home visiting program in your community. Or, if you learned that cleaning products like bleach are a problem, you may choose to provide asthma-friendlier products to families. You’ll find details about each of these interventions (and many others!) within the guide.
- **Some other factors you’ll want to consider when selecting an intervention are:**
 - Who else do you need on board to successfully implement a given intervention and is that feasible?
 - What access do you have to resources (human or otherwise) that could make a particular intervention successful? And/or what intervention can you successfully complete with limited resources?
 - What tools will you need for successful implementation and do you have access to them? (Be sure to check out the “Appendix: Resources and Tools” section of the guide, starting on **page 55**)
 - What challenges do you anticipate with a given intervention? Do you have a plan for overcoming those challenges?

At-A-Glance: How can SBHCs engage in interventions to reduce exposure to environmental asthma triggers?

As School-Based Health Center staff, you can...

Strategy 1: Education

- Conduct one-on-one education about environmental asthma triggers during patient visits.
- Conduct, organize, or support school-based group education for students.
- Provide education for school staff.
- Print/order and distribute materials, tools and curricula for educating students, families and school staff.

Strategy 2: Case Management

- Incorporate strategies to reduce exposure to environmental asthma triggers into your case management approach to students with asthma.
- Facilitate connections to resources that exist, communicate with and educate other partners critical to effective asthma management (parents, school staff, etc.), and identify when direct advocacy is needed.

Strategy 3: Improving Indoor Air Quality in Schools

- Increase awareness.
- Conduct or facilitate an assessment.
- Support or lead a comprehensive approach to improving indoor air quality.
- Support or lead an intervention to address specific triggers or other factors (such as mold and moisture, chemical irritants from school and personal products, and ventilation.)

Strategy 4: Improving the Students’ Home Environments

- Establish referral systems for in-home asthma education and environmental remediation programs in the community.
- Educate students and families.
- Provide supplies to students and families.
- Utilize case management strategies to connect families with resources.

Strategy 5: Improving Outdoor Air Quality around the School and Community

- Conduct an assessment of local air quality.
- Partner with the school to implement programs and policies to reduce exposure to outdoor triggers near the school.
 - Increase awareness and protect students on high pollution days.
 - Develop anti-idling education and policies.
 - Develop approaches to reduce pollen exposure.
- Partner with others in the community on clean air advocacy.



If you’re not already familiar with environmental asthma triggers, go to **page 7** of the Asthma Environmental Intervention Guide. You’ll find a four-page cut-out table describing all of the environmental asthma triggers.

TIP #2 CONTINUED



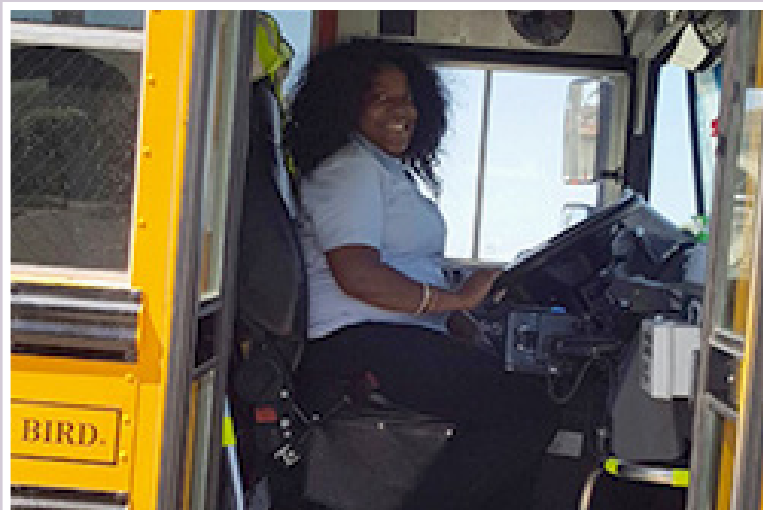
BEST PRACTICE

At a SBHC in Delaware, Kay and Todd already knew that asthma triggers in the home were a major problem for their student population based on discussions with students and parents. Unfortunately, their community does not have an asthma home visiting program, which is the gold standard approach, **and the SBHC simply didn't have the staff resources to conduct home visits. So SBHC staff got creative and found a way to directly engage students.** They partnered with the Theater Department to set up a "mock bedroom" filled with asthma triggers so the teens could practice identifying triggers. Students then brought home a checklist to look for triggers in their own bedrooms. Staff gave each student a dust mite-proof pillowcase and asked them to take a photo of their bedroom with the new pillowcase on. In one photo, the student had indeed put on the new pillowcase, but the photo also showed a cat sitting on the bed. This provided an opportunity for additional education!



BEST PRACTICE

The staff at a SBHC in California chose reducing bus idling as their intervention based on reports of diesel exhaust in and near school buildings. But they dove even deeper into the issue: they wanted to know why the bus drivers leave their buses idling and what, if anything, they already know about the health impacts of idling. Through a brief survey, SBHC staff learned that the bus drivers knew about an existing anti-idling rule for their district but didn't understand the health impacts of idling. They also learned that the bus drivers left the buses idling in order to stay cool on hot days. Based on what SBHC staff learned, they chose an intervention: educating the bus drivers about asthma and how diesel exhaust exacerbates asthma, and offering them a cool place to wait (inside their SBHC) on hot days.



TIP #3

Build relationships and get buy-in

SBHC initiatives can't be done in isolation. Your ability to build and maintain relationships is key to any work you do, particularly for interventions that require people to make changes to their behaviors or environments. Engaging existing or new stakeholders and building relationships with school staff, students and parents will make your intervention more successful.

➤ **Building relationships and getting buy-in for asthma interventions or programs can often be incorporated into your regular SBHC outreach.** For example:

- You can invite the principal for a coffee break to chat about why students are missing school, sharing the startling statistic that asthma is responsible for over 14 million missed school days annually. You can also share the information that you gathered through your environmental trigger assessment as part of Tip #1.
- You can request a meeting with the school nurse and jointly identify ways that you can support each other. For example, the school nurse may be able to provide a list of students who have an asthma diagnosis, while the SBHC can provide education to those students and family members about asthma triggers, reducing the need for the student to repeatedly go to the school nurse for albuterol.
- As part of your back-to-school night or orientation tours for parents and students, you can include asthma information in your presentations and handouts.
- While stuffing teacher and staff mailboxes with information about your services, you can include a flyer about ways in which asthma triggers can be reduced in their classrooms.
- You can work with your school administration to write grants to fund programming that is traditionally underfunded. One of the best ways to build relationships is to bring funding to your school site!



In Hawaii, a recent volcanic eruption had caused vog, a form of air pollution which negatively impacts students with asthma. Allison, the Family Nurse Practitioner at a SBHC, decided to focus on improving the indoor air quality at her school so that students with asthma could stay inside and breathe safely when there is vog outside. She started by asking simple questions of the maintenance staff like, "Who is responsible for cleaning HVAC return vents? Do we know if filters are being changed regularly? How do we handle pests, like cockroaches? What can I do as the health staff on campus to support your cleaning efforts?" As a result of her **non-judgmental communication** and her ability to show interest and support for the maintenance staff on campus, they were motivated to make changes, such as increasing cleaning frequency, changing HVAC filters, and working with school administration to remove the carpet in shared spaces.



This is the library at the school in Kealakekua, HI.

TIP #3 CONTINUED

➤ **When educating stakeholders, we recommend practicing tried and true techniques**, like the following:

- Don't be judgmental. It's common for our behaviors to create or contribute to asthma triggers, often without even realizing it.
- Educate about the impact of the triggers on asthma (see [page 4](#) of the guide).
- Talk about easy steps for reducing those triggers.
- Ask which triggers they feel like they can reduce.
- Ask them to commit to one or more changes.

➤ **Find your champions! As you conduct outreach, you will likely find that some stakeholders are more engaged than others.** Finding and maintaining a relationship with someone outside of the SBHC that can serve as a champion will increase your success. This may be an enthusiastic administrator, teacher, parent or student. Work closely with these champions to engage them in meaningful ways; for example, you may have monthly asthma intervention team meetings to strategize ways to work together and implement your intervention. Check out Tip #4 for specific ideas on how to work with any of your target populations.

Keep in mind that building relationships and getting buy-in is an ongoing process.



At a SBHC in New Mexico, Cara had the unique position of being the Health Center Coordinator *and* a bus driver for the district. As a result, the choice to focus on reducing bus idling was a natural fit for her. Cara knew that a key to successful policy change is to get people on board by **understanding and addressing their concerns**. She spoke with her fellow bus drivers who shared their concerns and she had an answer for each! For example, a bus driver expressed her feelings saying, "I don't want to be cold while I'm waiting for my kids to load." Cara responded by saying, "Instead of sitting in our buses, let's gather in the school where it's warm and we can visit with each other."



At a SBHC in New York, Amanda wanted to see if she could make the school cleaning practices asthma-friendlier. She talked with the principal, who quickly arranged a meeting with the maintenance team. The SBHC staff began the meeting by providing the maintenance staff with microfiber cloths because they are more effective at removing dust than traditional cloths. This small gift was greatly appreciated because the maintenance staff had been bringing in rags from home to clean. From that point onward, there was an open and productive dialogue. The SBHC staff had an open conversation with the maintenance staff about the health impacts of cleaning products like bleach and suggested alternatives. **By building a relationship with a small useful gift and having a non-judgmental conversation**, immediate changes took place—the maintenance staff started cleaning with microfiber cloths and greatly reduced their use of bleach.



SBHC staff in New York provided asthma education to students.

TIP #4

Achieve success with your community

As you know, at the heart of this work are people. The overall goal of these interventions is to ensure that students and families are healthier by reducing environmental asthma triggers in their schools, homes and community. To successfully reduce triggers, you need to get people to change their behaviors or their environment. To make that happen, you need to really understand the community you are targeting, whether they are parents, family members, school staff, students or all of the above!

Tips for working with parents/family members:

Parents and family members can be your most important **advocates**. They may be able to spark action by speaking at a school board meeting or by making a phone call to the principal. They can also make improvements to a student's home environment. That said, they can be one of the most challenging groups to engage because they are *busy*! It's important to work with parents and family members in very thoughtful ways:

- First, meet them where they are at — *literally*. Find ways to connect and provide education when parents are already at school, rather than adding something new to their schedules.
- Second, meet them where they are at — *figuratively*. Find out what their greatest concerns are and be sure to address them, even if it requires you to adjust your plans.



At a SBHC in California, Eleazar provided **parent education sessions**

right after school started, reaching parents who were already at school dropping off their children. He provided education about asthma triggers in homes, and many parents told him that some of the triggers were a result of substandard housing conditions that their landlords ignored, like mold or pest infestations. They shared that they were afraid to complain to their landlords or call code enforcement for fear of eviction or other retaliation, like rent increases. Eleazar responded to this by bringing in a speaker on tenants' rights. **By meeting the needs of parents, he was able to more effectively engage them.**



TIP #4 CONTINUED

Tips for working with youth:

Young people can be your greatest **allies** in this work. By engaging young people in their own health care and providing them with a positive experience at your SBHC, you can not only impact the life of that individual student but also the entire school campus. We found a variety of traditional youth engagement methods worked in both individual clinic settings and group settings.

During individual appointments, you can use motivational interviewing techniques to encourage behavior changes related to asthma triggers. Use non-traditional ways to gather information, like asking students to bring in a photo of their bedroom to their next clinic appointment, so that you can work together to identify asthma triggers they face. You can find specific techniques for one-on-one appointments on [page 12](#) of the Asthma Environmental Intervention Guide.

During group programming with youth, SBHCs can use the following approaches:

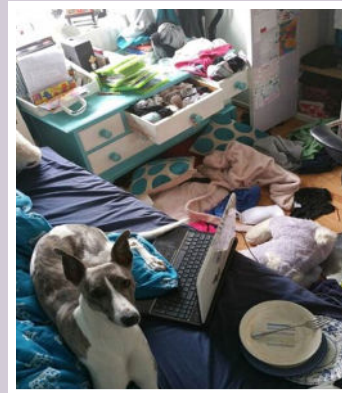
- Give them opportunities to educate their peers or younger students, so they will feel empowered to become the experts on an issue that affects them directly.
- Create interactive learning opportunities, such as hands-on activities or facilitating discussions rather than lecturing, so that young people will stay engaged and feel ownership of the group's efforts.
- Engage them when they're in school (during lunch or study hall, for example) rather than expecting them to stay late or show up at a different time, so they will be more likely to participate.

If you pursue group education, you can find links to existing curricula on [page 55](#) of the guide.



**BEST
PRACTICE**

At a SBHC in New York, Gina gave high school students tools to **conduct their own environmental asthma trigger assessments** in their homes. She then worked with each student to review the triggers they identified and come up with a plan to reduce one or more of them. She said, "Although the changes that the teens are working on are



small, it presents them with an opportunity to be leaders in their own healthcare and advocates for asthma friendly environments in the future, like in their college dorms or family members' homes."

A typical teen's bedroom includes lots of asthma triggers—clutter that attracts dust, food that attracts pests, and even pets!



Providing incentives is key to any work that you do. Whether you're working with students, parents/families or school staff, everyone's time is valuable. Show that you appreciate that time by providing incentives. Whenever possible, make the incentive about reducing triggers, such as microfiber cloths, asthma-friendlier cleaning products or dust mite-proof pillowcases.

TIP #4 CONTINUED

Tips when engaging teachers or other school staff:

Teachers and school staff can be important **champions**. They can help you move best practices quickly because of their knowledge of the school campus and the relationships they have with other staff members. SBHCs can use the following approaches:

- Treat school staff as partners. They got into to this work for the same reason you did: they care about the well-being of children and youth. **Pages 21 and 55** of the Asthma Environmental Interventions Guide detail specific tools you can use to educate school staff about asthma.

- Use non-judgmental techniques to ask school staff about current practices and behaviors. If they are currently doing something that contributes to asthma triggers, try to understand why. It may be possible to find a solution that meets their needs while also reducing triggers.
- Recognize that school staff are busy. Try to come up with solutions in partnership with them that can fit into their existing job responsibilities, rather than adding to their workload.

For more information on what school staff can do on school campuses to address asthma triggers, you can read “Strategy 3: Improving Indoor Air Quality in Schools,” which starts on **page 28** of the guide.



BEST PRACTICE

At a SBHC in Ohio, the **strong relationship with the principal** increased success of the program. When Lisa, the Pediatric Nurse Practitioner, told the principal that she wanted to educate teachers about asthma triggers and ask them to each fill out a trigger checklist about their own classrooms, he had the perfect solution. He gave Lisa a spot on the staff meeting agenda to provide education. Then, he asked the teachers to go back to their classrooms and complete the checklist right then and there. He got all of the checklists returned to her within the hour and she didn't have to ask for any additional time from the teachers.



This is one of the classrooms at the school in Cincinnati after reducing a number of environmental asthma triggers, including clutter.

TIP #5

Develop a plan of action & implement the work

While some people bristle at the mention of “work plans,” research shows that writing down goals and committing to action steps really do work!

- For each outcome you want to achieve, think through the steps that will get you there.
- Then, write down the steps, who will conduct them, and a feasible timeline.

A work plan can be that simple.

There are a lot of templates out there, so you can choose one that works for you. Here is a simple work plan template we provided to SBHCs.

Selected Intervention or goal:			
Activity	Who is responsible/ who needs to be involved	Timeline	Outcome/ impact

The reason that we include a column called “Who is responsible/who needs to be involved” is because you’ll generally need to engage an array of partners to successfully implement an intervention. Whether that’s other staff at your SBHC, school personnel, students, parents, external organizations or others, you’ll want to develop the work plan in partnership with them. You should then hold periodic team meetings to check-in on the progress of your work plan.

When implementing the work, stay focused yet flexible. There’s a lot to do related to asthma. We recommend that you stay focused on your goals, activities and desired outcomes, while also being prepared to change course if you face unexpected, insurmountable challenges or come across truly unique opportunities.

We learned a lot from SBHCs to ensure effective work plan implementation, including the following:

- **Know which decision-makers are necessary to engage** in order to successfully implement your work plan.
- **Leverage resources.** SBHCs are experienced in “doing more with less.” While each SBHC participating in our project received a stipend, it was small, and many of them found ways to use limited resources creatively and leverage other resources.
- **Engage volunteers.** Many of the SBHCs with whom we worked engaged volunteers. One had an AmeriCorps volunteer conduct group education with students. Another worked with a local university to send medical student volunteers to provide asthma education to middle school students. Another had an intern from a local master’s degree program develop a curriculum.
- **Find, adapt and use existing tools** rather than reinventing the wheel. The appendix of the Asthma Environmental Intervention Guide, starting on [page 55](#), lists a number of existing tools, including curricula, handouts, checklists and sample policies.



LESSON LEARNED

One SBHC in California chose for its intervention to get the school to switch to asthma-friendlier cleaning products. The staff person built a relationship with the maintenance staff on site and got his buy-in for the change. She worked with the vendor to get samples of asthma-friendlier cleaning products and talked with the maintenance staff about which ones he liked. Only then did she learn that purchasing decisions are made at the district office and the district office was not willing to consider any changes to their cleaning products. **This insurmountable barrier led her to change course and achieve success with a different intervention.**

TIP #6

Connect with others doing similar work & expand your impact

Learning about what others have done can provide inspiration, ideas for overcoming challenges and techniques for sustainability. SBHCs can do the following:

- **Find local asthma initiatives and programs in your community.** When you reach out, these programs and initiatives are often willing to form a partnership and conduct an intervention jointly. You can find other partner ideas on [page 51](#) of the Asthma Environmental Intervention Guide.
- **Connect with other SBHCs.** It can be helpful to reach out to other SBHCs in your network to connect with those doing similar activities. You can attend meetings of your state school-based health alliance and the national School-Based Health Alliance to network with others devoted to school health. You can find more information here: www.sbh4all.org
- **Learn from those who have already done this work.** We developed case studies about SBHCs that have successfully conducted asthma interventions. Each case study includes contact information and we encourage you to reach out to learn more. You can find links to the case studies here: www.rampasthma.org/uploads/casestudies.pdf
- **Assess the impact of your work.** While the term “evaluation” can feel daunting, it really is important to assess the impact of your work. Some SBHCs may be able to evaluate a given intervention’s impact on asthma outcomes through looking at changes in emergency department visits or scores on the Asthma Control Test. However, if your SBHC doesn’t have that capacity, there are other ways to understand and articulate your impact. You can ask participants to share any behaviors they changed or you can observe a reduction in classroom asthma triggers. Sharing stories about the impact of your work can be a powerful way to both understand and articulate your impact.
- **Find ways to sustain your work.** By figuring out how to integrate your work into existing systems, or by getting the school or district to adopt a policy change, or by

leveraging other resources and partnerships, you may not need a grant to make lasting change for the students and families you serve.

- **Go ahead and brag!** It’s not inherent in SBHC work to talk about our successes. But, taking pictures and sharing mission moments with your colleagues and partners can keep you energized and inspire others. This can and should go beyond your clinic walls. You can share pictures and stories at every meeting you attend—especially meetings with funders! Be sure to share your story with us (info@rampasthma.org) so that we can continue to gather and share best practices with SBHCs across the county.



BEST PRACTICE

When Melissa at a SBHC in Connecticut found success in

talking with students and parents about their asthma triggers, she wanted to find a way to integrate that into every health center visit for children with asthma. She was able to add trigger information to the health center’s **existing system**, their electronic medical record. Now, whenever any provider across all of the SBHCs in her region sees a patient with asthma, the

EMR prompts them to fill in information about asthma triggers, making a discussion about triggers an essential component of the visit.

Amanda Morrison/Watertown Daily Times

