

Anne Arundel County Overdose Prevention Plan

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Introduction

The opioid drugs are those that bind to opioid receptors in the central and peripheral nervous system and gastrointestinal tract. Opium has long been recognized as both a potent pain reliever and a drug that causes euphoria. Heroin is a more modern drug derived from opium. Within the United States, rates of prescription opioid death have risen sharply since 1999 and heroin deaths have been on the increase since 2006.¹ Within the state of Maryland, significant efforts to curtail prescription drug abuse seem to be paying off with a drop in prescription opioid overdoses in the first seven months of 2012 vs. 2011. However, this appears to be coming with a tradeoff of an increase in heroin deaths in the same time period. The rate of heroin deaths in the first seven months of 2012 exceeded the rate of prescription opioid deaths (6.0 per 100,000 vs. 5.2 per 100,000).¹ Anne Arundel county has seen a similar pattern with a 35% drop in prescription opioid overdose, but a 31% increase in heroin overdose (See Table 1).^a This pattern is being repeated across the country, with the general hypothesis for the change that the prescription opioids are becoming more difficult and more expensive to obtain than heroin secondary to the successful campaigns against diversion and abuse of prescription opioids.

	Maryland		Anne Arundel County		County Change
	2011	2012	2011	2012	
Total Opioid Overdoses	307	334	27	26	-3.70%
Prescription Opioid	208	177	17	11	-35.30%
Heroin	145	205	13	17	30.80%

Table 1: Counts of opioid related deaths 1 January-31 July 2011 and 2012.^a

While a slight decline in opioid overdose rates was noted in the State from 2007-2011, an increase has been detected in 2012. Because of the concerning increase in death rates, the State of Maryland has developed a comprehensive opioid overdose prevention plan and asked that each jurisdiction develop a plan based on local needs. The plan should bring together both public and private resources and contain the following elements:

1. Review and analysis of data
2. Education of the clinical community
3. Outreach to high-risk individuals and communities
4. Performance Metrics

Background

In an opioid overdose, an individual will lose consciousness and their respiratory rate will decrease below a life-sustaining rate (about 12 breaths per minute). Their lips and fingers may turn blue and they will not be able to be aroused. Even if the individual survives the event, long-term consequences can include brain damage from lack of oxygen to the brain or lung damage from fluid filling the lungs or from aspirating vomit while

¹ Data derived from counts provided by the Office of the Chief Medical Examiner. December 2012.

unarousable. The overdose looks similar regardless of the type of opioid used. Each opioid has a specific length of time it should last in the body. Heroin is fast acting, producing a quick high, while methadone is very long acting, leading to its lack of a “high.” Other prescription opiates have an intermediate length of time they continue working. Opiate overdoses can happen at lower than expected doses when the opiates are combined with alcohol and other drugs, particularly benzodiazepines and cocaine. It is important that individuals on longer acting opiates understand how long the drugs will remain in their systems so that they do not inadvertently overdose, thinking the drug will no longer have an effect.

When rates of opioid abuse, overdose, and fatality are evaluated, the numbers typically reported will look at all opioids together and then heroin, prescription opioids, and methadone specifically. The term “prescription opioid” does not imply that the drug was prescribed to the individual or that the individual was taking it for the purpose for which it was intended (typically pain relief). Additionally, methadone is typically a prescribed opioid and may be undercounted as a cause of overdose in hospital records, but will likely be ascribed correctly in medical examiner reports.

Take-home naloxone programs: Many modern opioid overdose prevention programs include the use of naloxone. Naloxone can be prescribed by providers to individuals receiving opioid medications for chronic pain or individuals on methadone for either pain or opioid addiction treatment. Additionally, it may be given to known users of illicit opioid substance such as diverted prescription opioids or heroin.

Naloxone is an opioid medication that displaces the drugs on the mu receptors in the central nervous system that cause a “high.” Naloxone has very few serious side effects except in those allergic to it. Allergy is rare. It is unlikely to be diverted for alternative use since, rather than causing a high, it causes withdrawal, which is very unpleasant. It is also relatively cheap (less than 20 dollars per dose). Once naloxone is administered, within a few minutes, the victim should wake up from their overdose. It is generally injected, although some programs have developed an intranasal formulation that is not currently FDA approved (they just attach an atomizer to a syringe). The intranasal formulation seems to work as well as the injectable, but takes a little longer to work. Naloxone wears off within an hour to an hour and a half, so if the drug lasts in the system longer than that (most prescription opioid medications and methadone), it needs to be readministered. Primary disadvantages of naloxone are that it is a prescribed, scheduled medication and therefore is only to be used and administered by the person to whom the prescription was written. As opposed to an epipen, if an individual is overdosing, they won’t know it, they will be asleep. They cannot inject themselves. Someone else must inject them. Other programs have recommended training both the individual being prescribed the naloxone, their friends and their family members.²

In Baltimore, 57% of IV drug users (IVDU) had witnessed an overdose in their lifetime. Increase risk of overdose was noted in the homeless, history of injecting alone, injecting heroin and cocaine together, and longer duration of use.³ A San Francisco study also noted that 68% of fatal overdose victims were alone at the time they overdosed, but encouraging individuals to have a buddy increases risk of needle-sharing.⁴ An additional risk factor for fatal overdose is recent release from prison. Individuals who were within 1-2 weeks of release from prison were 3.2 to 11 times more likely to die from an overdose

than individuals within 5 to 12 weeks of release from prison. This is likely due to decreased tolerance to opioid medications and can also occur after detoxification. Individuals forget that their tolerance is decreased and when they again return to opioid use, they use more than they can tolerate.⁵ Potentially effective methods of reviving an individual from an opioid overdose in addition to naloxone, include CPR with rescue breathing, sternal rub, and calling 911. Witnesses are often reluctant to call 911 due to fear of police involvement, but those fears are generally overstated as fewer than 3% of individuals in any of the evaluated studies reported an arrest occurring at the scene of an overdose when 911 was called to save a victim.³

The CDC reports that 10,171 reversals with naloxone were reported through June of 2010 from localities that have begun adding naloxone to their opioid overdose prevention programs.⁶ In unpublished data, the state of Massachusetts reports that there has been a decrease in the death rate from opioids in communities within the state with a naloxone program vs those without, however ED visits are unchanged.⁷ Use of naloxone by a bystander has been shown to decrease the likelihood that the rescuer will call 911 in a few studies.^{8,9} It is unclear if naloxone is covered by local insurance companies, but given that it is generic and relatively inexpensive, it likely would be covered. It is covered by Medicare part D. A full narcan kit with two injectors, instructions on use, a barrier device for rescue breathing, and alcohol swabs generally can be assembled for \$36 to \$50. They become more expensive for intranasal naloxone due to need for an atomizer. Kits are not available for purchase but are assembled by the programs that provide them.

New legislation in Maryland will require an individual to receive standardized education and training and to show certification of having received this training before receiving a Naloxone prescription from a medical provider.

Review and Analysis of Local Data

When the death data presented in Table 1 is extrapolated out to the full year and compared to US and State data, we see that Anne Arundel County has a slightly lower rate of prescription opioid overdose than both the US and the State of Maryland, but both the county and the State have a much higher rate of heroin related deaths.

Opioid Overdose Rates	Total Opioid	Rx Opioid	Heroin
United States		4.8 ²	0.98 ³
Maryland	9.92	5.26	6.09
Anne Arundel County	9.67	4.09	6.32

Table 2: Annualized rates of death extracted from 2012 State and County January-July data. State and County populations are based on 2010 Census data. It should be noted that the national data is based on a 2008 estimate for prescription opioid deaths and a 2009 estimate for heroin deaths. All rates are per 100,000 person years.

² "Vital Signs: Overdoses of Prescription Opioid Pain Relievers—United States, 1999-2008." *MMWR*. CDC 2011; 60(43).

³ Estimate from National Vital statistics 2009 which stated "approximately 3000 heroin deaths."

County rates of death attributed to a substance were similar to state rates from 2007 through 2011. Figure 1 shows the rate of death from various substances during this time period in the State vs. the County. The rates are averaged over the 5-year period and based on 2010 census data.

Average Death Rates State vs. County by Substance, 2007-2011

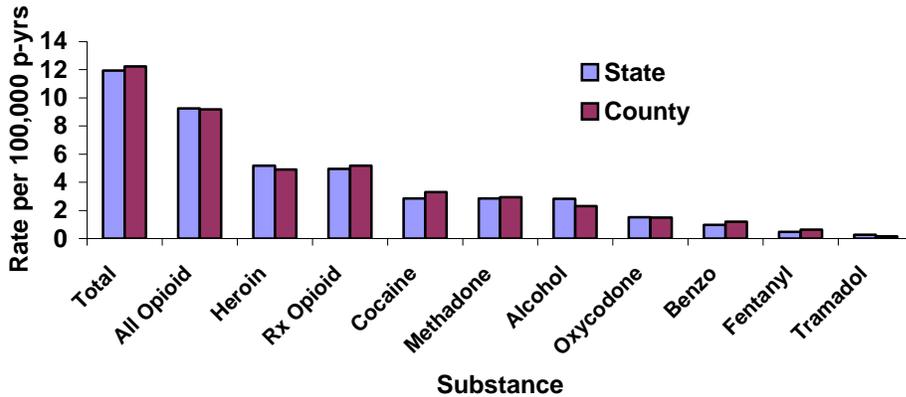


Figure 1: Average death rate per 100,000 person years by substance State of Maryland vs. Anne Arundel County

In Figure 2 we observe that deaths from heroin and prescription opioids contributed roughly equally to the overall overdose death rate in Anne Arundel County.

Anne Arundel County Intoxication Deaths by Year and Type

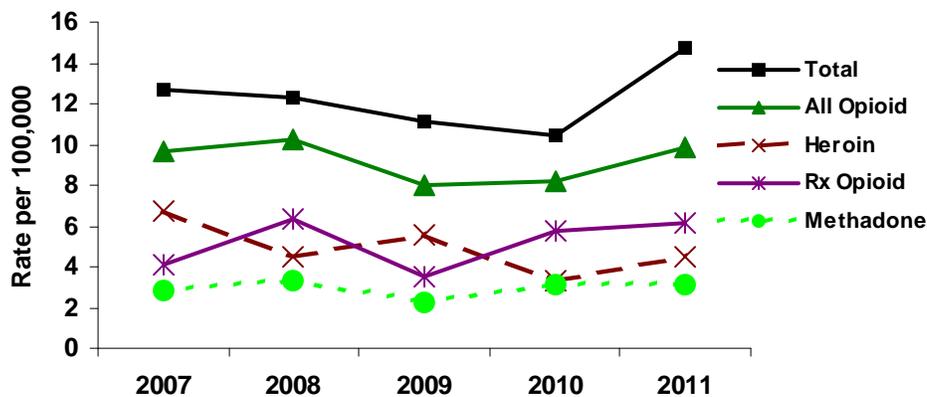


Figure 2: Rate of Intoxication deaths in Anne Arundel County by type of substance implicated and year from 2007-2011.

We can currently utilize ESSENCE to evaluate “chief complaints” for emergency department (ED) visits dating back to late 2009. Searching ESSENCE for “overdose” or “drug abuse” chief complaints will yield both intentional and unintentional overdose patients presenting to the ED. Unfortunately, at this time it is difficult to stratify these results by type of drug abused. Looking at the data from 2009-present, it appears that

males and females present to the ED at similar rates for all overdoses and that the rate has been increasing throughout that time period (Figure 3).

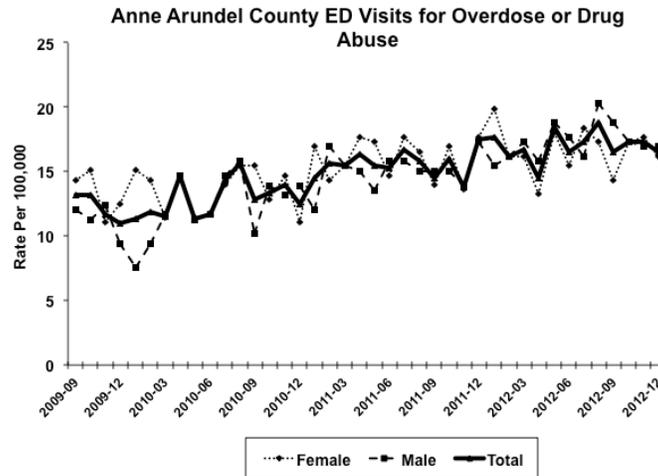


Figure 3: Rate per 100,000 County Resident ED Visits for “Overdose” or “Drug Abuse,” September 2009-December 2012 (ESSENCE).

More detailed information can be examined utilizing the Health Services Cost Review Commission’s (HSCRC) database. The disadvantage of this database over ESSENCE is the lag time in the data collection and dissemination to the counties and the increased efforts and knowledge required to search the database. HSCRC was utilized to analyze trends and demographics in ED diagnoses for ICD9 specific categories of opioid overdose “E Codes.” Figure 4 shows the trends for overdose from fiscal year 2008-2011. The overall trend is an increase in overdose of all drugs, with a steady increase in prescription opioid overdose diagnoses in that time period. However, heroin visits were on the decline from FY 2010 through FY 2011.

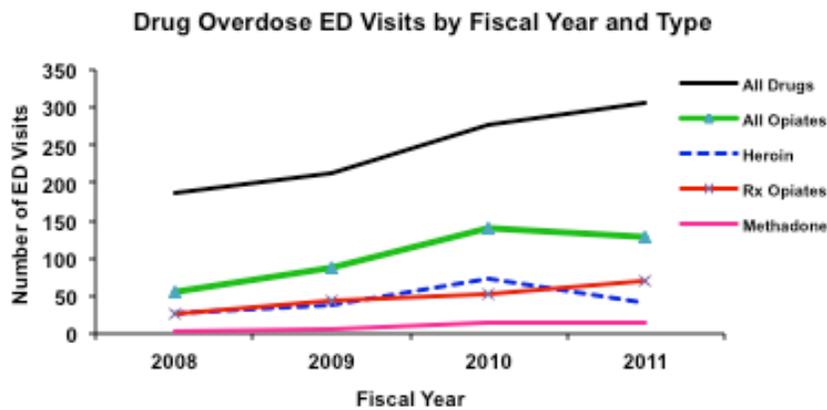


Figure 4: Trend in ED Visits for opioid overdoses FY 2008-2011 (HSCRC).

Figure 5 shows the breakdown in opiate related ED visits by age group. Young adults have the highest rates of opiate overdose-related ER visits. The data also indicate that while heroin-related overdose ED visits predominate in young adults (18-34 years), prescription opiate overdose visits are seen across all adult age groups as well as in very young children, presumably due to accidental ingestions.

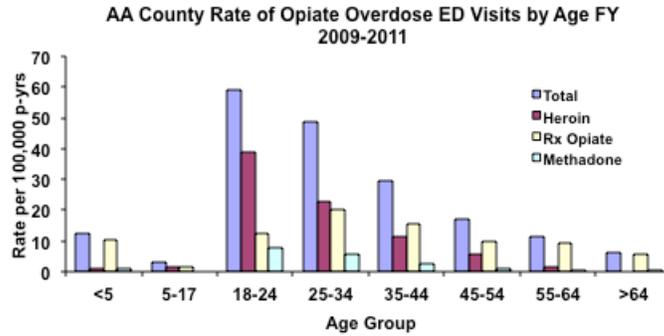
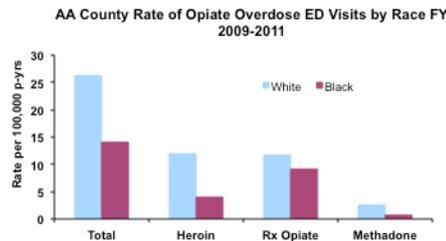
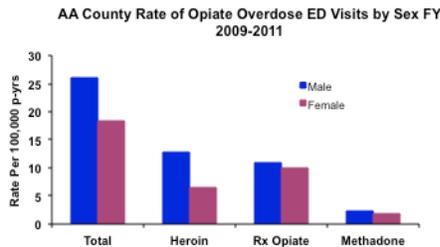


Figure 5: Rate per 100,000 person years of Anne Arundel County resident visits to emergency departments for opioid overdoses (HSCRC).

Looking at the trends in race and gender, we see that whites and males in Anne Arundel County have higher rates of opiate overdose ED visits than their black and female counterparts. It should be noted that the data on race are lacking an ethnicity identifier (Figures 6 and 7).

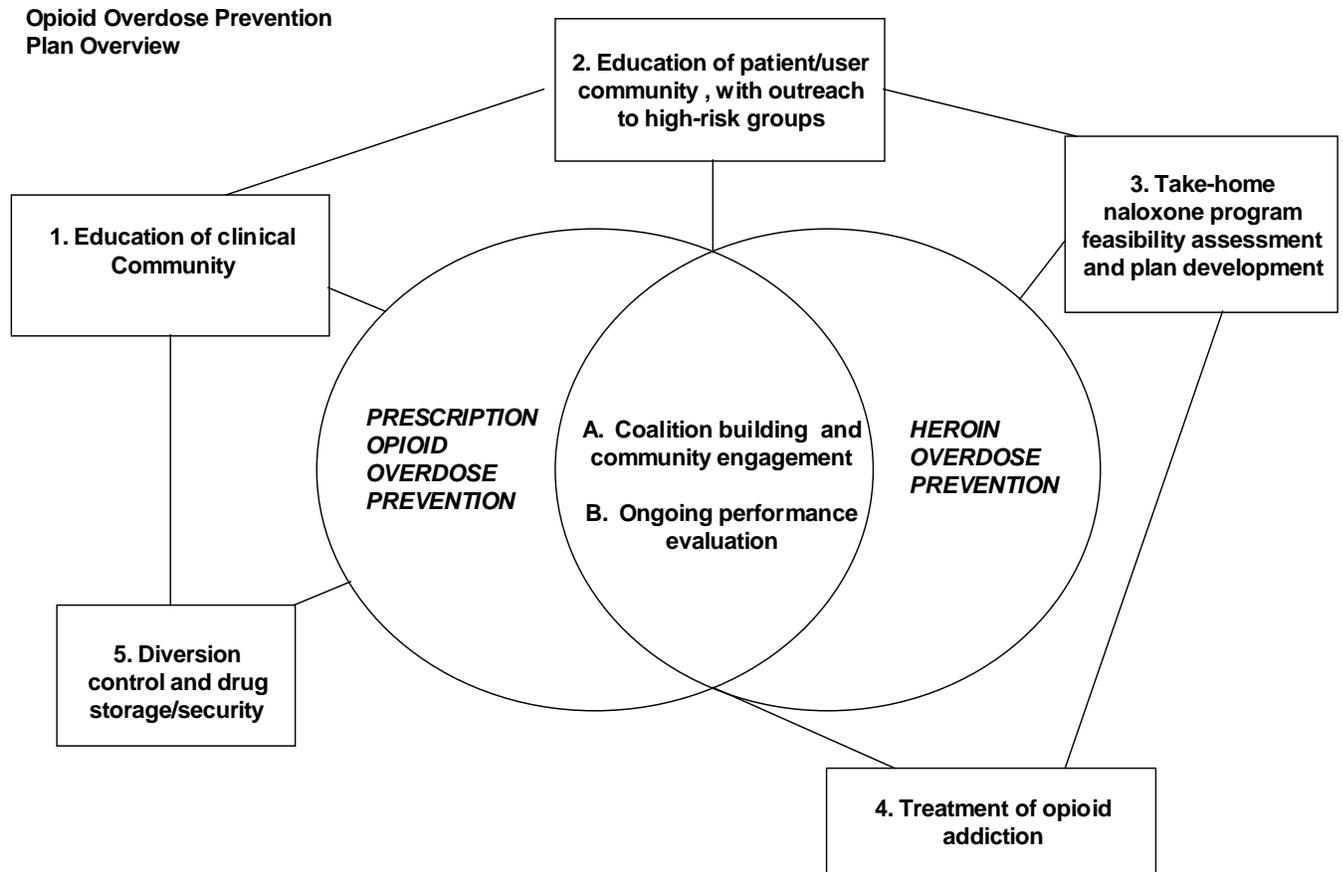


Figures 6 and 7: Rate per 100,000 person years of opiate overdose ED visit by sex and race (respectively), FY 2009-2011

Finally, when we look at the rates of presentation to the ED from various zip codes, we see that the northern part of the county accounts for the vast majority of both heroin and prescription opioid visits. The map below (Figure 8) was not broken down by type of drug due to the low numbers in each zip code for each drug. A gray shaded area does not mean that there were no presentations of residents from that part of the county. It simply means that there were fewer than 5 residents over the 3 year period that presented from that region of the county.

Anne Arundel County Overdose Prevention Plan Overview

The AA County Department of Health will work closely with the County Drug and Alcohol Abuse Council and other community stakeholders to refine the county’s plan in an iterative process, particularly in finalizing a timeline and determining responsibilities for various plan components. The proposed plan incorporates comments from a number of council members and other community members engaged in this issue, and we will continue to seek and utilize this feedback and solicit commitments from members to implement action steps with the Department of Health as the primary coordinating body.



Overall Program Goal and Outcome Performance Metrics:

To reduce the total number of overdose deaths by an average of 10% per year (using 2012 as a baseline), for a 30% reduction over 3 years: Decrease the total annual number of overdose deaths in Anne Arundel County from 26 (2012) to less than 18 by 2016.

Strategies, Activities and Implementation Performance Metrics

STRATEGY	ACTIVITIES	METRICS/TIMELINE
<p>1. Education of the clinical community</p>	<p>a. Draft email and letter to be sent to all clinical providers, hospitals, and pharmacies in AA County, to include:</p> <p>i. Overview of state and county-level overdose prevention efforts</p> <p>ii. Links to online resources, to be available on the AACDH website (AACDH Overdose Prevention Resource Center)</p> <ol style="list-style-type: none"> 1. Information about the recently passed Maryland SB0610 Overdose Response Program law and DHMH Overdose Prevention Plan, specifically about the certification process for individuals interested in receiving naloxone prescription 2. Tools for identifying patients at increased risk for opioid overdose 3. Information on prescribing naloxone to patients receiving long-term opiates 4. Opioid prescribing practice guidelines (in development) and use of PDMP 5. Screening Brief Intervention and Referral to Treatment (SBIRT) toolkit 6. Information on local addiction treatment options and referral processes 7. Patient education resources (see #2 below) <p>b. Academic detailing of practices in high-risk zip codes</p> <ol style="list-style-type: none"> i. SBIRT training in-services ii. Additional provider education through grand rounds 	<ul style="list-style-type: none"> • AACDH Overdose Prevention Resource Center (web resource for providers and the public) operational and live by July 1, 2014 with on-site content and active links to existing web-based resources • 90% of providers and pharmacies contacted by October 1, 2014 • 80% of providers in high-risk zip codes to have received in-person individual or group-based SBIRT and overdose prevention training by July 1, 2015
<p>2. Education of patient/user community, with outreach to high-risk groups</p>	<p>a. Develop standardized opioid overdose prevention and response educational materials, drawing on materials developed by DHMH and successful overdose prevention programs nationwide</p> <p>b. Via email and letters to all physician offices, hospitals, and pharmacies, provide links to online patient education materials</p> <p>c. Outreach to high-risk groups</p> <ol style="list-style-type: none"> iii. Standardize overdose prevention and response client education materials in all AACDH operated and contracted addiction treatment programs iv. Reach out via email/letter to promote overdose prevention and response client education materials and guidelines available on-line at the AACDH Overdose Prevention Resource Center <ol style="list-style-type: none"> 1. All methadone treatment programs and Suboxone providers 2. Narcotics anonymous, AA, CDA, and other addiction support groups 3. Jails/police departments, halfway houses, and juvenile detention facilities 4. Homeless shelters, veterans groups 	<ul style="list-style-type: none"> • Overdose prevention and response client/community education materials compiled, synthesized, reviewed, and made available on-line on the AACDH Overdose Prevention Resource Center by July 1, 2014 • 90% of clinical providers and local pharmacies contacted via email and/or letter by October 1, 2014 • 90% of identified high-risk programs/groups contacted via email and/or letter by December 1, 2014 • All AACDH-affiliated methadone treatment programs have policies and procedures in place regarding overdose prevention and response education for clients by October 1, 2014

STRATEGY	ACTIVITIES	METRICS/TIMELINE
<p>3. Conduct a feasibility analysis of a take-home naloxone program operated by AACDH Behavioral Health Adult Addictions Program</p>	<p>a. Collaborate with DHMH and AA County Criminal Justice Coordinating Council (Drug and Alcohol Abuse Council) on implementation of SB0610 with regard to certification process required for prescribing naloxone</p> <p>b. Modify current quarterly client surveys to include questions about:</p> <ul style="list-style-type: none"> v. Personal experience with overdose vi. Witnessed overdoses or loss of friends/family to overdose vii. Knowledge/awareness of overdose prevention and response, including role of naloxone viii. Interest in naloxone training and certification ix. Willingness to pay for naloxone kits <p>c. Exploration of potential collaborations with local pharmacies/chains</p> <p>d. Legal, risk-management review</p> <p>e. Review of existing take-home naloxone programs</p> <p>f. Budgetary analysis</p>	<ul style="list-style-type: none"> • Naloxone certification process finalized and information available online for providers/public via AACDH Overdose Prevention Resource Center by July 1, 2014 • Adult addictions client survey overdose questions developed by January 1, 2014 • 80% of new and ongoing clients to have completed overdose survey by December 1, 2014 • Survey responses compiled and analyzed by July 1, 2015 • Track number of AA County residents receiving certification for naloxone prescription • Track number of naloxone prescriptions filled in AA County per month • Draft AACCH take-home naloxone program proposal completed and submitted for legal/financial review by December 1, 2015
<p>4. Treatment of opioid addiction</p>	<p>a. Continue operation of AACDH Adult Addictions methadone-based treatment programs currently operated or contracted to provide addiction treatment services by the Behavioral Health division in Glen Burnie, MD. Programs include the Road to Recovery methadone maintenance program based at the Ordinance Road Correctional Center, initiated in 2012.</p> <p>b. Continue to efforts to increase referrals through use of SBIRT toolkit and through education and training of local ED and other clinical providers</p>	<ul style="list-style-type: none"> • Track number of clients entering treatment and remaining in treatment for 6 months, 12 months, 18 months, in Langley Road Adult Addictions program and other AAC-contracted methadone maintenance programs • Track number of clients referred for Suboxone treatment • Track number of clients referred for inpatient rehab • Track number of eligible inmates at Ordinance Road Correctional Center participating in jail-based Road To Recovery methadone maintenance program: Goal is to increase participation from #/% to #/%

STRATEGY	ACTIVITIES	METRICS/TIMELINE
<p>5. Diversion control and drug storage and security</p>	<ul style="list-style-type: none"> a. Continue practice of drug lock boxes for AACDH-affiliated methadone treatment programs and work with other addiction treatment programs to expand drug lock box practices b. Educate clinical providers and patients about use of drug lock boxes for opioid pain medications c. Work with police to publicize and promote drug take-back programs based at local police stations through media announcements and posters for clinics, public transport, etc. d. Collaborate with local schools and community groups on community awareness and education campaigns for adolescents regarding drug diversion and prescription drug abuse 	<ul style="list-style-type: none"> • All AACDH-affiliated methadone maintenance clients to utilize lock-boxes for take home dosing • Link on AAC Overdose Prevention Resource Center website on lock-box use for all opioid prescriptions to be active by July 1, 2014 • Number of posters promoting drug take-back distributed to pharmacies, offices, ED's, and other public places • Hold at least 2 meetings with school health and Alcohol and Drug Abuse Council representatives regarding preventing diversion of controlled substances among adolescents

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