

### Problem Statement

Report Number	RCA2-29-06-2016-025	RCA Owner	Chris Eckert
Report Date	7/28/2016	RCA Facilitator	Brian Hughes

### Focal Point: Negative public impact due to opioid addiction

#### When

Start Date: 1/1/1990	End Date: 6/7/2016
Start Time: N/A	End Time: N/A
Unique Timing	After prescription opioid painkillers became more prevalent.

#### Where

Location	United States of America
Other	Includes both prescription opioids and heroin

#### Actual Impact

Safety	18,893 prescription painkiller overdoses deaths in 2014	\$0.00
Quality	General negative impact on quality of life for all touched by the disease of opioid addiction.	\$0.00
Safety	10,574 heroin overdose deaths in 2014	\$0.00
Cost	Total cost estimate in 2007 (See Evidence tab) This was for a single year. Estimates vary, but the total economic impact for the past 26 years could exceed \$1 trillion.	\$55,000,000,000.00

**Actual Impact Total: \$55,000,000,000.00**

#### Frequency

Frequency Note	Opioid prescriptions increased 300% between 1999 and 2010. In 2012, 259 million opioid prescriptions written--enough for every citizen to have a bottle. US consumes 80% of opioid worldwide w/ just 5% of the total population.
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#### Potential Impact

Safety	If unresolved soon, tens of thousands additional deaths will occur. The problem could potentially become more widespread.	\$0.00
Cost	Societal costs will continue to increase	\$0.00
		<b>Potential Impact Total: \$0.00</b>

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## Report Summaries

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### Executive Summary

This example RCA looks at the negative public impact due to opioid addiction. As with other Sologic examples of “big” problems, we need to disclose that the primary purpose for choosing a problem of this magnitude is to demonstrate how to complete a root cause analysis on a large problem. This RCA is based on information from multiple sources, and it examines the problem from a macro-perspective (top-down) instead of looking at individual cases of addiction (bottom-up). A different way to conduct an analysis like this would be to select a sample of individual cases of addiction, complete a separate RCA for each, and then look for common causes between the different cases.

Note that the list of Solutions contains a combination of things already being tried along with suggested actions. Feel free to contribute if you have ideas! Send them to us, and we'll update the file with your contribution.

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### Cause and Effect Summary

The *Focal Point* is the term we use at Sologic to describe the problem being analyzed. It's the focus of the investigation – what we are trying to understand, and solve. In this example, we chose “Negative Public Impact due to Opioid Addiction” as our focal point. This is a bit broad – for instance, what does “negative impact” mean? And why use the word “opioid?” The Sologic RCA method is based in conditional logic, which follows the pattern “If... then.” This allows us to look at combinations of causes that come together to create effects. By choosing “Negative Impact due to Opioid Addiction” as our focal point, this allows the investigation to branch into two pathways: 1) Why are people addicted to opioids? and 2) Why does this create a negative public impact? If you read this summary along with the cause and effect chart (print it out if you need to), you'll see that these are the primary branches.

### Negative Public Impact:

In 2013, nearly 24,500 people died from opioid overdoses. This is because opioids are unforgiving in high doses. In such cases, opioids slow and ultimately stop your breathing and your heart, and then you die. 16,235 of those 2013 deaths were from opioid painkillers and 8,257 were from heroin. And while these deaths are tragic for family and friends of the deceased, they also impact society from the unrealized productivity and value they could have created. The deaths of celebrities like Prince and Phillip Seymour Hoffman get a lot of attention due to their popularity, but we all have the potential to contribute in a positive way. Along with the fact that opioid overdoses can easily kill, addicts cause a drain on society in general. There are high-functioning addicts that may be able to effectively hide their addictions and still function productively. But many addicts are a net negative to society and to their families, consuming resources disproportionately to what they create. To sum it up, opioid addiction impacts all of us significantly and we'd all be better off if this impact were reduced.

### Many People Addicted to Opioids:

“Many” is one of those words that does not tell us much. But you will notice on the chart that we go on to break out the numbers for both heroin addiction (467,000 in 2014) and opioid painkillers (2.1 million in 2014). When you see the numbers, the picture becomes a lot clearer.

Many of us probably think of opioid addicts as homeless street kids sticking dirty needles in their arms. But heroin is only a part, albeit a significant part, of the overall burden. According to our research (which you can view in Causelink by clicking the small pie icon in the bottom left corner of each cause, or by examining the evidence list found under Report > Evidence) there are more than 5x as many people addicted to prescription painkillers as there are heroin addicts in the USA. And what is interesting about that is that these opioids provide a pathway to heroin addiction.

*Disclaimer! We are not saying that opioid painkillers always lead to heroin! That is not universally true. But sometimes it is true.*

A common property of opioids, other than their extremely effective pain management capability, is that they are extremely addictive. In 2012, there were 259 million prescriptions written for opioid painkillers in the United States. The US population in 2012 was 314.1 million. Map those two numbers on top of one another and you will get an idea for just how prevalent these types of painkillers are. Did I mention that they are addictive, to the extreme? When seen in this light, what's amazing is that the numbers of addicts and deaths aren't higher than reported.

### **Heroin:**

As a child of the '70s and '80s, I grew up with drugs in my face. We were all steeped in drug culture one way or another. And we'd all see it – because some kids did use drugs. But not heroin. At least I never saw it...not until years later when, on a trip to Portland OR, I glanced over my shoulder and saw a guy stick a needle in his arm in some downtown alleyway. Heroin, rightly, earned its reputation as the hardest of hard drugs...the point of no return. There is no "experimenting" when it came to heroin – you went all-in. For some, this was not a deterrent.

### **Opioid Painkillers:**

Many other addicts would have never considered heroin. Yet, they end up addicts anyway. Opioids do a great job at pain management. A 1986 study, since criticized (by even its authors) for using a non-representative sample size, found that opioid painkillers could be used without a significant risk of addiction. This study went relatively unnoticed for several years. But in the '90's, Purdue Pharma created OxyContin, essentially a synthetic version of heroin. They used this study as justification to pressure doctors to write more prescriptions. And it worked. They made a lot of money. Other pharmaceutical companies took note and followed Purdue into the opioid market. And the money flowed in.

Along with this was the introduction of the "Pain Scale." If you've been to the hospital in the last 20 years, you've probably been asked to assess your pain on a scale of 1 – 10. This scale is usually associated with a series of "smiley" faces that portray emotions from supremely happy to supremely distressed. Doctors began using this scale to manage patients pain, often misrepresenting the risk of addiction. And apparently there aren't many things more effective at turning that frown upside down than a belly full of Fentanyl. We all become addicted at different rates. But let's just say that once you are addicted, and you have been without your fix for a period of time, you are likely to say what you need to say in order to get a refill.

The Affordable Care Act inadvertently exacerbated this problem. In its attempt to tie pay to performance, it included patient satisfaction surveys (including "Was my pain managed effectively") as a performance metric. This incentivized doctors to make pain management an extremely high priority because it would impact their Medicare/Medicaid reimbursements.

And the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO), the industry-organization responsible for issuing accreditation to healthcare providers, in a 1999 paper advocated patient-scored pain levels be treated as a vital sign – just like heart rate, temperature, and breathing rate. They have since rescinded this recommendation, but it stuck nonetheless.

Patients got in on the act too. When you experience pain and the doctor gives you something that makes you feel better, you ask for more of it. We trust our doctors. And if they give us something that not only takes the pain away

but provides us with a nice sense of euphoria at the same time, it can't be bad, right?

Once a patient becomes addicted, their brain chemistry changes. They become an addict – doing things they wouldn't normally do to alleviate the pains of addiction. Once their "legitimate" supply of drugs dries up, some of these addicts find their way to heroin. Others look to the street to fill their prescriptions illicitly. And then they become part of the overall societal problem, contributing to the broader negative impact.

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## Solutions

SO-0001	<b>Solution</b>	Limit the number of days a person can be on opioids for chronic pain.	
	<b>Cause(s)</b>	Became addicted to prescription painkillers first, then heroin	
	<b>Note</b>	No additional notes	
	<b>Assigned</b>	Brian Hughes	<b>Criteria</b> Passed
	<b>Due</b>	7/24/2016	<b>Status</b> Completed
	<b>Term</b>		<b>Cost</b>
SO-0002	<b>Solution</b>	Establish clean and safe locations for heroin users to inject themselves.	
	<b>Cause(s)</b>	467,000 people addicted to heroin (2014)	
	<b>Note</b>	This is still being evaluated for effectiveness. It should be noted that this solution is controversial. However, a root cause analysis is supposed to identify out of the box solutions. Time will tell if this helps to reduce the negative impact to society.	
	<b>Assigned</b>	Brian Hughes	<b>Criteria</b> Passed
	<b>Due</b>	7/24/2016	<b>Status</b> Completed
	<b>Term</b>	long	<b>Cost</b>
SO-0003	<b>Solution</b>	Implement an awareness campaign regarding the dangers/risks of opioid prescriptions.	
	<b>Cause(s)</b>	Dr.'s told opioids not as addictive as previously thought	
	<b>Note</b>	No additional notes	
	<b>Assigned</b>	Brian Hughes	<b>Criteria</b> Passed
	<b>Due</b>	7/24/2016	<b>Status</b> Approved
	<b>Term</b>	long	<b>Cost</b>
SO-0004	<b>Solution</b>	De-stigmatize addiction. It's not a crime to be an addict, rather it's something to be treated.	
	<b>Cause(s)</b>	Prescribed opioids are considered acceptable by society (no stigma)	
	<b>Note</b>	No additional notes	
	<b>Assigned</b>	Brian Hughes	<b>Criteria</b> Passed
	<b>Due</b>	7/24/2016	<b>Status</b> Approved
	<b>Term</b>	long	<b>Cost</b>
SO-0005	<b>Solution</b>	Develop a more objective pain measurement method.	

**Cause(s)** Misunderstanding of how patients perceived pain  
**Note** No additional notes  
**Assigned** Brian Hughes **Criteria** Passed  
**Due** 7/24/2016 **Status** Approved  
**Term** medium **Cost**

SO-0006 **Solution** Do not allow pharmaceutical companies to advertise or promote opioid class pain medicines.  
**Cause(s)** Pharmaceutical companies promoted 1986 study to Dr's  
**Note** No additional notes  
**Assigned** **Criteria** Passed  
**Due** **Status** Selected  
**Term** long **Cost**

SO-0007 **Solution** Remove or reduce the weight of pain management on patient satisfaction surveys.  
**Cause(s)** Rankings place higher weight on patient experience  
**Note** No additional notes  
**Assigned** Brian Hughes **Criteria** Passed  
**Due** 7/24/2016 **Status** Approved  
**Term** medium **Cost**

SO-0008 **Solution** Rely on more non-opioid pain management drugs.  
**Cause(s)** Dr.'s wanted to avoid NSAID painkillers  
**Note** No additional notes  
**Assigned** Brian Hughes **Criteria** Passed  
**Due** 7/24/2016 **Status** Approved  
**Term** short **Cost**

## Team

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## Evidence

**EV- Evidence**      Slate - The Untold Story of America's Opioid Addiction, (6/3/2016)  
0001

**Cause(s)**      Reports of internal bleeding  
reports of liver damage  
Dr.'s wanted to avoid NSAID painkillers  
All opioids kill in high doses  
Healthcare providers placing higher priority on patient satisfaction  
Rankings place higher weight on patient experience  
Pain management made a higher priority by JCAHO, APS, others  
Wanted pain treated more aggressively  
Dr.'s want to help people manage pain

**Location(s)**    [http://www.slate.com/articles/health\\_and\\_science/medical\\_examiner/2016/06/prince\\_s\\_death\\_rev](http://www.slate.com/articles/health_and_science/medical_examiner/2016/06/prince_s_death_rev)

**Attachment(s)**

**Contributor**    Brian Hughes

**Type**            URL

**Quality**         ★★★★★

**EV-0002 Evidence**      Journal of Emergency, Trauma, & Shock - "Pressured to prescribe" The impact of economic and regulatory factors on South-Eastern ED physicians when managing the drug seeking patient, (April - June, 2016)

**Cause(s)**            Dr's felt pressure to prescribe opioids to manage pain  
Pain management made a higher priority by JCAHO, APS, others  
Wanted pain treated more aggressively

**Location(s)**        <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4843568/>

**Attachment(s)**

**Contributor**        Brian Hughes

**Type**                URL

**Quality**             ★★★★★

**EV-0003 Evidence**      Opioid Addiction: 2016 Facts & Figures

**Cause(s)**

**Location(s)**        <http://www.asam.org/docs/default-source/advocacy/opioid-addiction-disease-facts-figures.pdf>

**Attachment(s)**

**Contributor**        Brian Hughes

	Type	URL
	Quality	★★★★★
EV-0004	<b>Evidence</b>	GAO - OxyContin Abuse and Diversion and Efforts to Address the Problem (Dec. 2003)
	<b>Cause(s)</b>	
	<b>Location(s)</b>	
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Brian Hughes
	<b>Type</b>	Document
	<b>Quality</b>	★★★★★
EV-0005	<b>Evidence</b>	Societal Costs of Prescription Opioid Abuse (supports the Actual Impact cost estimate of \$55 billion in 2007)
	<b>Cause(s)</b>	
	<b>Location(s)</b>	<a href="http://www.asam.org/docs/advocacy/societal-costs-of-prescription-opioid-abuse-dependence-and-misuse-in-the-united-states.pdf">http://www.asam.org/docs/advocacy/societal-costs-of-prescription-opioid-abuse-dependence-and-misuse-in-the-united-states.pdf</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Brian Hughes
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★
EV-0006	<b>Evidence</b>	CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016
	<b>Cause(s)</b>	259 million prescriptions for opioid pain meds (2012) Critique scores determine providers rankings
	<b>Location(s)</b>	CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Brian Hughes
	<b>Type</b>	Document
	<b>Quality</b>	★★★★★
EV-0007	<b>Evidence</b>	NYT - Drug That Killed Prince Is Making Mexican Cartels Richer (6/9/2016)
	<b>Cause(s)</b>	
	<b>Location(s)</b>	<a href="http://goo.gl/QCwnJO">goo.gl/QCwnJO</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Brian Hughes
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★
EV-0008	<b>Evidence</b>	NYT - Painkiller Abuse, a Cyclical Challenge (12/22/2014)

	<b>Cause(s)</b>	Dr.'s told opioids not as addictive as previously thought Inaccurate 1986 study Research in study was biased - sample too small 1986 study supported their position that opioids weren't addictive Pharmaceutical companies promoted 1986 study to Dr's Pharmaceutical company's wanted to sell more painkilling drugs Support in opioid protocols from the FDA Bias was not recognized by publishing journals Health care providers wanted to score well on pain management critiques Dr's thought prescribing powerful Opioids would help scores Health care providers started being evaluated on pain management US healthcare system stepped up focus on pain management Dr's accused of not taking pain management seriously Misunderstanding of how patients perceived pain Critique scores determine providers rankings
	<b>Location(s)</b>	<a href="http://www.nytimes.com/2014/12/23/upshot/painkiller-abuse-a-cyclical-challenge.html">http://www.nytimes.com/2014/12/23/upshot/painkiller-abuse-a-cyclical-challenge.html</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Brian Hughes
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★
EV-0009	<b>Evidence</b>	NYT - The Alchemy of OxyContin: From Pain Relief to Drug Addiction (7/29/2001)
	<b>Cause(s)</b>	
	<b>Location(s)</b>	<a href="http://www.nytimes.com/2001/07/29/magazine/29OXYCONTIN.html?pagewanted=all">http://www.nytimes.com/2001/07/29/magazine/29OXYCONTIN.html?pagewanted=all</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Brian Hughes
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★
EV-0010	<b>Evidence</b>	CDC - Drug Poisoning Deaths Involving Heroin
	<b>Cause(s)</b>	16,235 OD deaths from opioid painkillers (2013) 8,257 OD deaths from heroin (2013) 1,342 OD deaths from a combination of heroin and prescription (Not broken out separately here) All opioids kill in high doses 24,492 opioid OD deaths (2013) (latest trends increasing) Became addicted to heroin first
	<b>Location(s)</b>	<a href="http://www.cdc.gov/nchs/data/databriefs/db190.htm">http://www.cdc.gov/nchs/data/databriefs/db190.htm</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Unassigned
	<b>Type</b>	URL

	<b>Quality</b>	★★★★★
EV-0011	<b>Evidence</b>	FDA - Medication Guide for Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) (2007)
	<b>Cause(s)</b>	Dr.'s wanted to avoid NSAID painkillers reports of liver damage Reports of internal bleeding
	<b>Location(s)</b>	
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Unassigned
	<b>Type</b>	Document
	<b>Quality</b>	★★★★★
EV-0012	<b>Evidence</b>	NIH - Chronic use of opioid analgesics in non-malignant pain: report of 38 cases. (5/25/1986)
	<b>Cause(s)</b>	Dr.'s told opioids not as addictive as previously thought Research in study was biased - sample too small Inaccurate 1986 study 1986 study supported their position that opioids weren't addictive
	<b>Location(s)</b>	<a href="http://www.ncbi.nlm.nih.gov/pubmed/2873550">http://www.ncbi.nlm.nih.gov/pubmed/2873550</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Unassigned
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★
EV-0013	<b>Evidence</b>	NYT - Prescription Painkillers Seen as a Gateway to Heroin (2/10/2014)
	<b>Cause(s)</b>	Can no longer afford opioid painkillers Heroin is cheaper than opioid painkillers previously addicted to opioid painkillers Became addicted to prescription painkillers first, then heroin Became addicted to heroin first Prescription and insurance limits
	<b>Location(s)</b>	<a href="http://www.nytimes.com/2014/02/11/health/prescription-painkillers-seen-as-a-gateway-to-heroin.html">http://www.nytimes.com/2014/02/11/health/prescription-painkillers-seen-as-a-gateway-to-heroin.html</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Unassigned
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★
EV-0014	<b>Evidence</b>	NIH - America's Addiction to Opioids: Heroin and Prescription Drug Abuse (5/14/2014)

	<b>Cause(s)</b>	<p>Many people addicted to opioids  467,000 people addicted to heroin (2014)  2.1 million people addicted to opioid painkillers (2014)  Opioids are intensely addictive  259 million prescriptions for opioid pain meds (2012)  Prescribed opioids are considered acceptable by society (no stigma)  Dr's felt pressure to prescribe opioids to manage pain  Cheaper, higher profit margin  No injection required - eliminates stigma of intravenous user  Cartels are importing drugs like fentanyl  Source: Illicit  Source: Prescription  Non-fatal negative impact</p>
	<b>Location(s)</b>	<a href="https://www.drugabuse.gov/about-nida/legislative-activities/testimony-to-congress/2016/americas-addiction-to-opioids-heroin-prescription-drug-abuse">https://www.drugabuse.gov/about-nida/legislative-activities/testimony-to-congress/2016/americas-addiction-to-opioids-heroin-prescription-drug-abuse</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Unassigned
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★
EV-0015	<b>Evidence</b>	DEA 2016 National Heroin Threat Assessment
	<b>Cause(s)</b>	<p>Became addicted to heroin first  Became addicted to prescription painkillers first, then heroin  Non-fatal negative impact</p>
	<b>Location(s)</b>	<a href="https://www.dea.gov/divisions/hq/2016/hq062716.shtml">https://www.dea.gov/divisions/hq/2016/hq062716.shtml</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Unassigned
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★
EV-0016	<b>Evidence</b>	Time - How Obamacare Is Fueling America's Opioid Epidemic (4/13/2016)
	<b>Cause(s)</b>	<p>Rankings can determine Medicaid/Medicare payments  ACA empowered Medicaid to withhold payments for low scores  ACA wanted patients to be happy with changes to system  Critique scores determine providers rankings</p>
	<b>Location(s)</b>	<a href="http://time.com/4292290/how-obamacare-is-fueling-americas-opioid-epidemic/">http://time.com/4292290/how-obamacare-is-fueling-americas-opioid-epidemic/</a>
	<b>Attachment(s)</b>	
	<b>Contributor</b>	Unassigned
	<b>Type</b>	URL
	<b>Quality</b>	★★★★★

