Introduction:

In 2013, there were an estimated 11,559 victims of domestic violence (1.3% of the population) and 9,945 perpetrators reported in the legal system. While Domestic Violence Network (DVN) knows this represents only part of the picture of domestic violence in Marion County, these and other findings based on SAVI’s analysis of data from The Julian Center, Indianapolis Metropolitan Police Department (IMPD), Marion County Prosecutor’s Office, Indiana Supreme Court, Marion County Superior Court, U.S. Census, and IMAGIS are useful for helping DVN and its partners understand demographics, patterns, and trends related to domestic violence. These findings help DVN develop more targeted strategies with its partners.

We share a few of those findings here but focus on this question: **What can we learn about domestic violence by studying the location of victims and perpetrators?**

Throughout this story, you can explore some of the relationships and patterns yourself through our interactive visualizations.

View the complete report on Domestic Violence in the Criminal Justice System in Marion County are available on SAVI at [http://www.savi.org/reports-publications/](http://www.savi.org/reports-publications/)
Domestic Violence and Neighborhood Income

First we mapped locations of domestic violence crimes to answer:

**How does location of domestic violence relate to neighborhood income?**

A detailed map of domestic violence shows that low-income neighborhoods have a higher incidence of reported domestic violence than middle- and upper-income areas. The red areas on the map below highlight low-income census tracts.

The tracts with the darker shades of blue are areas with higher domestic violence rates, which closely align with low-income areas. It is important to note again that these statistics are based on reported domestic violence cases, and it is projected that many cases go unreported.

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Socioeconomic Variables and Domestic Violence

Then we explored location further to ask:

**Does the amount of domestic violence in a community relate to the community demographics and social outcomes of that community?**

Our finding: The social and economic characteristics of a community are related to the reported rate of domestic violence in that community. More specifically, family structure, income, educational attainment, race,
and substance abuse were the best predictors of the reported domestic violence rate in a census tract.

- Family composition, income, and educational attainment rates in census tracts predict about 52% of the variation in domestic violence rates. (See component 1 variables in table)
- The racial composition of census tracts explained an additional 15% of the variation in tract-level domestic violence rates. (See component 2 variables)
- Alcohol and drug-related factors in the census tract explained another 12% of variation. (See component 3 variables).

It is important to note that while there is a correlation between these socio-economic predictors, this does not imply causation.
Based on these results, we created a vulnerability score for each census tract, based on its socio-economic composition. The score signifies the level of risk for a resident in that tract to be a victim of domestic violence. The map below shows the predicted domestic violence level (risk score) for each census tract compared to the actual domestic violence rate.

Red areas show census tracts with higher predicted rates of domestic violence, and blue areas show lower rates of predicted domestic violence. The cross-hatching shows areas with the highest actual rates of domestic violence based on 2011 and 2012 reports. Overall, the risk model corresponds with reported domestic violence, with a few mismatches in areas southwest of downtown.

This analysis shows that domestic violence is related to socio-economic conditions, but it is important to understand that the domestic violence rates used in this analysis were only those reported in the criminal justice system. Many cases go unreported.
Domestic Violence, Unemployment, and Income

Now, let's explore some of these data together. Click on this interactive map to explore the relationship between domestic violence, median household income, and unemployment.

The color-coding on the map shows the 2012 domestic violence rate for each census tract.

The scatterplot shows 2012 median household income on the vertical axis and 2012 unemployment rate on the horizontal axis. Each dot on the scatterplot is linked to a census tract on the map. Hovering over something on the map allows you to view its point on the scatterplot and vice versa. Draw a box on the scatterplot around a group of points.

Is there a spatial pattern on the map? Click a colored circle on the legend.

Is there a pattern on the scatterplot? A spatial pattern on the map?

What patterns do you see? We see a relationship between neighborhood median income and reported domestic violence rates. We also see a higher prevalence of reported domestic violence in Center Township, specifically in the neighborhoods just outside of downtown.
Domestic Violence, Education, and Transportation

Click on this interactive map to explore the relationship between reported domestic violence, educational attainment, and lack of transportation.

By hovering over the highest category in the color legend, you can see that, in general, the domestic violence rate is higher in census tracts where 25-50% of the population aged 25 and over has no high school diploma and where 5-20% of all occupied units have no vehicle.

Increased Education, Single Parents, and Domestic Violence

Click on this interactive map to explore the relationship between reported domestic violence, single parent households, and increased educational attainment. In general, census tracts with a more highly educated population have lower incidences of reported domestic violence while census tracts with higher percentages of single parent households have higher incidences of reported domestic violence.
Domestic Violence, Substance Abuse, and Alcohol Availability

Click on this interactive map to explore the relationship between reported domestic violence, the number of alcohol establishments per square mile, and the rate of juvenile offense charges for known substance abuse per 1,000 members of the population aged 5-17 in 2012. By hovering over the highest category in the color legend, you can see that the highest percentages of domestic violence victim homes were found in census tracts with between 5-15 alcohol establishments per square mile and a rate of 10-50 juvenile offense charges for substance abuse per 1,000 members of the population aged 5-17.

Note: We are not suggesting alcohol abuse leads to domestic violence. But we do explore how domestic violence rates relate to the presence of establishments selling alcohol in particular communities. There can be many factors that contribute to any possible correlation between the two.
Moving Forward

How will the results be used? Domestic Violence Network plans to use these findings to help identify neighborhoods to target special strategies to reduce domestic violence in Marion County. For example, it is piloting a new program with the Indiana Housing Agency to develop wrap-around services in a neighborhood to break down social barriers that lead to domestic violence. The data from this study can help identify other potential target areas.


Filling In The Gaps

You can help DVN get a more complete picture of domestic violence in Marion County. We know there are gaps in reporting, and the data shared here only represent cases reported in the legal system. Many people do not get the police involved, for instance, because they are embarrassed or afraid to report.

Here are some ideas for capturing other domestic violence cases...

>> On-line (anonymous) surveys

>> Service providers: emergency rooms, Sheltering Wings, health networks, hospitals, Planned Parenthood, OBGYNs, etc.

What ideas do you have?

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