USA Murder Rate at Historic Record Low

This news will be widely reported in the near future. The first headline about a record low USA murder rate will surprise most people, but some Kevin Drum fans might have realized that this news was inevitable.

FBI crime data go back to 1960, when the USA murder rate was 5.1 murders per 100,000 population. The murder rate fell to a record low of 4.6 in 1962 and 1963, increased rapidly over the 1960s, averaged 9.0 from 1970 through 1994, and fell to 4.7 in 2011. Preliminary FBI data for the first six months of 2012 showed a 2% decline in murders compared to the first six months of 2011. **More than 30 large local jurisdictions have recorded year-to-date (YTD) murders in 2013 with a weighted average decline of over 18% versus the same period in 2012**, including:

- Chicago: **-39%** YTD 5/5
- New York City: **-26%** YTD 5/5
- Philadelphia: **-29%** YTD 5/15
- Detroit: **-4%** YTD 5/12
- Los Angeles: **-15%** YTD 5/4
- Houston: **-11%** YTD 3/31
- New Orleans: **-11%** YTD 4/30
- Washington DC: **-20%** YTD 5/15
- St. Louis: **-9%** YTD 4/30
- Memphis: **-17%** YTD 2/28
- Oakland: **-21%** YTD 5/12
- San Antonio **-63%** YTD 3/31
- Kansas City MO: **-20%** YTD 5/15
- Atlanta: **-4%** YTD 5/11
- San Francisco: **-48%** YTD 5/7
- Milwaukee: **-25%** YTD 4/30
- Baton Rouge: **-33%** YTD 4/5
- Stockton: **-50%** YTD 4/23
- Columbus OH: **-26%** YTD 5/14
- San Diego: **-45%** YTD 3/31
- Charlotte-Mecklenburg: **-33%** YTD 3/31
- Louisville: **-20%** YTD 5/3

FBI preliminary 2012 data and 2013 YTD city murders show that we are on track for a 2013 murder rate that is 20% lower than in 2011. That would take the USA murder rate down to 3.8, more than 17% below the lows in 1962 and 1963.

Homicide rates from vital statistics (coroner cause-of-death reports) go back to 1900. This homicide rate is slightly higher than the FBI murder rate because vital statistics include justifiable (self-defense) homicides excluded from the FBI murder rate. Homicide was one of the 15 top causes of death in the USA in every year from 1965 through 2009, but dropped off
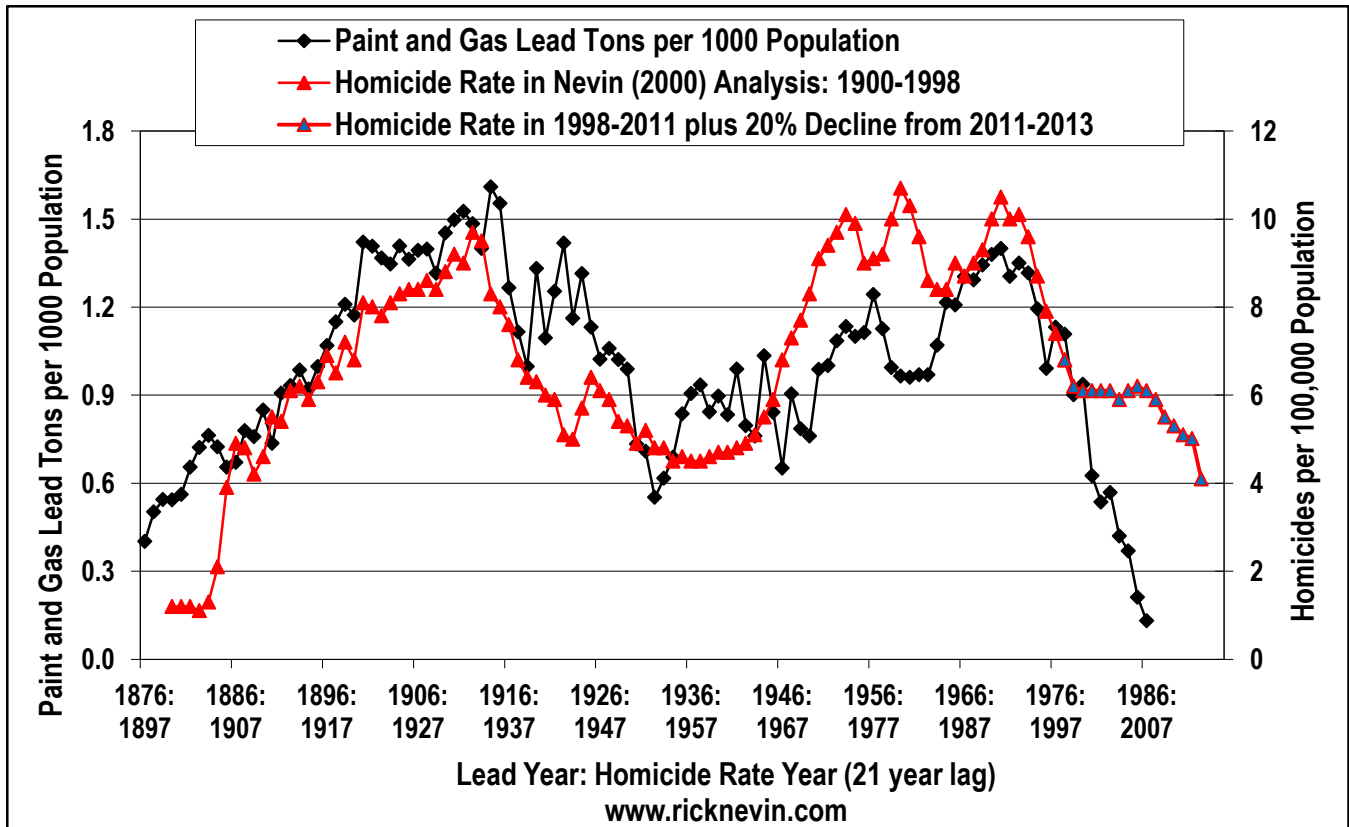
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the top-15 cause-of-death list in 2010, and fell to 5.1 in 2011. Another 20% decline would take the homicide rate down to 4.1, its lowest level since 1906, when over half of the USA population lived in rural areas, mostly on farms.
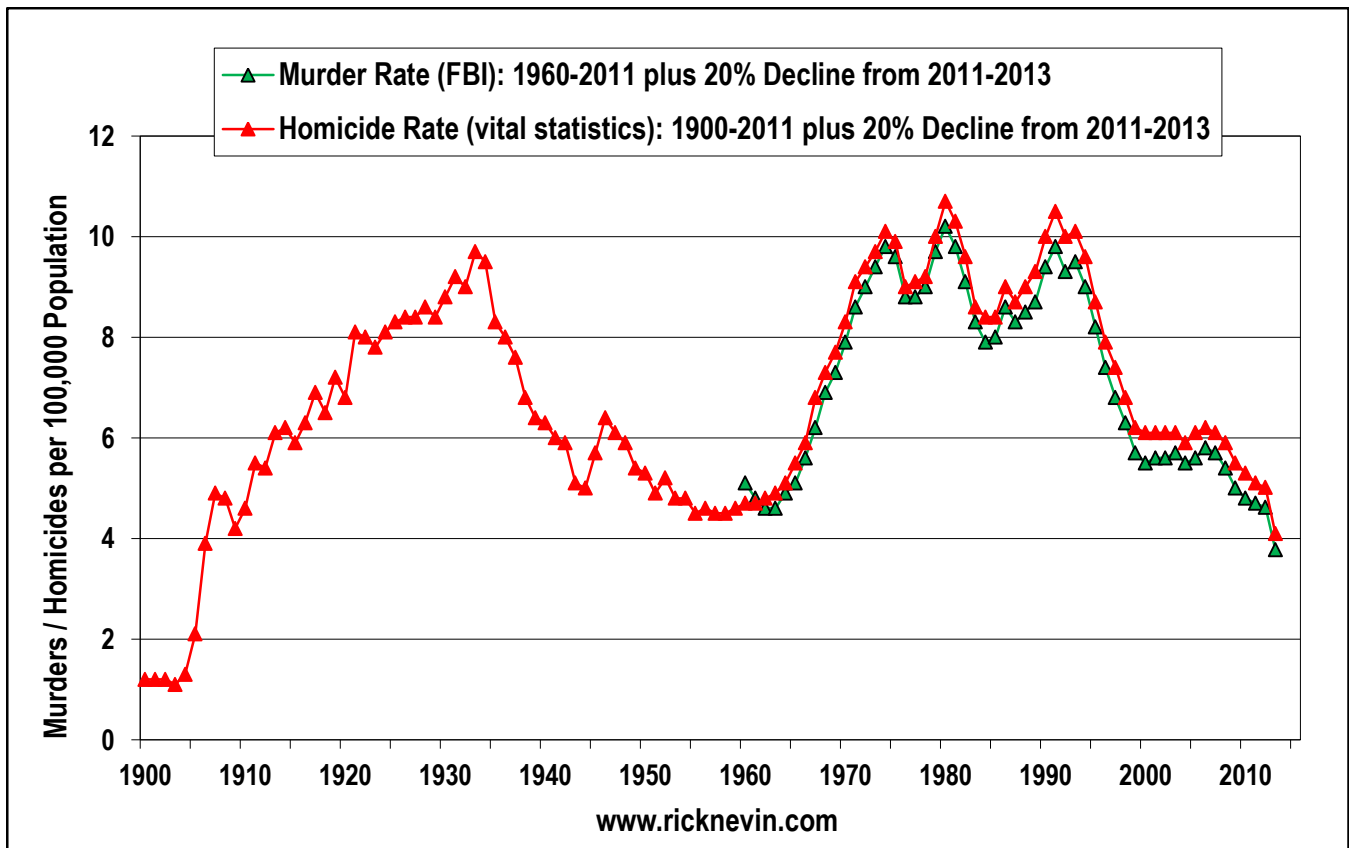
Of course, the 2013 full-year murder decline could be much less than the 18% reported YTD by large cities, but even 2% per year declines in 2012 and 2013 would drop the murder rate to a record low 4.5. Any record low murder rate shouldn't surprise those who know that USA homicide rates have tracked earlier trends in preschool lead exposure for more than a century. Nevin (2000) showed that the homicide rate trend from 1900 to 1998 was largely explained by trends in per capita use of lead in paint and in gasoline from 1879 to 1977. Lead exposure trends have presaged USA homicide trends with a 21-year time lag, reflecting the behavioral impact of early-childhood neurodevelopmental damage when those children reach peak ages of homicide offending in their late-teens and early-20s.

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Paint and Gas Lead Tons per 1000 Population

Homicide Rate in Nevin (2000) Analysis: 1900-1998

Homicide Rate in 1998-2011 plus 20% Decline from 2011-2013

Lead Year: Homicide Rate Year (21 year lag)
www.ricknevin.com

The most common exposure pathway for young children is lead-contaminated household dust, ingested via normal hand-to-mouth activity as they crawl. That ingested lead is absorbed into the bloodstream and carried to the brain where lead causes many types of developmental damage. Lead paint use surged in the late-1800s, when heavily-leaded paint deteriorated by "chalking", causing severe lead dust hazards. The leaded share of USA pigments fell from near 100% in 1900 to 35% by the 1930s, but the USA didn't ban lead paint until 1978. From 1935 to the mid-1980s, average USA preschool lead exposure tracked trends in per capita use of lead in gas, as air lead fallout contaminated dust while lead paint exposure changed very slowly with changes in the housing stock.

Murder rates in the 1980s were much higher in the largest USA cities where higher air lead levels in the 1960s caused more lead fallout in dust. The murder rate impact of eliminating leaded gasoline is evident in the national murder rate decline and in an especially large reduction in large city homicide offending rates. Murder rates have also been, and still are, higher in cities with older housing, with lead paint. An EPA analysis of baseline lead ingestion by two-year-olds during the leaded gas era, and additive ingestion from interior lead paint and urban air, found that dust lead ingestion associated with interior lead paint was actually greater than inhaled lead and dust lead ingestion from urban air.

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Leaded Gasoline Era Average Daily Lead Ingestion by Two-Year-Olds with Baseline and Additive Lead Exposure
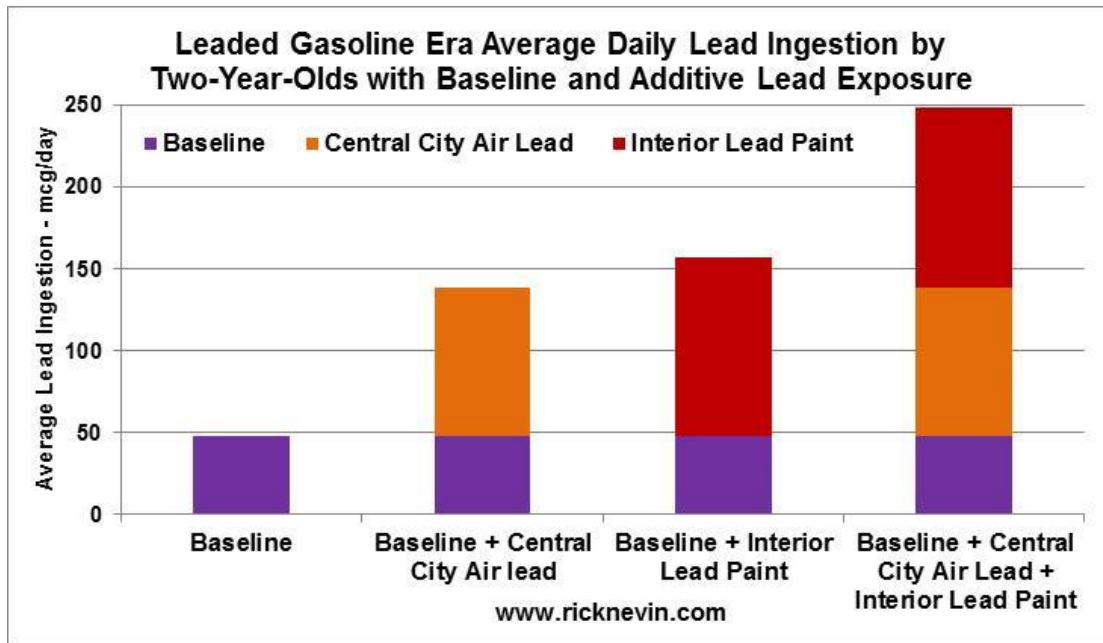
Source: EPA (1986) Volume I of IV, Table 1-8, p. 1-49

Children today are not exposed to urban air risk from leaded gasoline, or the baseline risk of that era (caused by air lead fallout in rural areas, and lead solder in food and beverage cans), but many children are still exposed to dust lead from lead paint. There was little change in the USA murder rate from 2000-2008, in part because there was relatively little progress in reducing lead dust from lead paint for years after the phase-out of leaded gasoline was largely completed in the mid-1980s. That changed with the passage of the Residential Lead Hazard Reduction Act of 1992 and, 21 years later, the murder rate is now falling rapidly.

Prediction: The murder rate will decline for years to come, and the homicide rate will fall below its 1903 record low of 1.1 because that 1903 low was already affected by some lead paint use in the 1870s. If this prediction proves accurate, and if global crime trends continue to track earlier lead exposure trends, then the correlation-never-means-causation crowd will eventually have to acknowledge a horrifying but inescapable conclusion: Preschool lead exposure could be the most prolific serial killer in human history, responsible for over a million murders in the USA and tens of millions of murders world-wide over the past two centuries.

This killer has remained at large and evaded suspicion for two centuries because this killer is invisible. USA regulations now define "lead dust hazard" to include floor dust above 40 micrograms of lead per square foot. A grain of salt is more than 40 micrograms. A "grain" of lead the size of a single grain of salt, crushed and spread over one square foot, would exceed the amount of lead in dust known to cause neurodevelopmental damage in children.

Housing survey data from 1998-2000 found that more than 15 million homes still had interior lead-contaminated dust hazards on floors and/or windowsills.

This killer is still at large.