Fixing National Unsheltered Homeless Counts

Jay Bainbridge, Ph.D.

Marist College

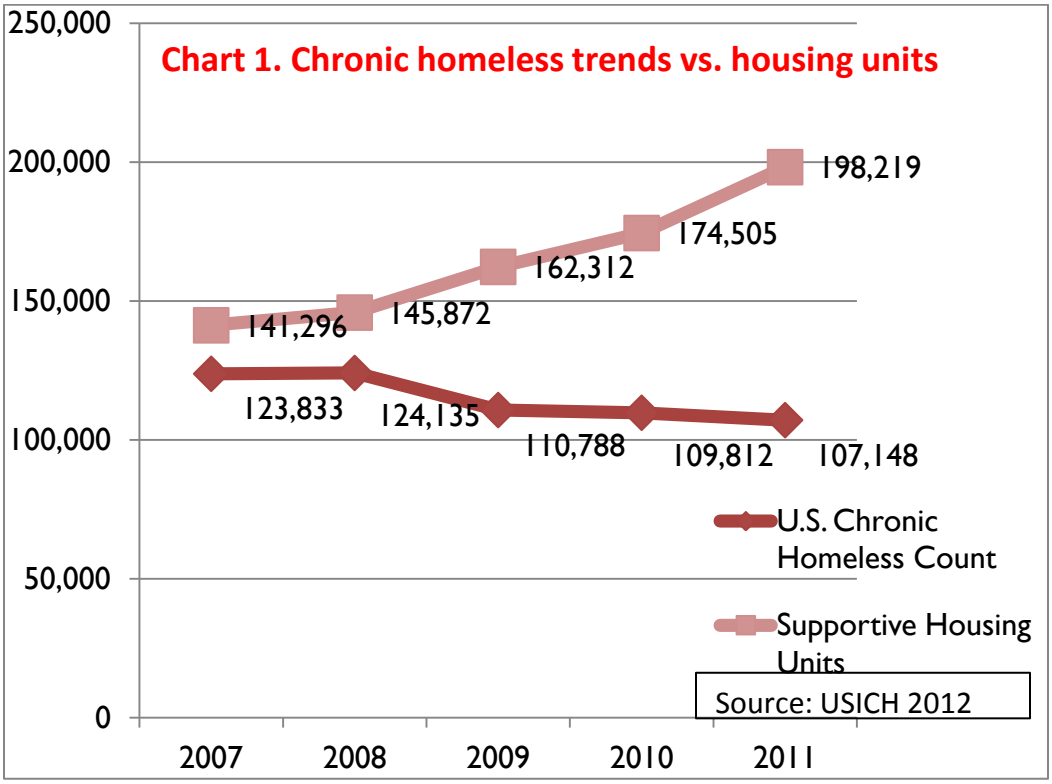
Abstract.

This paper highlights some of the weaknesses with current national unsheltered counts and recommends improvements. Evidence-based interventions including supportive housing models have proven effective with street chronic homeless. However, better alignment of resources with needs would help the nation reach its goal of ending chronic homelessness by 2015. Improving national and local annual point in time counts of unsheltered homeless individuals are part of the answer. In addition, regular, interim mini-counts conducted quarterly or semi-annually can provide practical, timely data. Several models are proposed.

Fixing National Unsheltered Homeless Counts

Focusing on the unsheltered homeless is important for multiple reasons. For one, eliminating chronic homelessness is a national priority. And unsheltered homeless are not only a big part of the homeless population, but an even bigger part of the chronic homeless. Furthermore, less is known about the unsheltered homeless than the sheltered homeless.

In the Federal plan *Opening Doors*, the U.S. Interagency Council on Homelessness sets as a goal to finish ending chronic homelessness by 2015.[1] Though considerable progress has been made toward that aim since 2007, time is running short and there is concern that the pace has slowed. Stalled progress with reducing the number of chronic homeless has happened even though the U.S. Department of Housing and Urban Development (HUD) has put increasing resources into solving the problem.



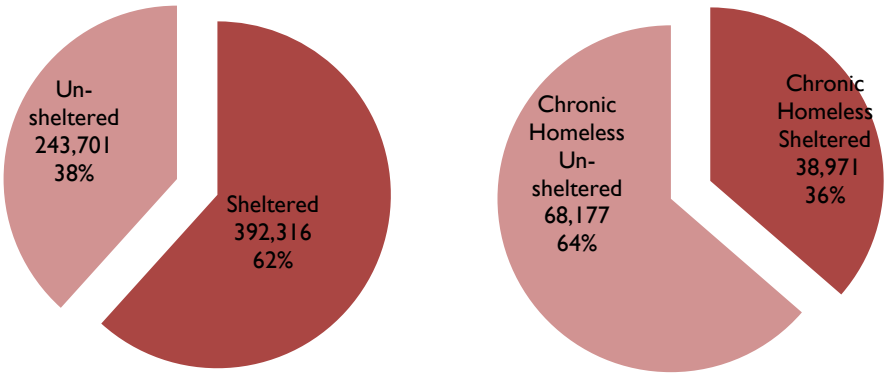
As shown in Chart 1, national estimates for the number of chronic homeless dropped by 13.5% from 2007 to 2011; however, most of those gains occurred between 2008 and 2009, and since then the rate of change has stagnated. By contrast, the number of housing units for permanent supportive housing -- the main policy lever for reducing

[1] Chronic homelessness is defined as 1 year of continuous homelessness OR 4 episodes in the past 3 years AND has an adult head of household who is disabled.

chronic homelessness – have grown considerably. Resources have increased 40% over the same period, with most of the gains occurring in the last two years.

Chronic homeless are 17-27% of unsheltered population, depending on the base – all homeless individuals or single adult homeless individuals. But their numbers are concentrated in the unsheltered population. As shown in Chart 2, unsheltered homeless are a big part of both the homeless population, and even a bigger part of the chronic homeless (HUD 2011).

Chart 2. Unsheltered homelessness as a percent of total and chronic homeless



Source: HUD 2011 Point-in-Time Estimates of Homelessness

High numbers alone warrant a more careful look at the unsheltered population and how the problems are being addressed. Additionally, given there is a mismatch between resources and results, and this group is a dynamic, complicated population both suggest need for better data tracking. This paper highlights some of the weaknesses with current national point-in-time unsheltered counts and recommends improvements – particularly in the form of interim counts -- using several models as examples.

What do we know about unsheltered homelessness in the U.S.?

The size of the unsheltered homeless population in the U.S. historically has been the subject of speculation and conjecture, and only relatively recently has much effort been spent finding a scientifically valid answer (Rossi, 1989). Until the early 1980s the business of estimating the number of homeless individuals was generally left to advocates; in the late 1970s their guess was over one million, and in 1982 it was raised to between two and three million. In 1980 an advocacy group called the Community for

Creative Non-Violence estimated 2.2 million people, or approximately one percent of the U.S. population, to be homeless (Caton, 1990). While those figures "had no value" by the admission of some of their creators, they became established fact as journalists, legislators, and advocates used them in lieu of better evidence.

Perhaps the earliest estimate with methodological merit was the Census Bureau's 1980 "casual count" and "mission night" that enumerated individuals in welfare and food stamp offices, shelters, bus stations, and other locations where homeless individuals were likely to be found during the night (Caton, 1990). This was the first effort to produce a reliable estimate, but the Census Bureau lacked confidence in its findings and official results were never published. Some of the reliability issues were specific to this event – it was the first use of the method on such a large scale, and there were claims that the count in New York City was not completed (Congressional Testimony, 1986) – but there were methodological issues that affect similar counts; because the proportion of total unsheltered homeless frequenting these enumerated locations is unknown, these counts are missing an indeterminable number of individuals (Rossi, 1989). Similar efforts were undertaken by the Census Bureau in 1990, through the Shelter and Street Night (S-Night) count, which enumerated persons living at homeless shelters, shelters for runaway, neglected, and homeless youth, domestic violence shelters, and at street locations identified prior to conducting the census. Bureau officials cautioned data users that the S-Night results reported are not (and were never intended to be) a count of the total population of homeless persons at the national, state or local level. Bureau officials further cautioned that, even when all results from the decennial census have been released, a complete count of the total homeless population will not exist that can be separately identified at any level of geography (Census Fact Sheet 1990). For 2000, the Census Bureau conducted a one-night count of shelters, and then over the next two nights enumerated homeless people in soup kitchens, on the street and in other places, but did not publish results by localities for the unsheltered homeless, and once again re-iterated that it was not intended to be a complete count of the homeless.

The last U.S. estimate of homelessness was done in 1996 by the Urban Institute through the National Survey of Homeless Assistance Providers and Clients. The method was designed to provide information on the homeless and other clients using homeless assistance programs such as soup kitchens, shelters, and other providers. While not designed to provide a count or census, the study authors estimated between 440,000 and 842,000 homeless on any given night, of which 31 percent slept on the streets or other places not meant for habitation in the last week. (Burt, 1999)

HUD requirements. Starting in 2005, HUD began requiring that communities receiving McKinney-Vento funding conduct a formal count at least every other year (although annual counts are encouraged) as part of their funding application. These point-in-time counts must be conducted in the last seven days of January, must estimate the percent of individuals who are chronically homeless, and must use statistically acceptable methods.[2]

HUD set-forth recommendations for how to conduct unsheltered point-in-time counts, but localities use a multitude of standards drawn from two distinct methods – 1) street counts or 2) surveys of service users (HUD Guide to Counting Unsheltered People,

[2] For homeless shelters (and housing), there have been national requirements since 2001 that localities collect administrative data on those they serve in their Homeless Management Information Systems(HMIS).

2008). With street counts, teams are sent to public spaces at a designated time (usually in the middle of the night) to survey or count the people they encounter who do not have a place to stay. With the service users approach, surveyors are sent to places where homeless individuals are known to seek help – such as food kitchens or drop-in centers, and clients are asked screening questions to determine whether or not they slept unsheltered the night before.

Both the public-spaces and service-user approaches suffer from drawbacks. While HUD dictates some standards for local estimates, it also allows a great deal of autonomy for each funding group to devise its own plan, which leaves room for differences in what is measured even within a common method. For instance, HUD requires that all counts take place in the last week of January, but it does not dictate exactly when or for how long. Localities may conduct their counts on a weeknight or on a weekend, or over the course of the entire week. Localities may conduct their counts late at night (e.g., midnight to 4 a.m.), or in the early evenings. Among public-spaces estimates, localities may conduct surveys where they interview those they meet on the streets, while others may be simple "windshield surveys" taken from vehicles or by simple headcounts of those deemed homeless. Some surveys use trained outreach workers, while others rely heavily on volunteers.

Across HUD street counts, there is no standard as to what constitutes "public spaces." Communities may count in abandoned buildings and/or hard-to-reach places such as in parks, river embankments, under highway ramps, or in tunnels. There are no clear definitions about whether to include airports, vehicles (automobile, train, ferry or bus), or those without a home spending a night in jail or hospital waiting rooms

For service-users surveys, there are no standards for how to identify whether or not an individual is in fact literally homeless, or a shelter resident, or a "couch surfer", or simply sleeping off a bad night. All information is based on client answers, and no information is made to verify the responses (whereas in street counts there is at least the face validity of finding someone in a public space on a late winter night). Furthermore, service-user surveys are limited by the extent of services offered. Localities rich in services will produce different estimates than those without, or those that focus on particular types of services and not others (Burt 1999).

Some cities have independently implemented their own initiatives. For example, NYC deploys decoys to test whether or not areas or individuals are missed, and adjusts the estimate accordingly (Hopper 2008).

So there are obvious recommendations for how to fix national homeless counts. One would be to make the methods more consistent with prescribed standards for how to proceed and who to include. Another would be to reward innovative techniques and fixes such as use of decoys as quality assurance. A third would be to uniformly require annual estimates of unsheltered and chronic homeless. And a better national estimate of the homeless *is* long overdue, as opposed to one constructed by aggregating local estimates – and should be pursued independently, as in repeating something along the lines of the Urban Institute survey or a more thorough approach in the Decennial Census.

Getting a better "pulse" on the unsheltered homeless

Establishing a sound national estimate of the unsheltered homeless and improving HUD's biennial point-in-time counts are important steps to take that would narrow gaps in information, but likely would not make great immediate or ongoing strides in reducing the number of chronic homeless. Even if the HUD standards were more uniform nationally, any approach currently considered comes with limitations and misses some portion of the unsheltered population (as just discussed). Breaching those gaps requires technical skills not readily available in every hamlet or city. And aligning methods across jurisdictions would take time and resources that would stretch beyond HUD's targeted year of 2015. The next PIT counts are set for January 2013, so realistically speaking no system-wide change could be implemented and acted on before 2015.

Furthermore, even if point-in-time counts were conducted annually, the results would be too infrequent to inform programs. Point-in-time surveys only provide a snapshot and they do not shed light on a potentially dynamic population. Careful methods can be time-consuming and expensive, so increasing them is a burden. Finally and most importantly, PIT counts are benchmarks for communities; changing methods will measure a different target and alter results. Flawed and inconsistent as the current measures might be, these community estimates serve as the measuring stick for each locality. If localities throw out their current measuring stick, they will be starting from close to scratch again, and risk losing some momentum and knowledge, imperfect as it might be. (See Marpsat 2012 for a similar example in Britain.)

Intermittent mini-counts, on the other hand, done quarterly or semi-annually could provide timely data. Because they do not need to be tied to the annual point-in-time counts, more streamlined methods can be used that are less technical and costly than annual counts. Also, because interim counts currently are not part of an established official benchmarks, they are amenable to innovation and experimentation.

In theory, the problems with conducting intermittent mini-counts are the same as annual point-in-time counts – definitional issues, establishing a sampling frame and time frame(who to count when), finding homeless people, sampling and extrapolation, and de-duplicating. There is some literature on innovative techniques for counting the homeless, such as plant-capture, capture-recapture methods, mark-resighting and bayesian-adjustments (Martin 1997, Hopper 2008, Fattorini 2009, McCandless 2012) Most methods in the literature have the primary goal to provide an estimate, not information for providers seeking to solve a problem, and they do not pay heed to resource and technical limits.

But providers of services to the homeless are often leery of additional evaluation efforts, particularly since resources are often limited to begin with and the preference of providers is to apply them to services instead of "counting" activities. Still, there are methods for incorporating surveying/enumerating into the regular work of homeless outreach that have proved effective and cost efficient.

Examples of mini-counts

Baseline/needs assessment. Because the unsheltered homeless are a dynamic population with complicated situations, it is worthwhile establishing not only a baseline number, but

also a needs assessment detailing how long individuals have been living on the street, what services they use, what services are lacking, and what they feel it would take to house them. Conducting such an intricate survey is beyond the scope of most PIT counts (although there is an example of Toronto doing a needs assessment as a part of its count, which takes place every three years). Needs assessment surveys require more resources, and are better carried out by trained canvassers. They also are better conducted at times when homeless people are awake – as opposed to in the middle of the night when they might be sleeping. Given how involved (and expensive) needs assessments are, these are not recommended to be carried out regularly, but rather every 3 or 5 years, as a basis for major planning points. Generally speaking, these types of surveys are conducted by outreach workers and/or trained survey staff; they involve the development of a valid and reliable survey instrument and participants frequently receive payment for their participation.

Needs assessment models are particularly useful for indentifying proper service delivery models, or to understand better whether or not there are enough individuals in the targeted population to warrant using an evidence-based model, or whether there is a need to develop a model for an underserved or orphan group which does not readily fit the current service package.

Interim mini-count census. One option for interim mini-counts is to conduct a full census of the areas where homeless individuals reside. An example of this approach is to have police officers conduct nightly counts and report back how many homeless individuals they have encountered. If it is not police officers, outreach teams with night assignments can do the same.

Mini-counts can be used to improve on some of the limitations of point-in-time counts, which are usually carried out over the course of one night. Seeking pinpoint accuracy puts a premium on reducing duplication of counts, at the cost of increasing variability in the results. To wit, weather has an influence on the number of unsheltered homeless, with colder weather reducing the numbers counted (Quigley, Raphael, Smolensky, 2001).

See Table 1, for a heuristic example. Taking the city of Poughkeepsie, NY from 2005-2012, there is as much variation in temperature across the last day of January (when counts are often conducted) as there is within the month of January (NWS 2012). Changes in counts could be as much a function of extreme weather conditions as changes in the underlying condition. Based on the PIT count, January 31st, 2011 appears to be the lowest temperature mark. But that is influenced by a particularly cold night. When looking at average low temperatures for the month, 2009 is colder. Likewise, January 31st, 2010 is the second coldest point. But according the month average, it is the fourth lowest. Capturing multiple data points across a month would reduce some of the variation in weather and decrease the impact of singular extreme conditions, as well as decrease the variability of the estimator (in this example from 11.3 to 5.3).

If a locality's catchment area is small enough, it can be covered multiple times over the course of a month (preferably daily) to produce an average. If the catchment area is large, it can be split up into smaller units (preferably randomly) and covered over a month. To reduce duplication, overlapping teams of three can be used, so that at any point in time one person has seen the homeless cited on an earlier night.

While not for "needs assessment" per se, these interim counts would benefit greatly by identifying some base demographic information, as well as the length of time the

individuals have been unsheltered homeless. For some high density areas with largely migrant populations this may be a challenge; some outreach workers set rules about having to see a person more than 2-3 times in a particular geographic area in order to "open a case" on them. If basic information on the profile of the population is gathered, the results of these counts can inform deployment of crews and resources– both in terms of size and location.

Mini-count with mixed sampling scheme. Another interim count example is to survey of all public locations known to have homeless and a random sample of others; like the previous example, the resulting sampling frame is to be covered over a period of a month. This approach is more appropriate for a large, diverse geographic area. Again, it can be conducted with regular outreach workers and overlapping crews can be used to reduce duplication. Unlike the first example, however, this approach needs statistical expertise to set up the estimation formulas, but once in place directions can be written so that providers can carry out the statistical calculations themselves.

Using the method described by Rossi (1989), an estimate is derived by combining the actual count from the census of areas where homeless are expected to be found, and the average number of homeless found per area in the random sample, multiplied by the number of areas.

Mini-count with Bayesian adjustment. A modification of either of the two examples above is to use Bayesian adjustments to reflect outreach expert knowledge. The approach could be an estimate from a single point in time count, or a monthly estimate; but then, the locality would use expected values from experts, such as outreach workers, to calculate a Bayesian average. So the final estimate would include actual count(s) as well as expected count(s) for each area. Table 1 shows a simple example with the January 31st low temperature data point as the actual count, and the average temperature for the month without that day as the expert knowledge for expected value. A Bayesian average is then given for the two points, weighing them equally. (More complicated scenarios can be constructed with multiple actual measures or expected values.) Results would greatly reduce some of the variation in estimates due to unusual weather or other unexpected events (in this example from 11.3 to 7.7), as changes in the number of individuals sleeping in public spaces is likely even more variable than the weather, and expert knowledge would incorporate many of the factors inherent in that variability.

Conclusion

In order to reach national goals of reducing homelessness – particularly the chronically homeless – we need, in part, better information systems to improve knowledge of a changing population and provide more than a singular (& potentially widely varying) data point. Efforts to improve national estimates and local annual point in time counts are important, but ultimately will be limited in their impact on addressing the needs of chronic homeless populations. Interim mini-count methods promise to fill the gap.

Table 1: Example Using Weather Data (Poughkeepsie, NY), NOAA

Date	Low Temp.	Monthly Avg. Low Temp.	Expected	Bayesian Mean
1/31/2012	25	22.8	22.7	23.9
1/31/2011	0	11.7	12.1	6.1
1/31/2010	4	16.8	17.3	10.6
1/31/2009	15	10.8	10.7	12.8
1/31/2008	17	20.4	20.5	18.8
1/31/2007	11	23	23.4	17.2
1/31/2006	35	24.5	24.2	29.6
1/31/2005	9	14.9	15.1	12.1
Average (Std. Dev.)	**14.5 (11.3)**	**18.1 (5.3)**	**18.3 (5.2)**	**16.3 (7.7)**

Table 2. Summary of Mini-Count Models

Mini-Count Method	Main Goal	Type of Area	Frequency	Resources
Needs Assessment	Identify proper service delivery model	Any area	Major planning times ~ every 5 yrs.	Extensive; needs special survey instruments and staff
Quarterly Census	Inform deployment of resources	Small, less diverse geographic areas	Quarterly or semi-annually	Only use regular outreach staff
Mixed Sampling	Inform deployment of resources	Large, diverse geographic areas	Quarterly or semi-annually	Only use regular outreach staff; technical expertise
Bayesian Adjustments	Inform deployment of resources	Any area	Quarterly or semi-annually	Only use regular outreach staff; technical expertise

References

Burt, M. R. (1999). Homelessness: Programs and the People They Serve| Findings of the National Survey of Homeless Assistance Providers and Clients.

Caton, C. L. M. (1990). "The Epidemiology of Homelessness" in Caton, Carol L. M. "Homeless in America". Oxford University Press, New York, NY.

Cortes, A., Henry, M., Leopold, J., Buron, L., Khadduri, J., & Culhane, D. P. (2011). The 2011 Point-in-Time Estimate of Homelessness: Supplement to the Annual Homelessness Assessment Report.

"Fact Sheet for 1990 Decennial Census Count of Persons in Emergency Shelters for the Homeless and Visible in Street Locations," originally published as a press release on April 12, 1991 by the Census Bureau. It was subsequently reprinted in *Joint Hearing on Quality and Limitations of the S-Night Homeless Count* (Y 4.G 74/9:S.hrg.102-296) in May 1991.

Fattorini, L., & Ghellini, G. (2009). Estimating the size of street-dwelling populations by

means of mark-resighting counts: theoretical considerations and empirical results. In *Proceedings of the XXVI IUSSP International Population Conference* (pp. 09-2).

Homeless Assistance Programs: A Guide To Counting Unsheltered Homeless People. Second Revision, 2008. US Department Of Housing And Urban Development.

Hopper, K., Shinn, M., Laska, E., Meisner, M., & Wanderling, J. (2008). Estimating numbers of unsheltered homeless people through plant-capture and postcount survey methods. *American Journal of Public Health*, *98*(8).

Marpsat, M. (2012). Mesure statistique, mesure politique-Le cas des personnes sans-abri. *Bulletin of Sociological Methodology/Bulletin de Méthodologie Sociologique*, *115*(1), 21-44.

Martin, E., Laska, E, Hopper, K,. Meisner, M. and Wanderling, J. (1997). "Issues in the Use of a Plant-Capture Method for Estimating the Size of the Street Dwelling Population." *Journal of Official Statistics*, Vol. 13 (1) 1997 59-73.

McCandless, L. C., Patterson, M. L., Currie, L., Moniruzzaman, A., & Somers, J. M. (2012). Counting the Unsheltered Homeless in Edmonton Using Plant-Capture Studies from Toronto.

National Weather Service Forecast Office. Poughkeepsie, NY. (2012). National Oceanic and Atmospheric Administration, U.S. Department of Commerce: http://www.erh.noaa.gov/aly/Climate/Poughkeepsie/ClimatePOU.htm

Quigley, J. M., Raphael, S., & Smolensky, E. (2001). Homeless in America, homeless in California. *Review of Economics and Statistics*, *83*(1), 37-51.

Rossi, P. (1989). "Down and Out in America: the Origins of Homelessness". University of Chicago Press, Chicago, IL.

U.S. Congress. Subcommittee on Energy, Nuclear Proliferation, and Government Processes of the Senate Committee on Governmental Affairs. "Census Bureau Planning for the 1990 Decennial Census. New York Field Hearing". (Date: September 4, 1986). Accessed through the Library of Congress: http://www.loc.gov/law/find/hearings/pdf/00172011809.pdf.

U.S. Interagency Council on Homelessness. (2012). Presentation by Barbara Pope and Joshua Leopold. National Alliance on Homelessness 2012 Annual Conference: Chronic Homelessness:http://www.usich.gov/media_center/speeches/presentation_session_at_naeh_2012_annual_conference_chronic_homelessness

Wright, J. and Devine, J. (1992). "Counting the Homeless: The Census Bureau's "S-Night" in Five US Cities". *Evaluation Review*. Vol 16 (4) August 1992 355-364.

Acknowledgments

Ideas in this paper reflect lessons learned from on-going work done by the New York City Department of Homeless Services, its researchers, and some of its contracted non-profit providers: CUCS, Common Ground, and Bronx Works.