


Center for Advanced Studies  
in Child Welfare

## Using Data:

*A Population-Level Description of the Cross-System Status of Homeless and Highly Mobile Students*

Anita M. Larson, M.A.

November 15, 2009



COLLEGE OF EDUCATION  
+ HUMAN DEVELOPMENT  
UNIVERSITY OF MINNESOTA

National Association for the Education of  
Homeless Children & Youth  
Denver, Colorado

## Objectives

- Share the results of a unique, population-based study of Homeless and Highly Mobile (H/HM) students that includes
  - Patterns of previous years' attendance
  - Child welfare involvement

## Findings Have Implications For

1. Research that other states might want to undertake with local data
2. More rigorous evaluations of the effectiveness of McKinney-Vento policy for boosting student attendance
3. The benefits of collaborations between systems, particularly child welfare and education
4. Requesting funding to enhance or expand services

## Objectives

- Discuss the potential of using local data for
  - Improving understanding of this population
  - Consider local data use that can aid in approaching students since they are reluctant to self-identify
  - Consider data entry policies that can improve data quality and facilitate creating broader pictures of H/HM students
  - Improving the ability to quantify the extent of student homelessness to improve our ability to discuss program reach and make funding requests more accurate.

## In the News

- Homelessness continues to be prominent in our communities
  - Foreclosures' financial strains take toll on kids; Moving and changing schools add to stress, *USA Today*, July 9, 2008
  - Capitol Strives to Define 'Homeless', *New York Times*, September 8, 2008
  - Homeless put strain on schools Influx of students a surprise to town, *Boston Globe*, September 21, 2008
  - Hard Times Hitting Students And Schools in Double Blow, *New York Times*, September 1, 2008
  - Economy creates surge in homeless Mass. families , *YahooNews*, October 6, 2008

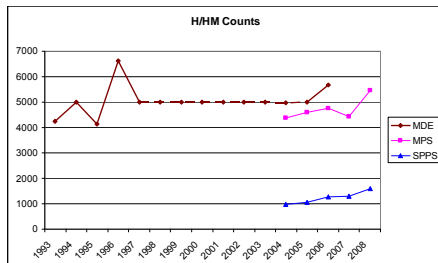
## National Homeless Estimates

- Of the estimated 2.3 million individuals experiencing homelessness each year, 1.4 million are children (*Urban Institute, 2000*)
- 30% of population consists of families with children (*National Coalition for the Homeless, 2007*)
- 2 million students affected by the foreclosure crisis (*First Focus, 2008*)

Estimates continue to be in flux as more students are affected by the economic crisis.

## Homeless Students in MN

Quantification is improving, but has been challenging.



## Poor Outcomes Represent Human and Social Costs

- Homelessness represents a significant deterioration of family functioning and economic collapse
- Homeless children face particular challenges:
  - Poor educational outcomes
  - Poor social/emotional/behavioral outcomes
  - Poor child welfare outcomes

## Educational Outcomes

- Lower achievement (*Rafferty, Shinn, & Weitzman, 2004; Masten, Sesma, Si-Asar, Lawrence, Miliotis, & Dionne, 1997; Rubin, Erickson, San Agustin, Cleary, Allen, & Cohen, 1996; Rafferty & Rollins, 1989*)
- Poor Attendance (*Rubin et al., 1996; Zima et al., 1994; Rafferty et al., 1989*)
- Higher rates of grade retention (*Rubin et al., 1996; Rafferty et al., 2004; Buckner, Bassuk, & Weinreb, 2001; Masten et al., 1997*)
- High School mobility (*Buckner et al., 2001; Masten et al., 1993; General Accounting Office, 1994*)

## Social Outcomes

- Experience more negative life events (*Masten, Miliotis, Graham-Bermann, Ramirez, & Neemann, 1993*)
- Have lower self-worth (*Masten et al., 1993*)
- Higher rates of depressive symptoms (*Zima et al., 1994*)
- Problems with friendships (*Masten et al., 1993*)
- Increased behavior issues (*Ziesemer, Marcoux & Marwell, 1994; Masten et al., 1997, Zima et al, 1994*)

## Child Welfare Outcomes

- High rates of child welfare services (*Park, Metraux, Brodbar, & Culhane 2004; Culhane, Webb, Grim, Metraux, & Culhane, 2003*)
- High rates of out-of-home placement (*Wilder, 2007; Fantuzzo & Perlman, 2007; Masten et al., 1993*)

## Previous Research

- Often difficult to generalize results due to:
  - Samples from one region or community
  - Studies in urban areas
  - Participants recruited from shelters or welfare caseloads
  - Small sample sizes
- Perspective is often through one system “window”

### In Addition, This Population is Difficult to Study

- Those serving this population are continually challenged by:
  - **Identification**
    - Not all students experiencing homelessness come forward
  - **Crisis management nature of supports**
    - Valuable work occurs at point of crisis – is not preventative
  - **Uncertainty about the extent of the problem**
    - It feels like there are “many more out there”

### Minn-LInK

- About the project
  - Situated within the School of Social Work at the University of Minnesota
  - Has been in place since 2003
  - Is a unique research resource
    - Holds large, statewide datasets from public systems
    - Used for the purpose of creating linkages (the “bigger picture”) to study child and family outcomes in Minnesota
  - Each study uses a study-specific advisory group

### Homeless and Mobile Student Project & Minn-LInK

- Statewide data provides an opportunity, with the assistance of McKinney-Vento Districts, to examine student mobility and homelessness
  - Over time, and
  - Across multiple systems

### Project Goals

#### 1. Describing Homeless Students

Describe education and child welfare outcomes for these students (before and after becoming identified as homeless).

- Studies usually have single orientation
- Intent is to create a bigger picture that includes multiple perspectives

#### 2. Attempt to Estimate Total Homeless Student Population

Having a better sense of just how many students are affected by homelessness would:

- Help with budget projections, staffing and resource allocation, and operational/procedural changes to improve service delivery (*County perspective*).
- Help raise awareness and funding for pilot interventions or make more informed funding requests for services (*Advocate perspective*)

### 3. Attempt to Identify Predictive/Early Identification Measures

Related to creating an estimate, data

- May provide for identification of students who are already homeless but who have not been identified (school systems, county systems).
- May provide information for approaching students earlier whose family economics are in danger of deteriorating to the point of homelessness.
- May point the way to utilize resources that are already in place, *differently* and *earlier*.

### Designing the Study: State Education Data

- Education dataset contains:
  - All students enrolled in public schools in Minnesota over the course of the year (an annual longitudinal file)
  - Variables related to reporting and funding
  - Target variables
    - Note: Early Childhood population excluded

### Education Data: Began with Creating Two Groups

- Students who were not mobile
- Students who were mobile

### Began work with 2005-2006 Education Data

- McKinney-Vento Districts felt this was a good year to use because of the maturity of coding practices in districts
- Minn-LInK had this statewide data at the Center

### Identifying Mobile Students

1. Quantified the number of school changes, district changes, and residential district changes over the year, for each student.
  - Identified students who had status codes indicating movement or change such as:
    - 04 – moved outside district
    - 05 – moved outside state/country
    - 32 – left for financial reasons
    - 33 – left school for family environment reasons

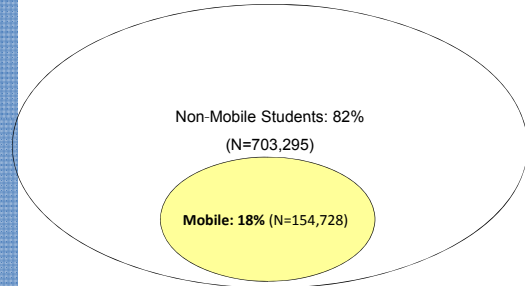
### Identifying Mobile Students

2. These data formed the basis for a mobility variable
3. If there was no clear indication of moves using these codes together, the student was considered not mobile.

## Identifying Mobile Students

4. Separated students who had experienced movement from those who did not
5. Some students experienced considerable disruptions, but we could only speculate as to whether or not they might actually be homeless.

## Resulting Mobility



## What “Mobile” Student Means

- It does NOT mean homeless
  - However, homeless students are more likely a sub-set of these students than non-Mobile students

## Help from Districts

- Three Minnesota districts assisted
  - Saint Paul
  - Minneapolis
  - Duluth
- Districts helped by providing homeless student data (H/HM) for 2005-2006. This allowed for a
  - Description of outcomes for a known/identified homeless student population, and
  - Exploration of estimation models for potentially homeless students

## McKinney-Vento Homeless Education Assistance Improvements Act (2002)

- Originally Stewart B. McKinney Homeless Assistance Act of 1987
- Intent
  - Homeless youth receive the same free, appropriate education as non-homeless youth
- Homeless defined as “lacking a fixed, regular, and adequate nighttime residence”

## McKinney-Vento Homeless Education Assistance Improvements Act (2002)

- Provisions
  - Immediate enrollment
  - Transportation
  - Supports: tutoring, parent education, etc.
  - State Coordinator’s Office

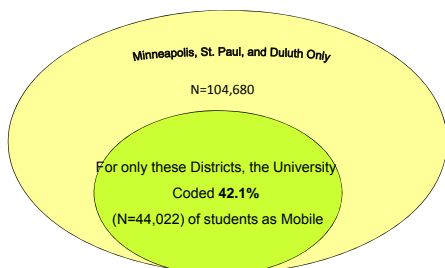
## How McKinney-Vento Districts Identify Students

- Notification from local shelters
- Information from families at enrollment
- Information gathered from students in school
- Variations:
  - Minneapolis Public Schools include highly mobile students as well as homeless students
  - Duluth and Saint Paul identify by McKinney-Vento guidelines and via referrals and knowledge of homeless status of students
  - Variation in identification practices and processes is typical

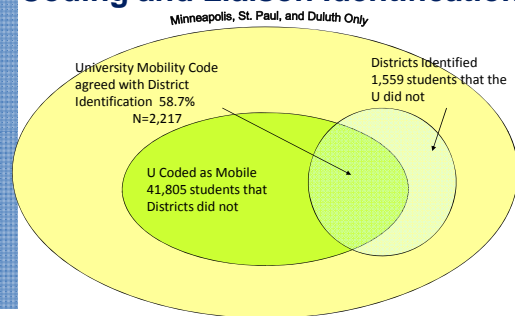
## Joining the Data

- Reduced statewide data to only these three districts (N=104,680 students).

## Three Districts Only



## Agreement Between University Coding and Liaison Identification



## Meaning of Agreement

- It may be possible to identify students who are homeless or at risk of becoming homeless by looking at some set of factors.

## Homeless (District Identified) and University Variable Alignment

- The U Mobile variable agreed with district H/HM identification (59%)
- The 1,559 students identified by the districts, but not the University represent a potential study population
  - They may represent a population for whom McKinney-Vento may have had a stabilizing effect.

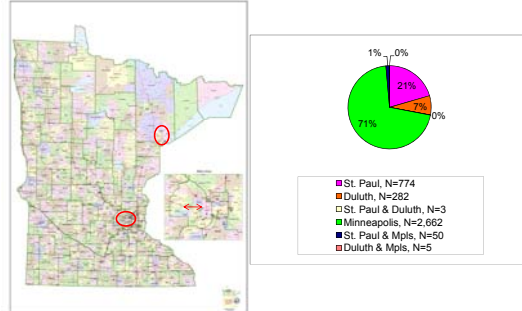
## Descriptive Information about H/HM Students

Focus is on two of the three groups formed:

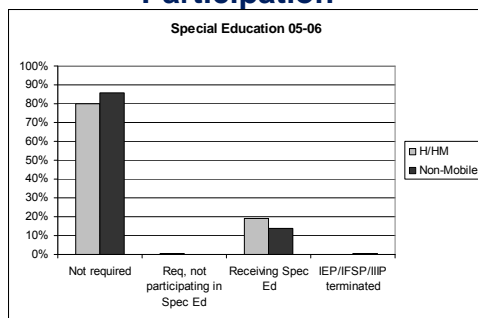
- Homeless (H/HM district identified)
- Non-Mobile
- Mobile

Homeless (H/HM) and Non-Mobile students provide the greatest contrast of mobility conditions.

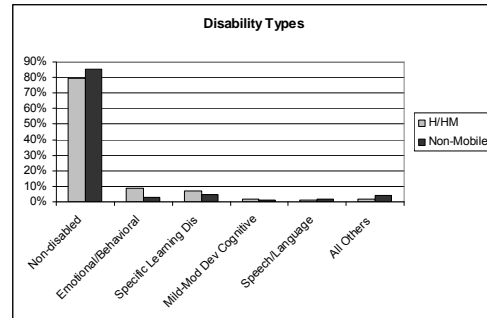
## Where H/HM Students Were Identified



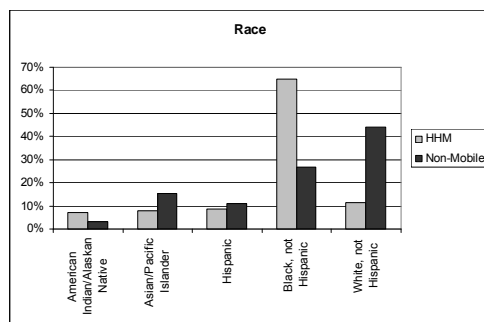
## ED- Special Education Participation



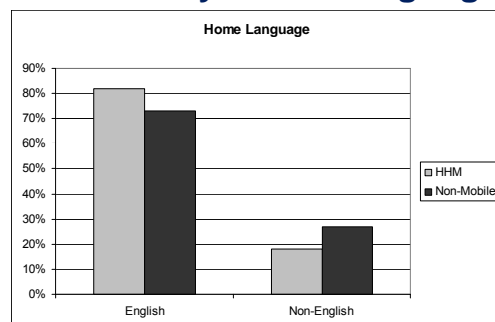
## ED – Disability Type



## ED - Race



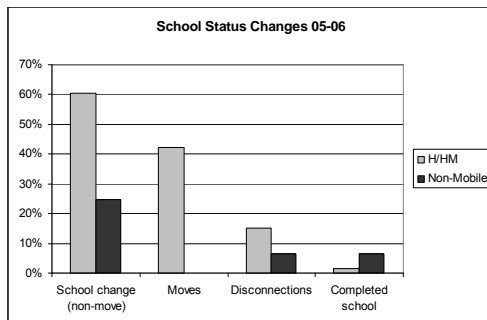
## ED – Primary Home Language



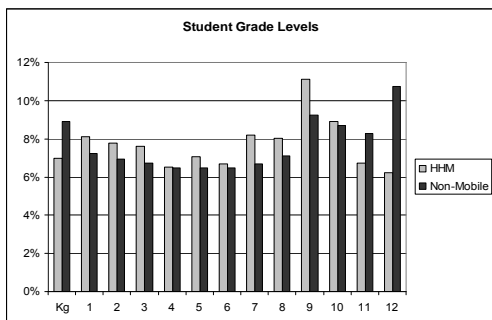
### ED- Status Changes – For All Age Groups

- School change, but no residential move:
  - Transf to pub schl, same dist
  - Tranf to approved non pub schl
  - W/drew to non approved nonpub schl
  - Tranf to another dist/state: did not move
  - Kg withdrawal - expected back
  - W/drew to homebound
- Moves\*
  - Moved out of district
  - Moved out of state or country
- Completed
  - Graduated
  - Graduated (IEP/IIP)
- Disconnections:
  - Left after reaching compuls age
  - Excused due to phys or mental disab
  - Committed to correct fac
  - W/drawn after 15 days - expected back
  - Left, marriage
  - Left, pregnancy
  - W/drew to enter care or treatmt prog
  - Left, financial reasons
  - Left, unknown
  - Left, family environment
  - Left, social reasons
  - Expelled: did not return
  - Met dist req to grad, but failed to pass test
  - Left to attend GED program
  - Dropped out, reenrolled elsewhere
  - Died

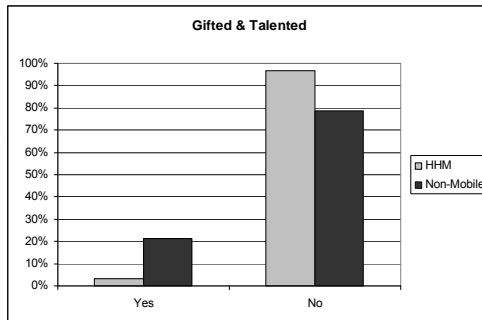
### ED - Status End Codes



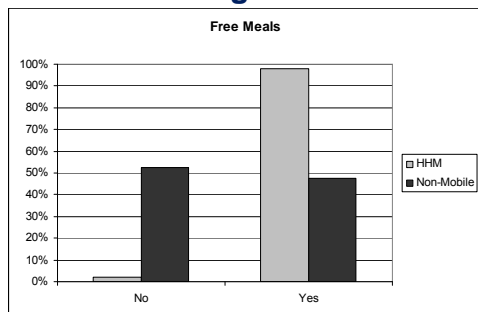
### ED -Grade Levels



### ED -Gifted & Talented



### Free Meal Eligibility\* Anytime During 05-06



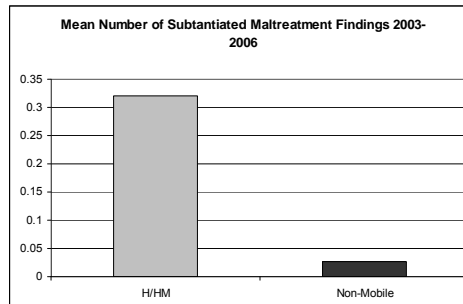
### Histories of H/HM Students

- BEFORE and
- AFTER their identification by district liaisons

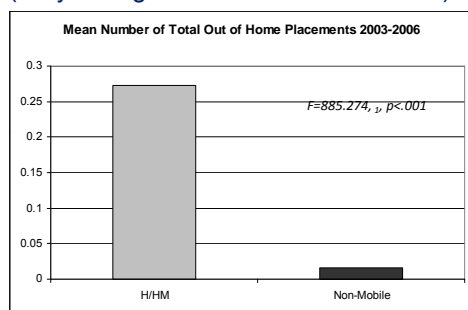
### Child Welfare Histories (Child Welfare System Data)

- Chose a sub-set of the student population
  - Young children (grades kindergarten and first)
  - Students in grades 7, 8, and 9  
*(Wulczyn, 2002)*

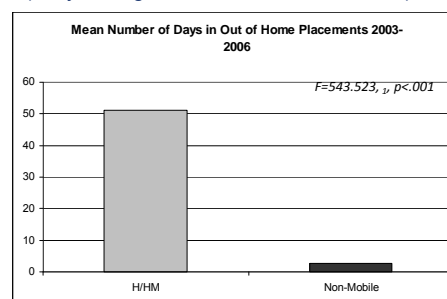
### CW - Maltreatment Findings (Only Young Children and Adolescents)



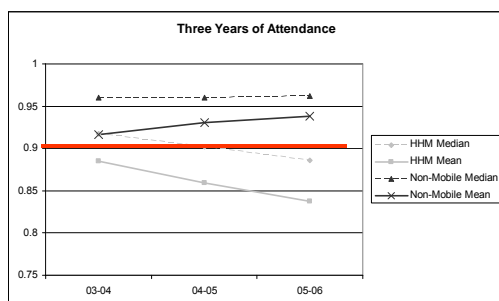
### CW - Out of Home Placements (Only Young Children and Adolescents)



### CW - Total Days in Placement 2003-2006 (Only Young Children and Adolescents)



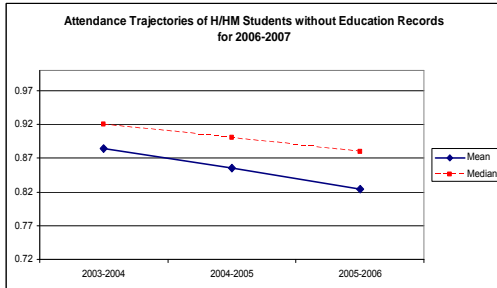
### ED -Attendance History



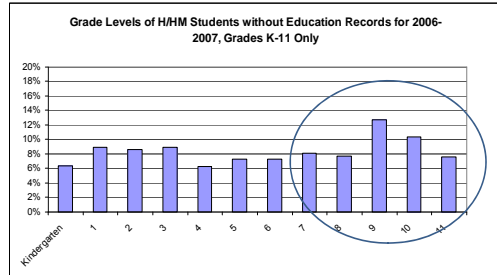
### One Year After Identification of H/HM

- A significant number of students who had been H/HM in 2006 were no longer attending public schools in Minnesota
  - 953 students were missing (only 148, or 16% of all H/HM students) were seniors the year before.
  - This left just over 800 students who had either left the state, switched to private school, or who dropped out of school.

### Missing Students and Attendance Histories



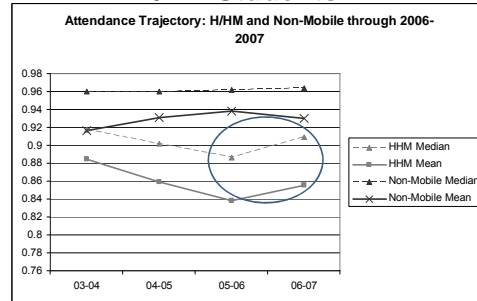
### Missing Students Were Disproportionately Likely to be Teens



### Examined Status of H/HM Students One Year Later

- 98% of H/HM Students qualified for Free Meals in 2006, 93% qualified in 2007\*.
- Only 17 children who had experienced substantiated/determined maltreatment during the historical period (2003-2006) were involved in another during 2007.
- 14 H/HM children were placed in foster care.

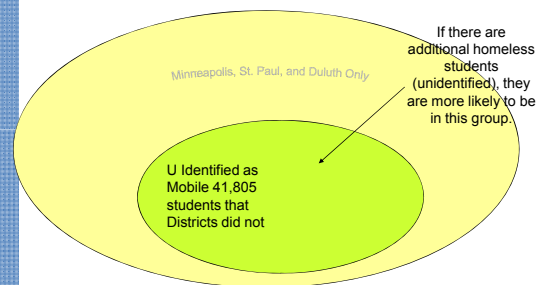
### Unexpected Observation: Attendance Generally Improved for H/HM Students



### Next Exploration Involved Estimating the Population

- Question what whether the data would be helpful in identifying students
  - who are homeless but have not (yet) come to the attention of systems?
  - whose family circumstances might be 'headed toward' homelessness?

### Where Might Unidentified H/HM Students Be?



## To Attempt to Identify Mobile Students who might be Homeless

- Explored what attributes (variables) were more common among H/HM students
- Examined which of these variables increased the likelihood of being H/HM (log odds/risk ratios)

## Risk Ratios (log odds)

Log odds, or risk ratios, tell how many times more likely an individual is to be H/HM, given particular attributes, or combinations of attributes.

Some examples of variables with this kind of influence in study data:

- Free Meals: 64.6 (flawed, because it also reflects H/HM identification practices)
- Prior year's (04-05) attendance < 90%: 1.7
- Significant values were also observed for race, residential district moves, and a variety of others.

## Models

Important: There are many different ways to build a model –two models were constructed based on study variables

$$\log(\text{odds}) = \beta_0 + \beta_1 * x_1 + \beta_2 * x_2 + \beta_3 * x_3 + \text{error}$$

$\beta_1 * x_1$  = Free Meals (*both*)

$\beta_2 * x_2$  = Race (Black/AmerInd) (*Model 1*)

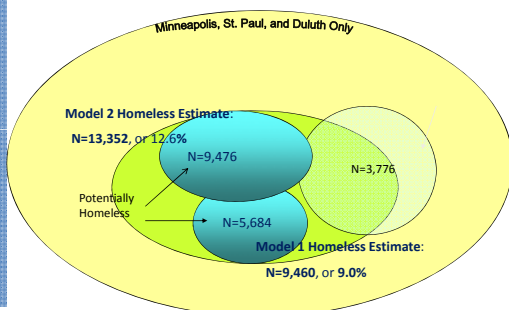
$\beta_3 * x_3$  = Prior Year's poor attendance (*both Model 1 and 2*)

## Applying Models to the Mobile Group Creates New Estimates

Re-coding the University Mobile group (N=41,805) using this model resulted in

- Model 1:** another 5,684 students identified as potentially homeless. This raises the estimated H/HM count from 3.6% of students to 9%.
- Model 2:** identifies another 9,476 students which raises the estimated H/HM count to 12.6%

## Impact of Estimate Models



## How Reasonable Are These Estimates?

- GAO report (1989) used a 2.7 population multiplier: 3,776 x 2.7 = total of 10,195 (9.7%)
- 2.8 percent** of a national sample of currently housed youth (12-17) had spent at least one night... in a non-permanent setting and in a later report, these authors revised this figure to **5%** - (Research Triangle Institute, 1993; Estimate used by Wilder for 2006 study "Overview of youth and young adult homelessness in Minnesota")
  - Results in a range of 2,931 (2.8%) – 5,234 (5%) if applied to all students

## How Reasonable Are These Estimates?

- Model/Estimate 1 is race-based.
  - Eliminating race increases Estimate (#2).
- Probably too low for 2008: current economic conditions are far worse than 2006
- Should be considered “bare minimum” estimates
  - Mobility variable is conservative because of a number of factors and misses within-district residential moves and discounts school-only moves, among others.

## Log Odds for Newer Data

- New education data is available (2007-2008) that has state Homeless/High Mobility code included
- For most recent school year it is possible to re-examine the predictive nature of attributes discovered in original study.

## Log Odds for Newer Data

- | 2007-2008  | Log Odds<br>(H/HM as dependent variable)   |
|--|--|
| <ul style="list-style-type: none"> <li>• N=6,224 students identified as H/HM</li> <li>• Of these H/HM students, it was possible to find historical education records on N=3,820 (61.4%)</li> </ul> | <ul style="list-style-type: none"> <li>• Students with at least one residential district move during the school year were 11.3 times more likely to be identified as H/HM</li> <li>• Students with one year of attendance less than 90% were 5.9 times more likely to be identified as H/HM</li> <li>• Students with both attributes (moves + &lt; 90% attendance) were 14.7 times more likely to be identified as H/HM</li> </ul> |

## What Are the Implications?

1. Districts and schools may use their student data differently to target interventions or make resources available earlier to some students.
  - This would require jurisdictions “testing” an identification scheme to approach students using current practice
    - *“Worst” thing that might happen is a non-homeless student with other problems interfering with attendance might be helped.*
    - The challenge is resources.
  - Cross-system data would allow for even better identification of vulnerable students (e.g. child protection data)

## What Are the Implications?

2. It may be possible to estimate this population with more precision than is current practice.
  - Utility when requesting grant funds:
 

*“Program X currently meets the needs of approximately X% of all estimated homeless students. With \$X funding, Program X could increase this proportion to X%”*
3. With a more closely monitored (estimated) population, intervention effects can be more successfully tracked.
  - Broad evaluations of McKinney-Vento policy may be possible
  - Interactions of McKinney-Vento policy with other federal, state, or local practices can be measured

## For More Information

- Please visit our web site for more information about Minn-LInk or the CASCW:
  - CASCW: <http://cehd.umn.edu/SSW/cascw/>
  - Minn-LInk: <http://cehd.umn.edu/SSW/cascw/research/minnlink/default.asp>