



## **Comparing Health Estimates in the PSID and NHIS, 2001-2015**

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### **INTRODUCTION**

The Panel Study of Income Dynamics is a unique resource for studying the influence of early and adult life circumstances on health and mortality in later life (McGonagle et al. 2012). Since the late 1990s, the study has included questions about health status, health conditions, health behaviors, health insurance, and health care expenditures. Retrospective questions about childhood health have been asked since 2007.

The objective of this brief report is to provide a comparison over 15 years between the health status and health condition data that have been collected in the PSID with estimates from the most widely used nationally representative health survey, the National Health Interview Survey (NHIS). We begin by briefly summarizing the health information that has been collected throughout the history of the PSID. The subsequent section describes the health measures to be compared between the two surveys. The estimates for each survey are then presented. In general, despite differences in the designs of the two surveys, the health-related measures align well over time.

### **OVERVIEW OF HEALTH DATA IN THE PSID**

Table 1 summarizes health-related questions currently in the PSID and the year first collected. Since 1968, the PSID has collected work and activity limitations, health insurance coverage, and tobacco and alcohol use. During the late 1970s and 1980s content was expanded to include questions on workers compensation, hospital and nursing care, disability insurance, general health status, and physical activity.

In the early 1990s, activities of daily living (ADLs) and instrumental activities of daily living (IADLs) were added (1992-1996). In 1999, the health module was expanded significantly to include a standard series of questions on health conditions and expenditures and restore ADLs and IADLs, repeated through 2015.

Health expenditure items include out-of-pocket payments for: health insurance premiums; nursing home and hospital bills; doctor, outpatient surgery, and dental bills; prescriptions; in-home medical care; and special facilities. Bracket techniques are used to reduce item non-response.

Retrospective measures of childhood health conditions were added in 2007 (and are asked in subsequent waves of all new household heads and spouses/partners) and medication use was added in 2011. Although not discussed here, PSID also has regularly linked to the National

Death Index and Medicare, which are available to users under restricted data use agreements.

## **THE PSID AND NHIS SURVEYS**

The PSID is a nationally representative panel study that began in 1968. Families were interviewed annually until 1997 and biennially thereafter. A sample of immigrants was added in 1997 (and again in 2017) to make the sample representative of families who arrived in the US after the PSID began in 1968. When children of PSID families become economically independent adults they become eligible for participation. In single-headed households, health questions are asked about the head; in couple-headed households information is gathered about both spouses/partners. One individual per family unit is interviewed, typically by telephone. The sample currently includes approximately 9,000 families consisting of about 25,000 individuals. The sample is weighted to represent the national adult population in a given year.

The NHIS consists of a nationally representative cross-sectional sample of the civilian noninstitutionalized population in each year. Health information is collected in person for a fresh sample of approximately 100,000 individuals each year. The survey collects basic health and demographic information for all household members in its Family Core component. All adult members of the household 17 years of age and over who are at home at the time of the interview are invited to participate and to respond for themselves for the Family Core. For adults not at home during the interview, information is provided by a proxy adult family member residing in the household. More detailed health information is collected for one sample adult aged 18 or older (and, although not used here, also for one sample child aged 0-17) per family. For the Sample Adult questionnaire, generally this individual must self-report responses. All statistics are weighted to represent the adult population in a given year.

## **COMPARISON OF QUESTION WORDING**

In this brief technical paper, we compare 11 health measures collected from 2001-2015: body mass index, work limitation, 30-day emotional distress, six chronic conditions (stroke, hypertension, diabetes, cancer, myocardial infarction, and asthma), self-rated general health (excellent, very good, good, fair, and poor), and smoking status (current smoker, ever smoked).

Table 2 reports the question wording for these items in the two surveys. The questions are similar across the two surveys for most measures. A few differences are noteworthy:

- NHIS asks respondents their height and weight “without their shoes.”
- NHIS has a threshold of 100 cigarettes in order for someone to be considered having ever smoked; PSID does not. Also, PSID asks whether the individual smokes now; NHIS asks people how often they smoke cigarettes and provides the answer category “not at all.”

- NHIS’s question on work limitation includes “emotional problems” as a cause while PSID includes a “nervous condition.”
- For chronic conditions, NHIS asks whether “a doctor or other health professional” ever told the individual they had the condition; PSID leaves out “other health professional”. Note that for PSID the question about cancer included an exception (“excluding skin cancer”) in 2001-2003 that was dropped in 2005.

## COMPARISON OF ESTIMATES

Figure 1 shows estimates of obesity from 2001-2015. The NHIS estimates are consistently a percentage point higher than the PSID estimates, but the two lines track closely over the 15-year period.

Smoking status is shown in Figure 2. The percentage currently smoking is nearly identical in the two surveys and has declined modestly over time. The percentage ever smoked is consistently higher in PSID.

The share who is work limited is consistently higher in the PSID across all eight waves (Figure 3). PSID estimates fluctuate from 18%-20% whereas the NHIS estimates are 11%-12%.

The prevalence estimates for the various chronic conditions align fairly closely (see Figures 4a-4c). Hypertension, diabetes and stroke prevalence appears to be modestly higher in the PSID but changes over time in similar ways in both studies.

The largest discrepancies between the two studies are reflected in general health status. As shown in Figure 5, PSID has a lower percentage of people reporting themselves in excellent health relative to NHIS and the percentage declines more for PSID than NHIS over the period (from 22% to 15% in PSID vs. 31% to 29% in NHIS). The percentage reporting excellent or very good health is also lower in PSID and falls more over the period than in NHIS (see Figure 6).

## CONCLUSIONS

We conclude that despite differences in the designs of the two surveys, the health-related measures in PSID align well with NHIS, particularly over time. The most substantial differences between the two studies are in how individuals rate overall health. The percentages in excellent or very good health were lower and fell more over the 2001-2015 period in the PSID than in NHIS. The PSID-based prevalence of work limitation was also higher than in NHIS but followed a similar trend and PSID estimates of shifts in obesity, smoking, diabetes, hypertension, and stroke survival all mirror national trends.

## REFERENCES

McGonagle KA, Schoeni RF, Sastry N, Freedman VA. 2012. The Panel Study of Income Dynamics: Overview, Recent Innovations, and Potential for Life Course Research. *Longit Life Course Stud.* 3(2). pii: 188.

**Table 1. Overview of Health Content in the PSID**

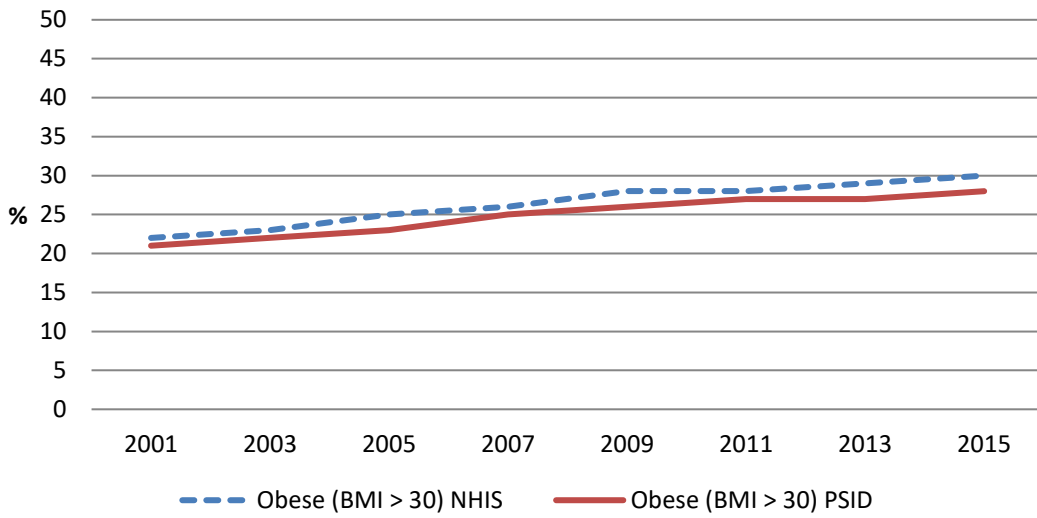
<b>Health Content (Section H)</b>	<b>Year<sup>1</sup></b>
Work & activity limitations	1968
Health insurance	1968
Smoking & Alcohol	1968
Workers' compensation	1977
Hospital & nursing care	1981
Social security disability insurance	1984
General health status	1984
Physical activity	1986
Height & weight	1986
Activities of daily living (ADLs)	1992
Instrumental ADLs	1992
Health conditions	1999
Health expenditures	1999
General health status in childhood	1999
Health conditions in childhood	2007
Medication use	2011
Informant dementia screen	2017
<b>Health-related Linkages</b>	<b>Year<sup>2</sup></b>
National Death Index	1979
Medicare claims	1991

<sup>1</sup>Year first collected; <sup>2</sup>Year first available.

Table 2. Comparison of Question Wording in the PSID and NHIS for Select Health Measures

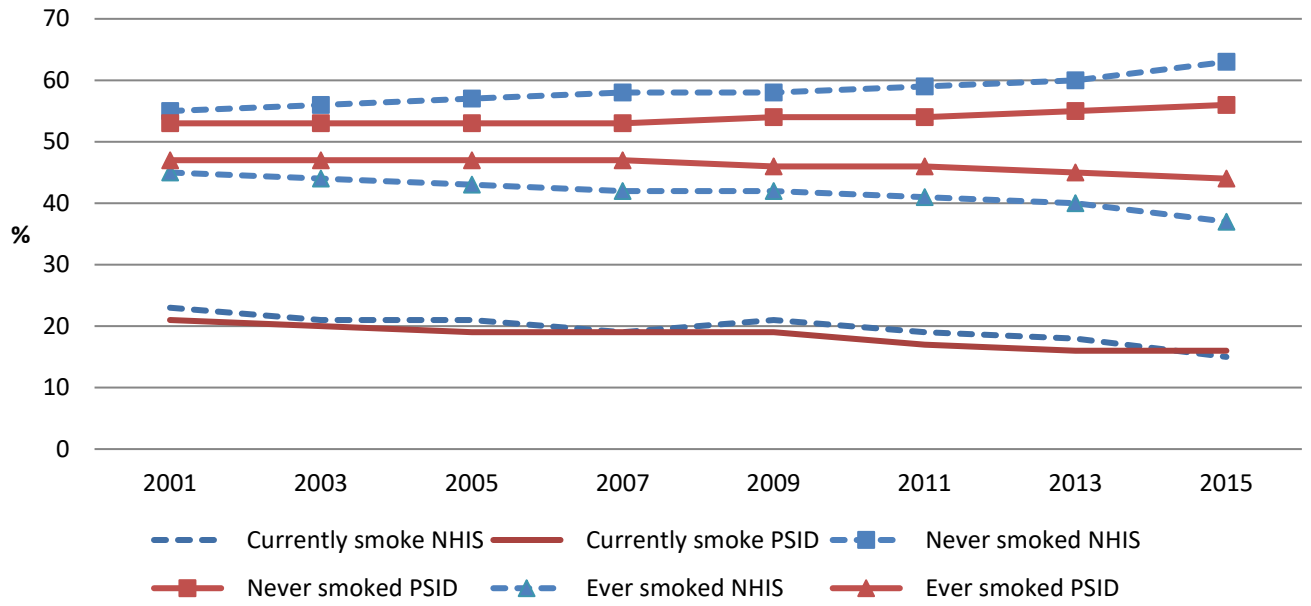
Item	PSID	NHIS
Height	How tall [are you/is he/is she]?	How tall are you without shoes?
Weight	About how much [do you/does he/does she] weight?	How much do you weight without shoes?
Smoking	Did [you/he/she] ever smoke cigarettes?	Have you smoked at least 100 cigarettes in your ENTIRE LIFE?
	[Do you/Does he/she] smoke cigarettes?	Do you NOW smoke cigarettes every day, some days or not at all?
Health limits work	[Do you/Does he/Does she] have any physical or nervous condition that limits the type of work or the amount of work [you/he/she] can do?	(Other than the persons mentioned, are/Are) any of these family members limited in the kind OR amount of work {you/they} can do because of a physical, mental or emotional problem?
Conditions	Has a doctor ever told [you/him/her] that [you have/he has/she has] or had any of the following...	Have you EVER been told by a doctor or other health professional that you had/have...
	A stroke?	A stroke?
	High blood pressure or hypertension?	Hypertension, also called high blood pressure?
	Diabetes or high blood sugar?	Diabetes or sugar diabetes?
	Cancer or a malignant tumor?	Cancer or a malignancy of any kind?
	A heart attack?	A heart attack (also called myocardial infarction)?
Self-rated general health	Asthma?	Asthma?
	Would you say [your/his/her] health in general is excellent, very good, good, fair, or poor?	Would you say {subject's name} health in general is excellent, very good, good, fair, or poor?

**Figure 1. Percentage of Adults with BMI>30, 2001-2015, PSID and NHIS**

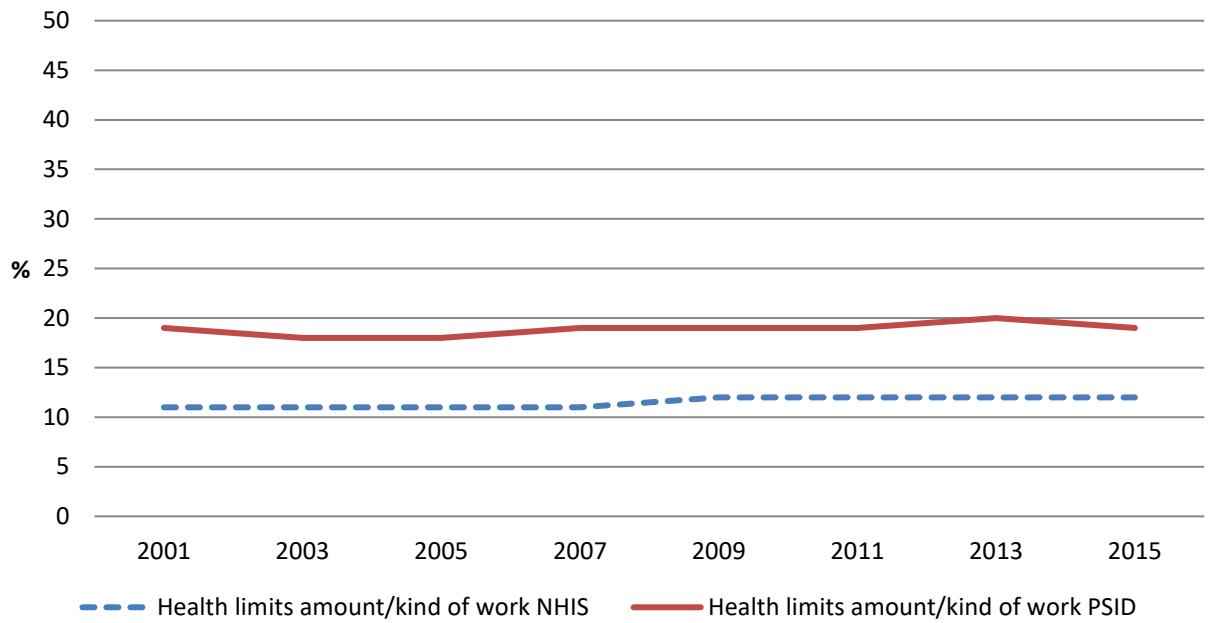




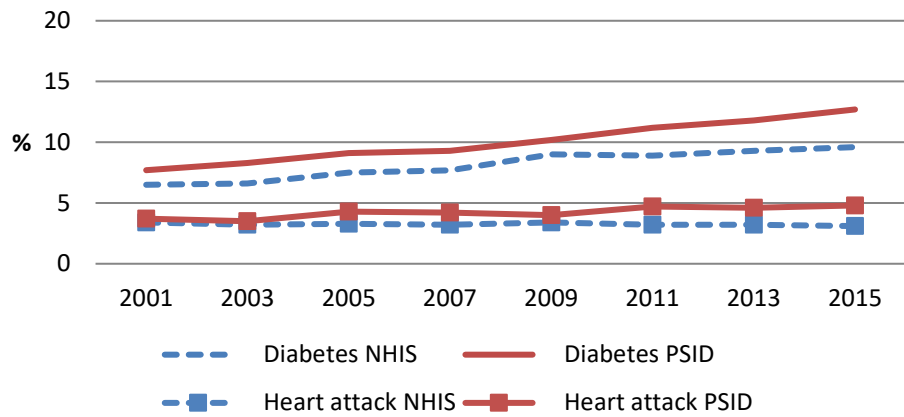
**Figure 2. Smoking Status of Adults, 2001-2015, PSID and NHIS**



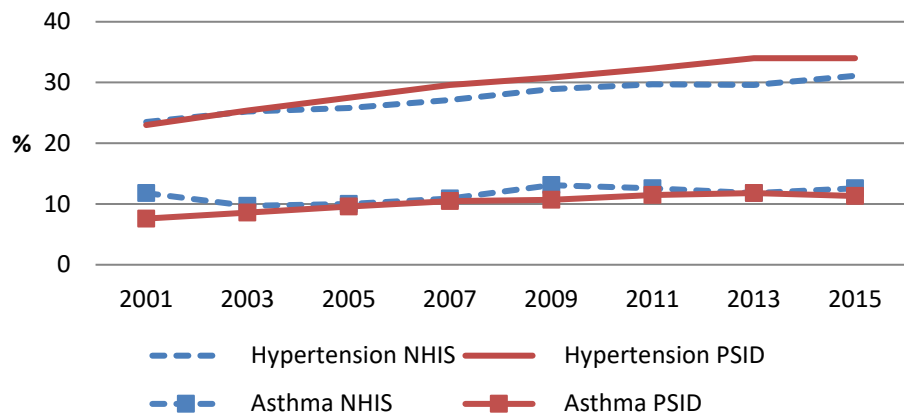
**Figure 3. Work limitation, 2001-2015, PSID and NHIS**



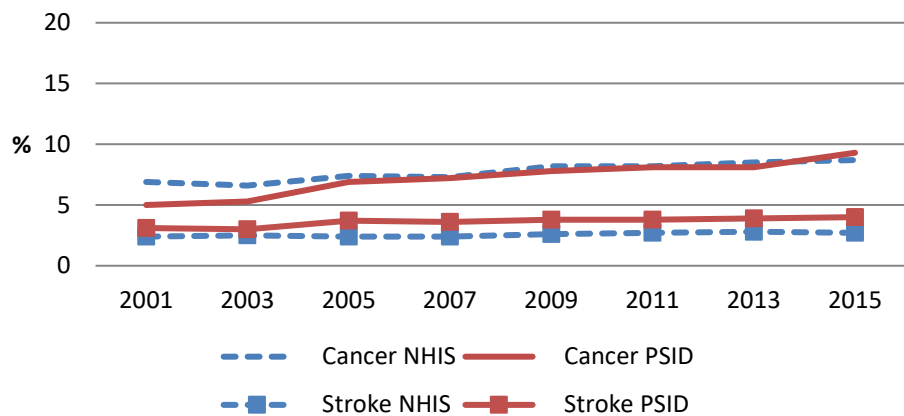
**Figure 4a. Self-reported Diabetes and Heart Attack, 2001-2015, PSID and NHIS**



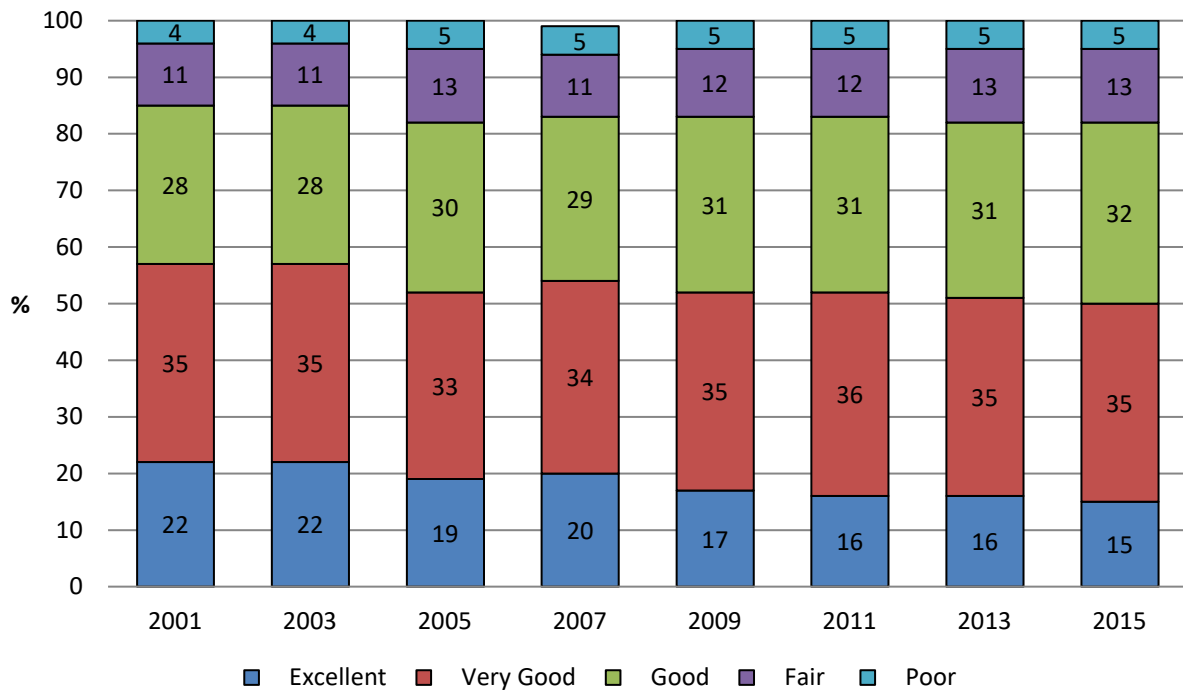
**Figure 4b. Self-reported Hypertension and Asthma, 2001-2015, PSID and NHIS**



**Figure 4c. Self-reported Cancer and Stroke, 2001-2015, PSID and NHIS**



**Figure 5a. General Health Status, 2001-2015, PSID**



**Figure 5b. General Health Status, 2001-2015, NHIS**



**Figure 6. General Health Status, 2001-2015 PSID and NHIS**

