IHIS: Facilitating use and analysis of NHIS data, 1969-present

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Outline

- Overview
- Background to IHIS
- IHIS Collaborators
- Key components to integration project
 - □ Harmonization
 - Documentation
 - Dissemination
- IHIS data releases





Overview

- The Integrated Health Interview Series (IHIS) is a five-year NICHD-funded collaboration at U of MN
 - ☐ School of Public Health
 - Minnesota Population Center
- Harmonize, document, and disseminate publicly-available data from NHIS for the period from 1969 to the present





Utilization of NHIS Data

- Empirical studies published 1978 2003 (n = 999)
 - Search "National Health Interview Survey"
- Random sample of 100 studies using NHIS
- Reviewed studies and tabulated the data files used
 - □ 70% used a single year of data
 - □ < 25% used data from before 1986
 - No studies used data from all available years





Challenges to NHIS Data Use

- Complexity discourages use of multiple years of data
- Multiple codebooks and files
 - Variable locations, coding schemes, and response categories may change over time
- Critical challenges include:
 - Managing a large number of distinct files
 - Making key documentation easily accessible for each survey year
 - □ Harmonizing various file structures, sample weighting schemes, and variables





IHIS Inventory (unintegrated)

- Current emphasis is 1969 2006
 - □ Data files: >400
 - Range = 5 to 16 files per year
 - Levels: household, family, person, episodes
 - □ Variables: ~34,000 unique variable names
 - □ Household records: ~1.5 million
 - □ Person records: ~4 million
 - □ Lines of data: ~ 20 million
 - Documentation pages: Too many to count...
 - In 2000, for example, there are over 3,000 pages of documentation describing 2,451 unique variables





Integrating the NHIS

- IHIS builds on model of the Integrated Public Use Microdata Series (IPUMS)
 - □ see www.ipums.org
- IPUMS spurred new research using harmonized microdata of U.S. census from 1850-2000
- IHIS enhances the value of NHIS data and promotes new research
 - Access to harmonized data and comprehensive documentation from entire period
 - Consistent comparisons across 40 years of dramatic change in public health





IHIS Components

- Harmonization
- Documentation
- Dissemination
 - □ http://www.ihis.us



Harmonization: Translation Table

	А	В	С	F	S	AH
1	code	label	syntax	ih1969	ik1982	іь 1997
2	rectype	MARSTAT		P	Р	P
3		Legal marital status		60	88	78
4	norecode			0	0	0
5	hide					
6	ргој1			P60	P48	P40
7	ргој2					
8	ргој3					
9	<tt></tt>					
10	Ū	NIU	NIU		0=Under 14 years	B≕Under 14 years
11	0			0=Under 17 years		
12		Married	Married	1=Married		
		Married - Spouse	Married - Spouse		1=Married - Spouse in	1≠Married, Spouse in
13			present		household	household
l			Married - Spouse not in		2=Married - Spouse not in	2#Matried, Spouse not in
14		household	household		household	hausehold
			Married - Spouse in			3=Married; Spouse in
15	.4	nousehold unknown	household unknown		***************************************	hausehold unknown
16				2#Widowed	3#VVidowad	4#9Widewed
17		Divorced	Divorced	4=Divorced	4=Divorced	5=Divotced
18		Separated		5=Separated	5=Separated	6=Separated
19		Never married	Never married	3=Never married	6=Never married	7=Never married
20		Unknown mantal status	Unknown marital status		7=Unknown	9≕Unknown mantel status
21						
22	<univ></univ>	1000 1001	5 47			
23		1969-1981	Persons age 17+.			
24		1982-2003	Persons age 14+.			
25						
26	<notes></notes>					
27	Comments					





Data Dissemination



V DATA

Data Options
Create an Extract
Download/Revise Extracts
Register as a New User
Data Release Schedule
Get Other NHIS Data

▼ DOCUMENTATION

Variables
User Notes
Links to NCHS

▼ CONTACT US

Feedback IHIS Staff Advisory Board Citation

Welcome

The Integrated Health Interview Series (IHIS) is a harmonized set of data and documentation based on material originally included in the public use files of the U.S. National Health Interview Survey (NHIS) and distributed for free over the internet.

IHIS currently consists of more than 800 integrated variables selected from more than 2000 variables included in the core survey household and person files for 1969-2005, the sample adult/sample child files for 1997-2005, and the Access to Care supplements for 1993-96.

As a user note explains, researchers can now easily link IHIS data to data from the original public use files of the NHIS. This allows researchers to incorporate NHIS variables and supplements that are not yet part of IHIS into their research.

NHIS is the principal source of information on the health of the U.S. population, covering such topics as general health status, the distribution of acute and chronic illness, functional limitation, access to and use of medical services, and insurance coverage. The IHIS facilitates cross-time comparisons of these invaluable survey data by coding variables identically across time. With IHIS microdata (information about individual persons and households), researchers can use their desired set of variables to create tabulations and multivariate analyses tailored to their particular research questions. The IHIS provides detailed documentation covering comparability issues and applies codes and frequencies for each harmonized variable. IHIS data



Variable Availability



HOME | DATA | DOCUMENTATION | VARIABLES | CONTACT

Variable Availability

ABCDEFGHIJKLMNOPQRSTUVWY

HOUSEHOLD RECORD

:Technical Household Variables Geography Variables Housing Characteristics Variables DCP Programming Variables

PERSON RECORD

Demographic Variables

Core Demographic Family Interrelationships

Ethnicity/Nativity

<u>Language</u>

Veteran Status

Socio-Economic Status Variables

Education Work

Income

General Health Variables General Health

Medical Care/Access Variables

Medical Care

Alternative Health Medical Care Access

Child Special Needs

<u>Insurance</u> Shots:

Conditions Variables

Condition

<u>Arthritis</u> <u>Asthma</u>

Asthma Symptoms

Cancer



Medical Care Variables (P) [top]



Variable Availability in IHIS

Variable Name	Variable Label	Codes	05	04	03	02	01	00	99	98	97 9	96 9	95 9	14 9	3 9	29	1 90	0 89	88	87	86	85	84	83	82	81 E	30	79	78	77 7	6 7	5 7	4 73	3 72	2 71	. 70
BDDAY2WK	Bed disability days in past 2 weeks	<u>codes</u>										X	×	х	× :	x x	×	×	×	х	Х	×	Х	х	×	×	x	×	X	× :	x >	< >	×	×	×	×
BEDAYR	Bod disability days, past 12 months	<u>codes</u>	×	Х	Х	Х	×	х	×	×	×	x	×	x	× :	××	×	×	×	×	Х	×	Х	х	×	·	J		J			Ι.				
BEDAYR2	Bed disability days in past 12 months, intervalled	<u>codes</u>	×	Х	Х	×	×	×	×	×	×	×	×	x	× :	××	×	×	×	х	Х	х	х	×	×	×	x	×	×	× :	×	Τ.				
<u>SMI</u>	Body mass index	<u>codes</u>	Χ	Х	Х	Х	Х	Х	Х	Х	Х	ΠŢ	. [.		Τ.	Τ.	T.						T.	T.	ΠŢ	T.	ΠŢ	. [Π.	Τ.	Ţ.	T	Ţ.
BMICALC	Body Mass Index, calculated from publicly released height and weight variables	<u>codes</u>	×	×	×	×	×	×	x	×	x	×	×	×	x :	× ×	×	×	×	×	×	×	×	×	×	×	×	×	×	× :	×	I				
<u>3WGTGRAM</u>	Birth weight, in grams	codes	Х	Х	Х	Х	Х	Х	Х	Х	٠Ĺ	ΔĹ	ΑÌ.	ιİ.	ЛÌ.		1.	1.	1.					. i	υĹ	ΔĹ	ΑĹ	υĹ	٠Ĺ	ΑĹ.	<u>. i</u>	Щ.	1.	Ĺ.	1	1.
<u>BWGTLB</u>	Birth weight, in pounds	codes	Х	Х	Х	Х	Х	Х	Х	Х	Х	ΑĪ	. [. [. [I.	Ι.	1.			.]	.]	.]	. I	. [٠Ī	. [٠Ī	. [I.	1.	Ι.		
<u>swgtoz</u>	Birth weight, ounces only	codes	Х	Х	Х	Х	Х	Х	Х	Х	Х	ΑĪ	, L					Ι.	I.						. [. [ΑĬ	. [٠Ī	. [Œ.	١.	١.	1.	1.
<u>DESIREWGT</u>	Desirable body weight	codes			Х	Х	Х	Х	Х	Х	Х	ΑĹ	. L					1.	Ĺ.						. [. [ΑĹ	. [Αİ	. [ι.	١.	1.	1.	
<u>HEALTH</u>	Health status	codes	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	X :	Χİ	X :	ΧİΧ	X	×Ξ	X	Х	Х	Х	Х	Х	Х	Х	X	Х	X	X ::	X D	$\langle \cdot \rangle$	X	X		
HEIGHT	Height in inches without shoes	<u>codes</u>	×	Х	Х	×	×	×	×	×	х	×	×	X	× :	x x	×	×	×	х	Х	×	х	×	×	×	x	×	×	× :	×					
HEIGHTM	Height in meters	codes										. I			.											. [. [. [X		Ξ.	١.			1.
<u>ISTATYR</u>	Health status compared to 1 year ago	<u>codes</u>	×	Х	Х	Х	×	х	×	×	×	\mathbb{I}	. [.]												J	J		H	\cdot		I				
RADAY2WK	Other restricted activity days in past 2 weeks	coues										×	× :	x	× :	××	×	×	×	×	х	×	х	×	×	×	x	×	x	× :	x :	< >	×	×	X	×
RADAY2WKRSID	Other restricted activity days in past 2 weeks - Residual Measure	<u>codes</u>										×	× :	×	x :	× ×	×	×	×	×	×	×	х	х	x							. >	×	×	×	×
RADAY2WKTOT	Total restricted activity days in past 2 weeks	codes										X	×	X	× :	××	×	×	×	х	Х	×	Х	×	×	×	x	×	X	× :	x :	⟨ .				
SLDAY2WK	School loss days in past two weeks	<u>codes</u>										X	×	х	× :	x x	×	×	×	х	Х	×	Х	х	×	×	x	×	X	× :	x >	< >	×	×	×	×
SLDAYR	School loss days, past 12 months	<u>codes</u>	×	х	Х	х	×	×	×	×	×			.							·						. [I.				
<u>WEIGHT</u>	Weight in pounds without clothes or shoes	<u>codes</u>	×	х	х	×	×	×	×	×	×	×	× :	x	× :	××	×	×	×	×	Х	×	х	×	×	×	x	×	×	× :	ĸ					
<u>VEIGHTK</u>	Weight in kilograms	codes							.]			ΑĪ	, L					Ι.	I.						. [. [Αİ	. [٠Ī	Х		Œ.	١.	١.	1.	1.
<u>VLDAY2WK</u>	Work loss days in past 2 weeks	<u>codes</u>										X	×	X	x :	x x	×	×	×	х	Х	х	Х	х	х	×	X	×	X	× :	x >	< >	×	×	×	Х
<u>WLDAYR</u>	Work loss days, past 12 months	<u>codes</u>	Х	Х	Х	Х	Х	Х	Х	Х	X	J	T				T.	Ι.														T.		[.		





Variable Description & Comparability



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Variable Description

BEDAYR2

Bed disability days in past 12 months, intervalled

Availability

1976-2005

Universe

1976-1996: All persons 1997-2005: Sample adults age 18+.

Codes

Description

BEDAYR2 reports, in broad intervals, the number of days during the preceding 12 months that illness or injury kept the person in bed for more than half the day, including days while hospitalized.

Comparability — General

For 1976-1981 versus 1982-2003, there were subtle differences in the initial question used to elicit the information for BEDAYR2. For the earlier period, interviewers asked, "During the past 12 months (that is, since (date) a year ago), ABOUT how many days did illness or injury keep [person] in bed all or most of the day? (Include the days in the past 2 weeks.) (Include the days while a patient in a hospital.)" For the later period, interviewers asked, "During the past 12 months, (that is, since 12-month date a year ago), ABOUT how many days did illness or injury keep [person] in bed more than half of the day? (Include days while an overnight patient in a hospital.)" Comparability may be slightly compromised by the specification of "all or most of the day" versus "more than half the day" and "while a patient in a hospital" versus "while an overnight patient in a hospital."

For 1976-1981, follow-up questions encouraged respondents to supply answers falling into broad intervals. Specifically, interviewers asked, "Was it more than 7 days or less than 7 days? Was it more than 30 days or less than 30 days? Was it more than half the year or less than half the year?" The values for BEDAYR2--None, 1-7 days, 8-30 days, 31-180 days, 181-365--mirror the intervals mentioned in these follow-up questions. Beginning in 1982, the follow-up questions were dropped, and respondents had to supply a single number falling between 0 and 365 (for 1982-1996) or 0 and 366 (for 1997 forward). To facilitate comparisons over time, BEDAYR2 recodes the more detailed responses for 1982 forward into the broad intervals that are the only information available in the public use files for 1976-1981. Researchers who are only interested in data from 1982 or later may wish to analyze the non-intervalled data on bed days during the preceding 12 months, included in BEDAYR.

There was a significant change in the variable universe, with all persons included up through 1996 and only sample adults included for 1997 forward. Researchers may wish to restrict the data for BEDAYR2 to persons age 18 and older when comparing results before and after 1997.





Variable Codes and Frequencies



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BEDAYR2

Bed disability days in past 12 months, intervalled

For more information about BEDAYB2, see the variable description

An 'X' indicates the category is available for that sample.

Case-Count View

	Code	1	05	04	03	02	01	. 00	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	
NIU	0		X	x	X	X	X	X	X	X	X		•	•	•	•	•	•					•	•	•	•	•	•		•		•	NIU
None	1		X	x	X	X	X	X	X	X	X	X	X	X	X	x	x	X	x	X	x	X	X	X	X	X	X	X	X	X	X	X	None
1-7 days	2		x	x	x	X	X	X	X	X	X	X	X	X	x	x	x	x	x	X	x	X	X	X	x	X	x	X	X	X	X	X	1-7 days
8-30 days	3		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	x	X	x	X	X	X	х	X	X	X	X	X	X	X	8-30 days
31-180 days	4		x	x	x	x	x	x	X	x	x	×	x	X	х	x	x	x	x	x	x	x	x	х	х	х	x	x	х	x	×	X	31-180 days
181-365 days	5		X	x	X	X	X	X	X	X	X	X	X	X	X	x	x	X	x	X	x	X	X	X	X	X	X	X	X	X	X	X	181-365 days
Unknown	9		x	х	х	x	X	x	x	х	x	X	x	x	х	x	х	х	х	x	х	x	x	х	х	х	х	x	х	х	X	х	Unknown

Category Availability View																						
	Code	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985
NIU	0	67221	63134	61296	62342	67434	68244	66258	66345	67361	•		•			•			•			
None	1	20008	19729	19811	19799	20538	20057	19223	19795	21397	35920	57811	63730	59284	70743	66439	66227	63753	67380	67690	33586	50453
1-7 days	2	8488	8607	7974	8365	9383	9103	8757	9370	11012	20817	33893	39757	38278	43697	40557	40273	39827	40950	40904	20904	30048
8-30 days	3	1652	1655	1617	1501	1838	1872	1649	1882	2153	4084	6774	8285	8335	9447	8870	8983	9221	9574	9923	5372	7782
31-180 days	4	603	637	651	609	678	629	549	722	817	1243	1910	2453	2311	2658	2439	2462	2474	2537	2651	1376	2041
181-365 days	5	162	115	175	164	176	153	119	170	207	316	601	668	579	745	669	648	602	646	637	318	490
Unknown	9	515	583	624	606	713	560	504	501	530	1022	1478	1286	884	1122	1058	1038	1052	1223	1054	496	717





Variable Codes (Composite Coding)



RACEA

Main Racial Background (Pre-1997 Revised OMB Standards), self-reported or interviewer reported

For more information about RACEA, see the variable description

An 'X' indicates the category is available for that sample.

Case-Count View																																						
	Code	05	5 04	4 03	02	01	00	99	98 9	97	96	95 9	94	93	92	91	90	89	88	87	86	85 (34	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
White	100	X	X	×	X	х	х	х	х	x	х	x	x	x	х	х	х	х	X	х	x	х	x	х	X	х	х	х	x	х	x	x	х	х	х	x	х	x
Black/African-American		x	X	×	X	X	X	x	x	x	x	x	x	x	x	x	x	X	x	X	x	X	X	X	x	x	x	X	x	x	X	x	x	x	x	x	x	X
Aleut, Alaskan Native, or American Indian									X	x				•		×	×	X	×	X	X	×	×	×	×	×	z	X										
Alaskan Native or American Indian		х	×	×	¥	×	×	×																					¥		٠							
Alaskan Native/Eskimo	10.00											×	¥	X	×															٠		٠	٠	٠	٠	٠	٠	
Aleut												X	X	X	×															٠		•	٠	٠	٠	٠	٠	•
American Indian		00000									X	X	×	X	X	888										888			***	٠	٠	٠	٠	٠	٠	٠	٠	٠
Asian or Pacific Islander	400		٠	٠		٠	٠	٠		٠	٠	٠		٠	٠	X	X	X	X	X	X	X	X	X	X	X	X	X	X	٠	•		٠	٠	٠	٠	٠	٠
Asian	410																٠	٠																			٠	٠
Chinese	411	×	X	×	X	X	X	X	X	X	X	X	X	X	X																							
Filipino	44.2	x	X	×	X	X	X	X	X	X	X	X	X	X	x																							
Korean	443											X	x	X	x																							
Vietnamese	414											x	x	x	x																							
Japanese	015											x	x	x	x																							
Asian Indian	516	x	x	×	X	x	x	x	x	x		x	x	x	x																							
Pacific Islander	420																																					
Hawaiian	423											x	x	x	x																							
Samoan	422											X	x	X	x																							
Guamian	423											x	x	x	x																							
Other Asian or Pacific	430																																					





Data Extract Preferences

ihis INTEGRATE	D HEALTH SERIES HO	OME DATA DOCUM	ENTATION VARIABLES	CONTACT	w	
			Sample Sele	ection		
			Continue to Variabl	e Selection		
	Extract File Type					
	© Rectangular					
	Command Files Forn	nat				
	C SAS C SPSS • Stata					
	Samples					
	□ 1969	1970 1971 1972 1973 1974 1975 1976 1977 1978	1980 1981 1982 1983 1984 1985 1986 1986 1987 1988	1990 1991 1992 1993 1994 1995 1996 1997 1998 1999	2000 2001 2002 2003 2004 2005	
		☐ All 1970-1979	☐ All 1980-1989	□ All 1990-1999	☐ All 2000-2005	





Data Extract Variable Selection

Variable Name	Variable Label	05	00	95	90	85	80	75	7
BDDAY2WK	Bed disability days in past 2 weeks			X	Х	X	X	X	>
BEDAYR	Bed disability days, past 12 months	×	×	X	Х	×			
BEDAYR2	Bed disability days in past 12 months, intervalled	×	×	×	Х	×	X		
<u>BMI</u>	Body mass index	×	Х						
BMICALC	Body Mass Index, calculated from publicly released height and weight variables	×	Х	Х	Х	Х	Х		
<u>HEALTH</u>	Health status	×	×	×	Х	×	X	×	
<u>HEIGHT</u>	Height in inches without shoes	×	×	×	Х	X	X		
<u>HSTATYR</u>	Health status compared to 1 year ago	×	Х						
RADAY2WK	Other restricted activity days in past 2 weeks			Х	Х	×	Х	×	ĺ
RADAY2WKRSID	Other restricted activity days in past 2 weeks - Residual Measure			Х	Х	X			ĺ
RADAY2WKTOT	Total restricted activity days in past 2 weeks		Ţ.,	Х	Х	×	X	X	
SLDAY2WK	School loss days in past two weeks		Ţ.,	Х	Х	×	X	X	ĺ
SLDAYR	School loss days, past 12 months	×	Х	Ţ.,					ĺ
WEIGHT	Weight in pounds without clothes or shoes	×	Х	Х	Х	×	Х		ı
WLDAY2WK	Work loss days in past 2 weeks		[·	Х	Х	×	Х	×	ı
WLDAYR	Work loss days, past 12 months	×	Х		I . I				ľ
dical Care Variable	s(P) [top]								
Variable Name	Variable Label	05	00	95	90	85	80	75	-
CARE10X	Received care 10+ times in past 12 months	X	X			·			
CHECKUP	Had checkup in past 12 months	×	1 X	1.					





Data Extract Summary

integrated Health interview series HOME | DATA | DOCUMENTATION | VARIABLES | CONTACT Summary Samples ih1970 ih1975 ih1980 Extract File Type Rectangular **Command File Format** STATA Variables H YEAR SERIAL STRATA If you would like to make changes to your extract request... Change Sample Selection Change Variable Selection If your extract request is complete... Please provide a description of this extract Trend analysis of X, Y, and Z





Download Data & Documentation

INTEGRATED HEALTH
INTERVIEW SERIES HOME | DATA | DOCUMENTATION | VARIABLES | CONTACT

Extracts for Download

Click on the extract number in the leftmost column to revise that extract. Click here to refresh your display.

Request	Created	Description	Data	Codebook	Command
020	Jun 16, 2007, 13:23:21	Trend analysis of X, Y, and Z		<u>codebook</u>	<u>STATA</u>
<u>019</u>	Jun 14, 2007, 11:21:09	Revision of 018 (Revision of 017 (testing new SAS code for NHISHID and NHISPID with no formats)) RESUBMIT	<u>data</u>	<u>codebook</u>	<u>SAS</u>
<u>018</u>	Jun 14, 2007, 10:55:46	Revision of 017 (testing new SAS code for NHISHID and NHISPID with no formats)		<u>codebook</u>	<u>SAS</u>
<u>017</u>	Jun 14, 2007, 10:54:12	testing new SAS code for NHISHID and NHISPID with no formats		<u>codebook</u>	<u>SAS</u>
<u>016</u>	Jun 14, 2007, 10:06:44	Revision of 015 (Revision of 011 (test SAS format code))	<u>data</u>	<u>codebook</u>	<u>SAS</u>
<u>015</u>	Jun 13, 2007, 18:32:46	Revision of 011 (test SAS format code)	<u>data</u>	<u>codebook</u>	<u>SAS</u>
<u>014</u>	Jun 13, 2007, 17:33:29	Revision of 013 (Revision of 012 (Revision of 011 (also check YEARP) in STATA	<u>data</u>	<u>codebook</u>	<u>STATA</u>
<u>013</u>	Jun 13, 2007, 17:32:32	Revision of 012 (Revision of 011 (test SAS format code)) also check YEARP	<u>data</u>	<u>codebook</u>	<u>SAS</u>
<u>012</u>	Jun 13, 2007, 17:08:40	Revision of 011 (test SAS format code)	<u>data</u>	<u>codebook</u>	<u>SAS</u>
1	10m 10 0007				





IHIS Data Releases

- First public data release: November 2006
- Second public data release: June 25 2007
 - Coincided with 50th Anniversary Celebration of NHIS
- IHIS now includes over 1000 integrated variables from:
 - □ Household and Person files for 1969-2006
 - □ Sample Adult/Sample Child files for 1997-2006
 - □ Access to Care supplements 1993-1996





NHIS-IHIS Linking Keys

- Unique identifiers for each person and household within each survey year
 - □ A single variable, which is comparable across years
 - Constructed from a series of data elements in the NHIS
 - Consistent with NHIS unique identifiers
- Allows data from the original NHIS public use files to be linked to IHIS data files
 - □ In cases where a variable is not yet in IHIS
- User note provides guidance on linking
- Stata and SAS syntax files provided to facilitate linking process





Future IHIS Data Releases

- Additional IHIS data will be released to the public once or twice per year
 - Accommodate other units of analysis, such as conditions, doctor visits, hospital episodes
 - Incorporate harmonized variables from other NHIS data files*
 - □ Include soon-to-be released data from newly created NHIS public-use files from 1963 – 1968
 - On-line questionnaire text linked to the corresponding variable descriptions
 - □ On-line tabulation capability, variable search engine, and improved user interface available by early 2008





For Additional Information



- □ http://www.ihis.us
- □ ihis@pop.umn.edu



□ http://www.shadac.umn.edu



□ http://www.pop.umn.edu