



Mid-America (HHS Region 7)

**MHTTC**

Mental Health Technology Transfer Center Network  
Funded by Substance Abuse and Mental Health Services Administration

# Context Clues: Using Social Determinants of Health (SDOH) to Enhance Treatment: Pediatric Sleep

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Mid-America MHTTC



MUNROE-MEYER  
INSTITUTE

***SAMHSA***

Substance Abuse and Mental Health  
Services Administration

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The MHTTC Network uses affirming, respectful and recovery-oriented language in all activities. That language is:

STRENGTHS-BASED  
AND HOPEFUL

INCLUSIVE AND  
ACCEPTING OF  
DIVERSE CULTURES,  
GENDERS,  
PERSPECTIVES,  
AND EXPERIENCES

HEALING-CENTERED/  
TRAUMA-RESPONSIVE

INVITING TO INDIVIDUALS  
PARTICIPATING IN THEIR  
OWN JOURNEYS

PERSON-FIRST AND  
FREE OF LABELS

NON-JUDGMENTAL AND  
AVOIDING ASSUMPTIONS

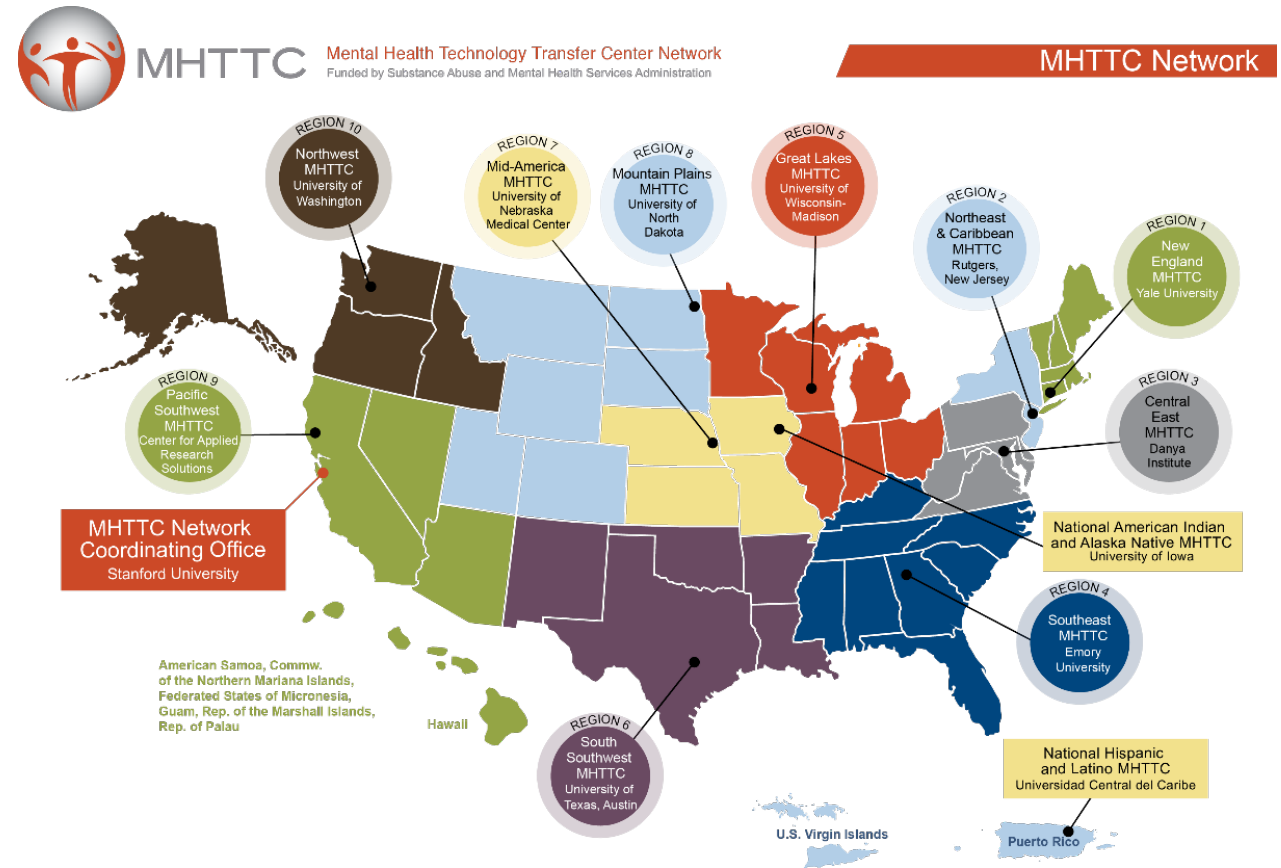
RESPECTFUL, CLEAR  
AND UNDERSTANDABLE

CONSISTENT WITH  
OUR ACTIONS,  
POLICIES, AND PRODUCTS

# Mid-America Mental Health Technology Transfer Center

Established to increase utilization of evidence-based mental health practices.

- Missouri, Iowa, Nebraska, and Kansas.
- Free training and technical assistance.
- SAMHSA grant awarded to the Behavioral Health Education Center of Nebraska at University of Nebraska Medical Center.  
(5 years, \$3.7 million, grant number: H79SM081769)





# Learning Objectives

- Understand the importance of pediatric sleep for health and well-being
- Describe the impact of social determinants on pediatric sleep
- Understand the importance of assessing for common sleep concerns within a social determinants of health framework in primary care settings
- Identify actionable steps to screen and refer to community supports for social determinants of health

# Making the Case for Sleep....

- Children spend nearly as much time asleep as they do awake
- Approximately 25% of children experience some type of sleep problem
- Few children “grow out” of sleep problems

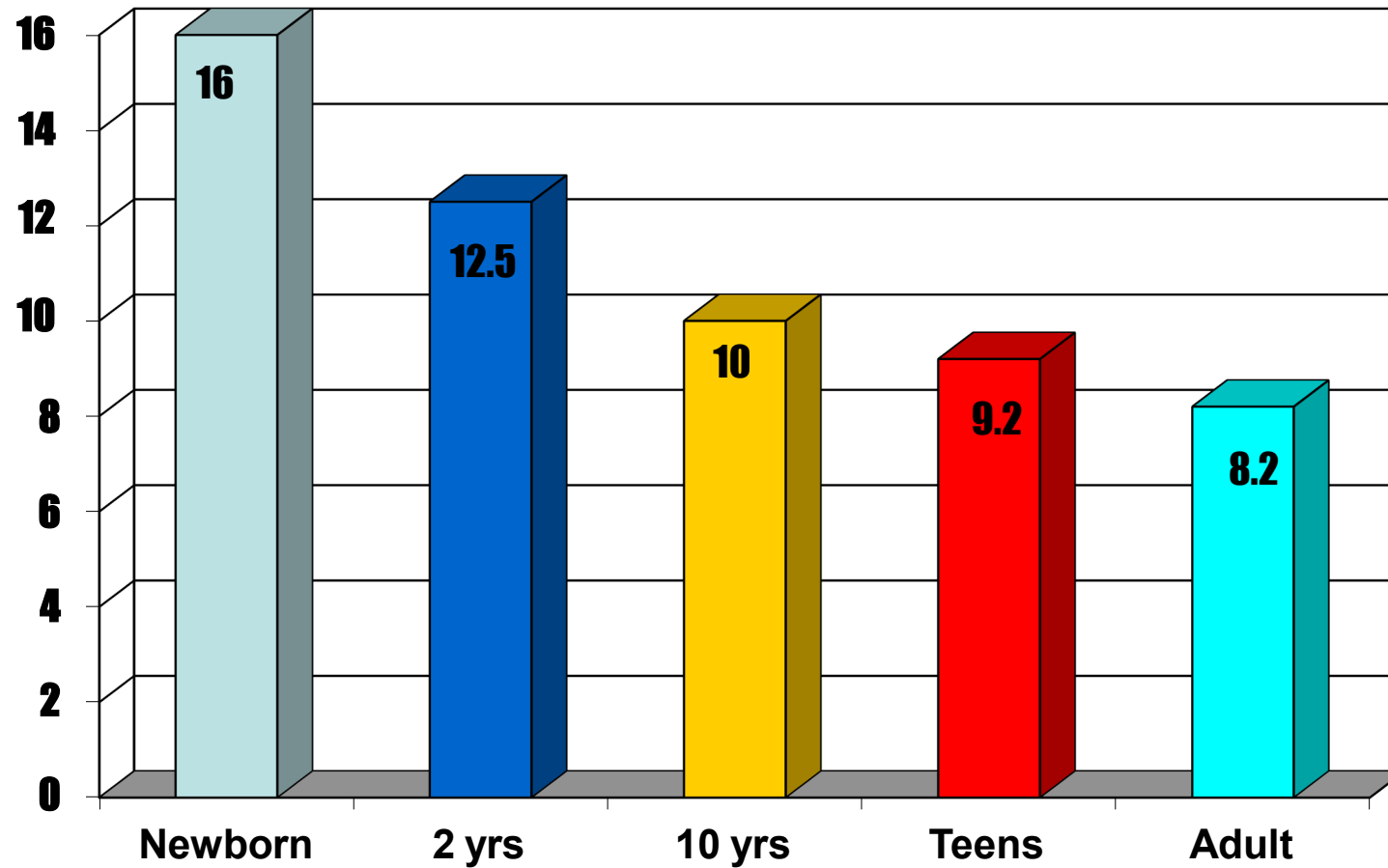
Sleep plays a critical role in

- early brain development
- learning
- memory consolidation

Disrupted sleep is associated with

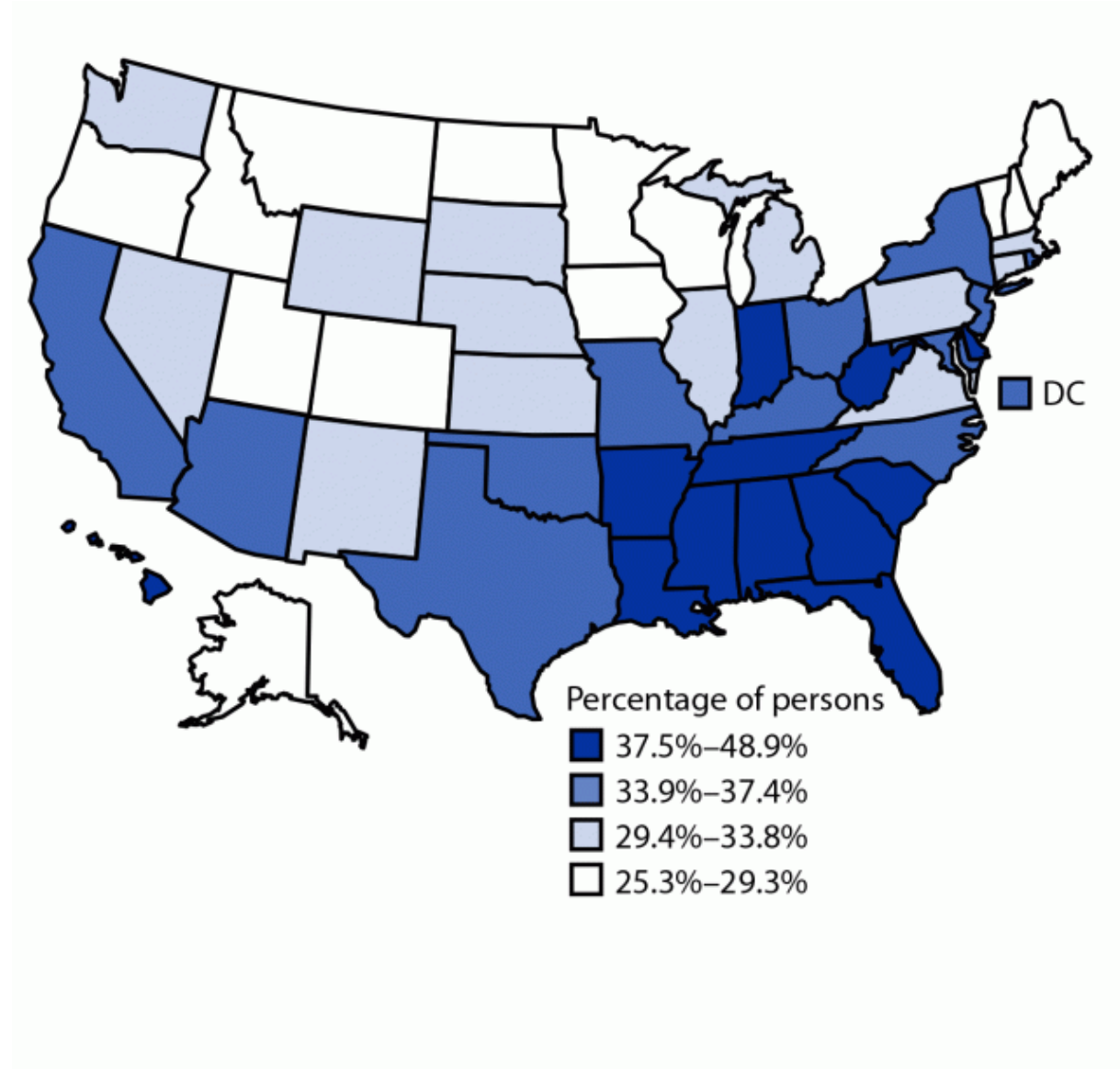
- behavior problems
- poor emotion regulation
- family functioning

# Total Sleep Time Recommendations



# Short Sleep Duration

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# Sleep Stages

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## The 4 Stages of Sleep



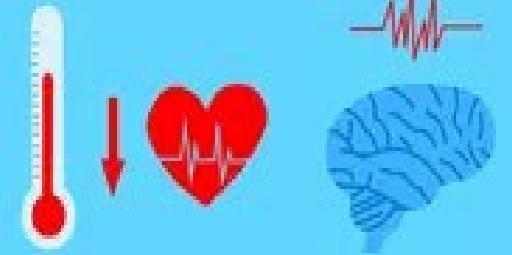
### NREM Stage 1

- transition period between wakefulness and sleep
- lasts around 5 to 10 minutes



### NREM Stage 3

- muscles relax
- blood pressure and breathing rate drop
- deepest sleep occurs



### NREM Stage 2

- body temperature drops and heart rate begins to slow
- brain begins to produce sleep spindles
- lasts approximately 20 minutes



### REM Sleep

- brain becomes more active
- body becomes relaxed and immobilized
- dreams occur
- eyes move rapidly

# Pediatric Sleep Disorders



## **Primary Sleep Disorders**

Obstructive sleep apnea  
Narcolepsy  
Restless Leg Syndrome  
Periodic Limb Movement Disorder



## **Behavioral Insomnias of Childhood**

Sleep-Onset Association Type  
Limit-Setting Type  
Combined Type



## **Circadian Rhythm Disorders**

Delayed Sleep Phase Type  
Advanced Sleep Phase Type



## **Parasomnias**

Sleep Terrors and Sleepwalking  
Nightmares  
Rhythmic Movement Disorder

# Poor Sleep Increases Childhood Risk for...

Injuries

Obesity

Type 2  
Diabetes

Poor Mental  
Health

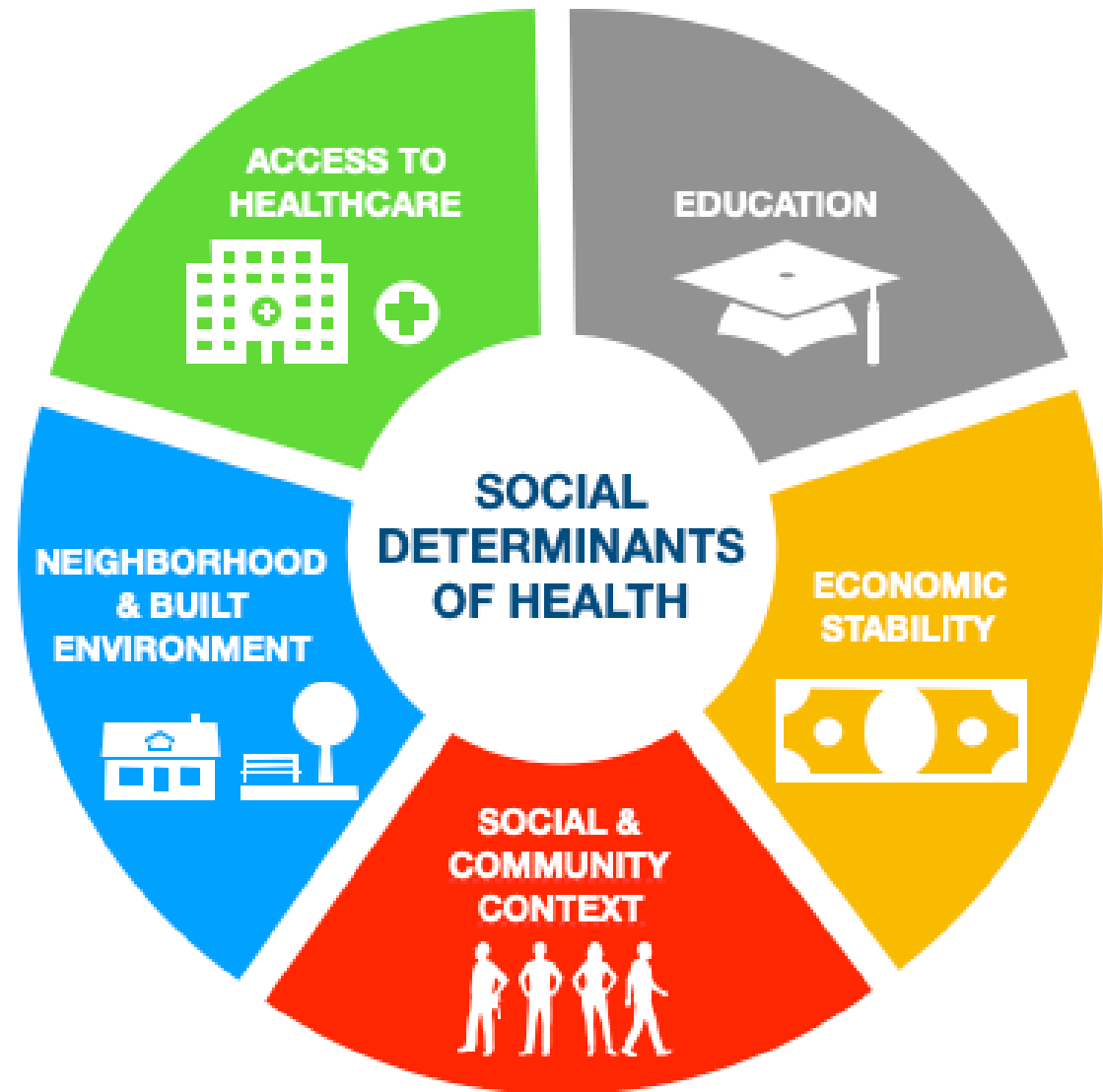
Attention  
Problems

Behavioral  
Problems

Poor  
Cognitive  
Development

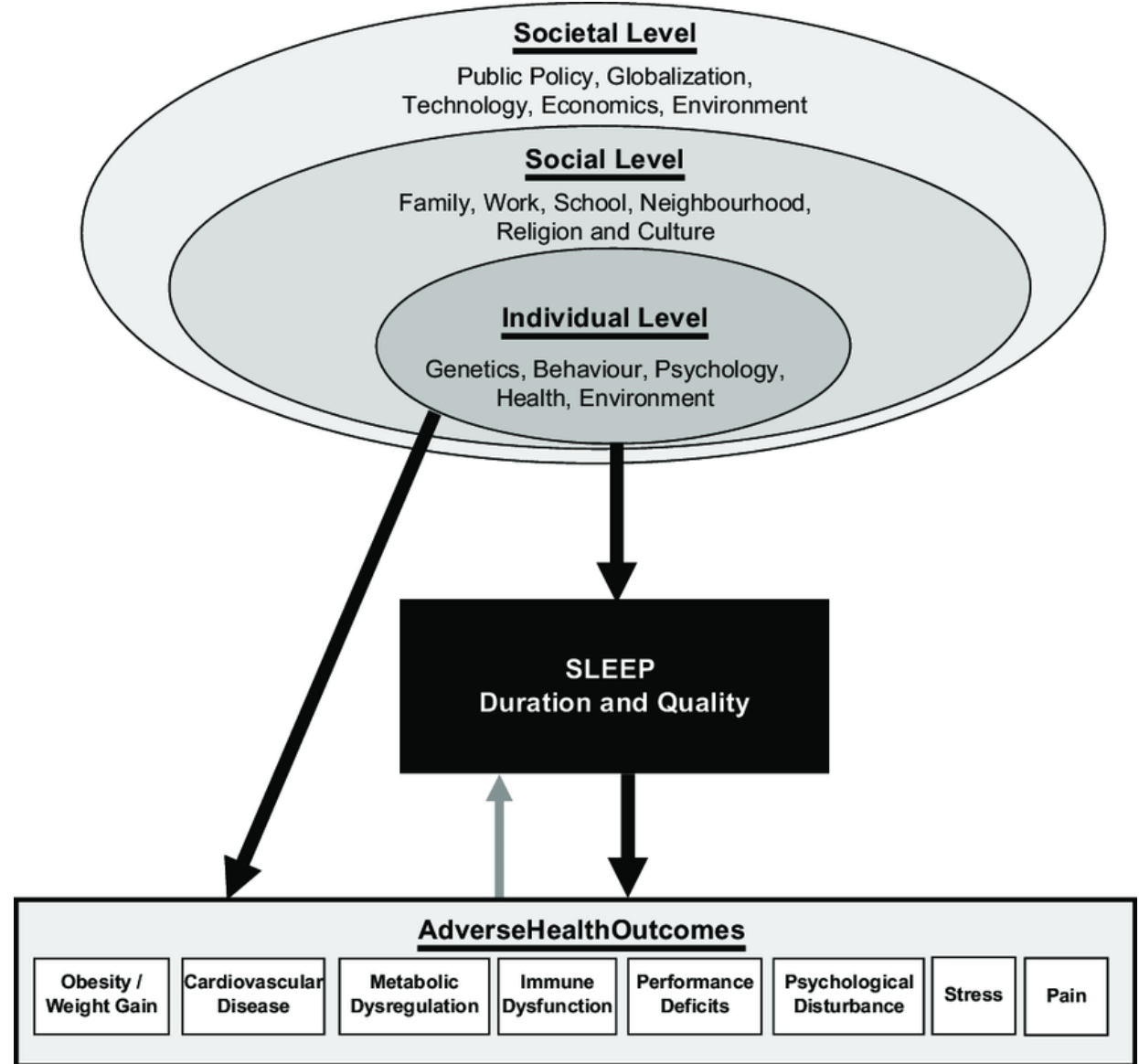
# Social Determinants of Health

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# Sleep as a SDOH

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# Poor Sleep is More Common....

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- Low Socioeconomic Status
- Southeastern United States
- Racial and ethnic minority groups
- Special health care needs
- Neighborhood safety
- Housing
- Light exposure
- Mental health problems—parental depression



# Assessment & Intervention

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# Screening

## Pediatric Sleep Concerns

	<b>Toddler/preschool 2–5 years</b>	<b>School age 6–12 years</b>
Bed time problems <b>(B)</b>	Does your child have any problems going to bed or falling asleep?	Are there any problems at bedtime?*
Excessive day time sleepiness <b>(E)</b>	Does your child seem overtired or sleepy a lot during the day? Do they still nap?	Does your child have difficulty waking in the morning, seem sleepy during the day or take naps?*
Awakenings during the night <b>(A)</b>	Does your child wake up a lot at night?	Does your child seem to wake up a lot at night? Any sleep walking or nightmares? Is there trouble getting back to sleep?*
Regularity and duration of sleep <b>(R)</b>	Does your child have a regular bed time and wake time? What are they?	What time does your child go to bed and get up on school days? Weekends?*
Snoring <b>(S)</b>	Does your child snore a lot or have difficulty breathing?	Does your child have loud or nightly snoring or breathing difficulties at night?*



# Screening SDOH

## Access to HealthCare

- Parental Mental Health
- Well visits
- Access to regular health care and pcp

## Education

- Parental Education Level
- Child academic achievement
- Access to after school programs

## Economic Stability

- Sharing Bedroom/Sleep Space
- Exposure to Light
- Employment
- Food Insecurity

## Social and Community Context

- Discrimination
- Social support

## Neighborhood and Built Environment

- Physical Activity
- Violence in Neighborhood

# Evidence-Based Interventions

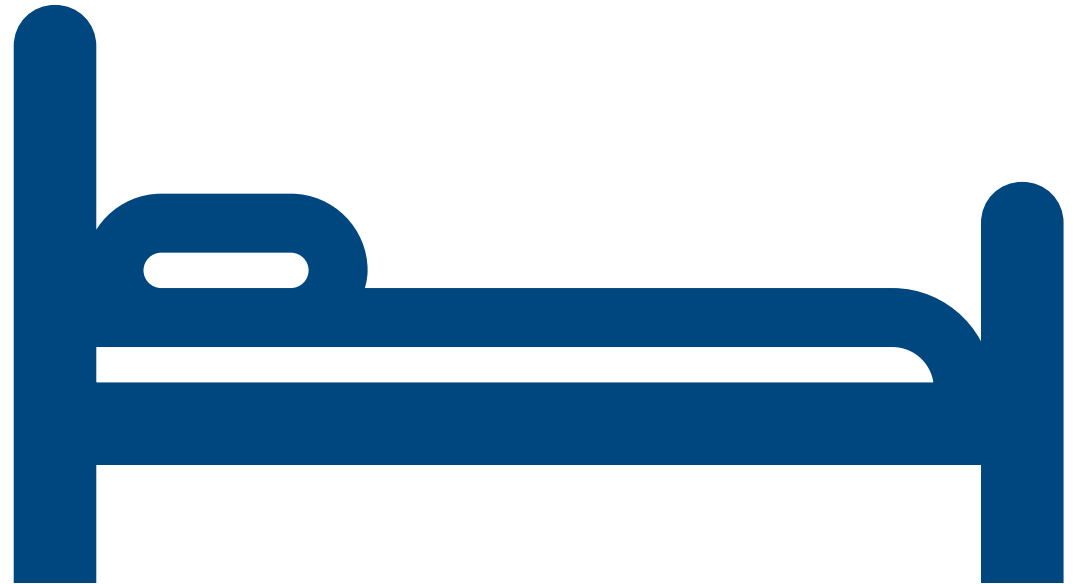
1. Dissociate Feeding from Sleep onset / awakenings
2. **Unmodified Extinction (Systematic Ignoring)**
3. Systematic Ignoring with Parental Presence
4. **Graduated Extinction (Systematic Ignoring)**
5. Quick Check Method
6. Medication and Extinction
7. Scheduled Awakenings
8. Faded Bedtime Procedure
9. Bedtime Pass (Extinction-based)
10. **Early Intervention/Parent Education**

Kuhn, B. R., & Weidinger, D. (2000). Interventions for infant and toddler sleep disturbance: A review. *Child Fam Beh Ther*, 22(2), 33-50.

# Tips for Good Sleep

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- Set bed and wake-up times at the same time each day, including weekends
- Keep the bedroom quiet and a comfortable temperature
- Remove electronic devices from the bedroom
- Avoid large meals and caffeine before bedtime
- Make sure kids are active during the day so they can fall asleep at night
- Model good sleep behaviors for kids
- Have a bedtime routine like taking a warm bath, brushing teeth, and reading a bedtime story
- Turn the lights out at bedtime



# Melatonin: Evidence-supported uses

- The American Academy of Sleep Medicine recommended melatonin to treat
  - delayed sleep/wake phase disorder
  - blind adults with non-24-hr sleep/wake disorder
  - irregular sleep/wake disorders in children or adolescents with neurological disorders (Auger et al., 2015)

# Pediatric Sleep Disorders



## Primary Sleep Disorders

Obstructive sleep apnea  
Narcolepsy  
Restless Leg Syndrome  
Periodic Limb Movement Disorder



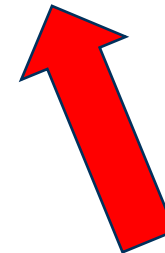
## Behavioral Insomnias of Childhood

Sleep-Onset Association Type  
Limit-Setting Type  
Combined Type



## Circadian Rhythm Disorders

Delayed Sleep Phase Type  
Advanced Sleep Phase Type



## Parasomnias

Sleep Terrors and Sleepwalking  
Nightmares  
Rhythmic Movement Disorder

# AAFPs Framework to Address SDOH

**ASK**

- About SDOH

**IDENTIFY**

- Resources in patients' communities that can help address SDOH

**ACT**

- To help connect patients with resources to address patients' SDOH

# ASK: Screen

**PRAPARE: Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences**  
Paper Version of PRAPARE for Implementation As of September 2, 2016

**Personal Characteristics**

1. Are you Hispanic or Latino?

Yes	No	I choose not to answer this question
-----	----	--------------------------------------

2. Which race(s) are you? Check all that apply.

Asian	Native Hawaiian
Pacific Islander	Black/African American
White	American Indian/Alaskan Native
Other (please write):	
I choose not to answer this question	

3. At any point in the past 2 years, has season or migrant farm work been your or your family's main source of income?

Yes	No	I choose not to answer this question
-----	----	--------------------------------------

4. Have you been discharged from the armed forces of the United States?

Yes	No	I choose not to answer this question
-----	----	--------------------------------------

5. What language are you most comfortable speaking?

English
Language other than English (please write)
I choose not to answer this question

**Family & Home**

6. How many family members, including yourself, do you currently live with?

I choose not to answer this question
--------------------------------------

7. What is your housing situation today?

I have housing
I do not have housing (staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, or in a park)
I choose not to answer this question

8. Are you worried about losing your housing?

Yes	No	I choose not to answer this question
-----	----	--------------------------------------

9. What address do you live at?

Street: \_\_\_\_\_  
City, State, Zipcode: \_\_\_\_\_

**Money & Resources**

10. What is the highest level of school that you have finished?

Less than high school degree	High school diploma or GED
More than high school	I choose not to answer this question

11. What is your current work situation?

Unemployed	Part-time or temporary work	Full-time work
Otherwise unemployed but not seeking work (ex: student, retired, disabled, unpaid primary care giver)		
Please write:		
I choose not to answer this question		

12. What is your main insurance?

None/uninsured	Medicaid
CHIP/Medicaid	Medicare
Other public insurance (not CHIP)	Other Public Insurance (CHIP)
Private insurance	

© 2016. National Association of Community Health Centers, Inc., Association of Asian Pacific Community Health Organizations, and Oregon Primary Care Association. PRAPARE is proprietary information of NACHC and its partners. All rights reserved. For more information about this tool, please visit our website at [www.nachc.org/PRAPARE](http://www.nachc.org/PRAPARE) or contact us at [mjaster@nachc.org](mailto:mjaster@nachc.org).

**BEARS QUESTIONNAIRE**

<b>B</b> Bleeding	<b>E</b> Excessive bleeding (vomiting)	<b>A</b> Anxiety, irritability, or anger	<b>R</b> Recent weight loss (unintentional) or change in diet	<b>S</b> Sleeping
Does my child have trouble getting to sleep at bedtime?	Is my child difficult to soothe (crying, fussing)?	Does my child seem angry or irritable more often than usual?	How much weight has my child lost in the last 3 months?	Does my child seem to be sleeping less than usual?
Does my child seem to be bleeding from the mouth, nose, or stool?	Does my child vomit or have bloody stools?	Does my child seem to be crying or angry more often than usual?	Has my child lost weight or changed their eating habits in the last 3 months?	Does my child seem to be sleeping less than usual?

**Other questions to consider:**  
How often does your child have accidents?  
How often does your child have fevers?  
How often does your child have seizures?  
How often does your child have tics or twitches?  
How often does your child have tremors or shakes?  
How often does your child have trouble swallowing?  
How often does your child have trouble talking?  
How often does your child have trouble walking?  
How often does your child have trouble with school or work?  
How often does your child have trouble with social interactions?  
How often does your child have trouble with self-care?  
How often does your child have trouble with toilet training?  
How often does your child have trouble with transitions?  
How often does your child have trouble with attention?  
How often does your child have trouble with focus?  
How often does your child have trouble with memory?  
How often does your child have trouble with organization?  
How often does your child have trouble with planning?  
How often does your child have trouble with problem-solving?  
How often does your child have trouble with decision-making?  
How often does your child have trouble with time management?  
How often does your child have trouble with prioritization?  
How often does your child have trouble with delegation?  
How often does your child have trouble with communication?  
How often does your child have trouble with listening?  
How often does your child have trouble with speaking?  
How often does your child have trouble with writing?  
How often does your child have trouble with reading?  
How often does your child have trouble with math?  
How often does your child have trouble with science?  
How often does your child have trouble with history?  
How often does your child have trouble with geography?  
How often does your child have trouble with art?  
How often does your child have trouble with music?  
How often does your child have trouble with physical education?  
How often does your child have trouble with social studies?  
How often does your child have trouble with language arts?  
How often does your child have trouble with English?  
How often does your child have trouble with math?  
How often does your child have trouble with science?  
How often does your child have trouble with history?  
How often does your child have trouble with geography?  
How often does your child have trouble with art?  
How often does your child have trouble with music?  
How often does your child have trouble with physical education?  
How often does your child have trouble with social studies?  
How often does your child have trouble with language arts?  
How often does your child have trouble with English?

# Identify: Z-Codes for Sleep



Z72 Problems related to lifestyle	
Z72.0	Tobacco use
Z72.3	Lack of physical exercise
Z72.4	Inappropriate diet and eating habits
Z72.51	High risk heterosexual behavior
Z72.52	High risk homosexual behavior
Z72.53	High risk bisexual behavior
Z72.6	Gambling and betting
Z72.820	Sleep deprivation
Z72.821	Inadequate sleep hygiene
Z72.89	Other problems related to lifestyle
Z72.9	Problem related to lifestyle, unspecified

Z73 Problems related to life management difficulty	
Z73.0	Burn-out
Z73.1	Type A behavior pattern
Z73.2	Lack of relaxation and leisure
Z73.3	Stress, not elsewhere classified
Z73.4	Inadequate social skills, not elsewhere classified
Z73.5	Social role conflict, not elsewhere classified
Z73.6	Limitation of activities due to disability
Z73.810	Behavioral insomnia of childhood, sleep-onset association type
Z73.811	Behavioral insomnia of childhood, limit setting type
Z73.812	Behavioral insomnia of childhood, combined type
Z73.819	Behavioral insomnia of childhood, unspecified type
Z73.82	Dual sensory impairment
Z73.89	Other problems related to life management difficulty
Z73.9	Problem related to life management difficulty, unspecified



# IDENTIFY

Z55 – Problems related to education and literacy

Z56 – Problems related to employment and unemployment

Z57 – Occupational exposure to risk factors

Z59 – Problems related to housing and economic circumstances

Z60 – Problems related to social environment

Z62 – Problems related to upbringing

Z63 – Other problems related to primary support group, including family circumstances

Z64 – Problems related to certain psychosocial circumstances

Z65 – Problems related to other psychosocial circumstances



## Case Study

- Mother – Claudia
- Father – Patrick
- Grandmother – Ivonne
- Daughter – Tyler (age 16)
- Son – Elliot (age 13)
- Daughter – Edith (age 2)

# Risk Factors for Poor Sleep

Race	Income	Parental Mental Health	Safety in Neighborhood	Healthcare Needs	Housing	Southeastern USA location	Light Exposure
Several family members identify as Latinos	Section 8 housing, difficulty paying bills, limited insurance, transportation difficulties	Mother has anxiety and mild TBI, father has possible substance abuse concerns	Section 8 housing- safe neighborhood?	Elliott congenital heart defect, Grandmother had a stroke and on-going health needs, no insurance	Multiple generations living in same home, 3 bedroom home with 6 family members	NO	Unknown

# Important Factors

Do the children have a pcp?

Access to  
healthcare

Neighborhood  
and built  
environment

Access to community  
& social connections

Does your child snore a lot or  
have difficulty breathing?

Father avoids  
doctors  
Grandmother  
does not have  
insurance  
Elliot has  
congenital  
heart disease

Tyler in therapy  
Mother takes  
antidepressant  
All kids have  
medicaid

Live in Section  
8 housing  
3 bedroom  
house with 6  
adults

Tyler preparing  
to live  
independently

Grandmother  
recently moved  
in with family –  
change in  
social supports

Parents  
engaged in  
Parents as  
Teachers  
Program

Edith involved  
in Early Head  
Start

# Important Factors

Neighborhood violence, noise, light?

Access to healthcare

Neighborhood and built environment

Access to community & social connections

Sleep environment?

Father avoids doctors  
Grandmother does not have insurance  
Elliot has congenital heart disease

Tyler in therapy  
Mother takes antidepressant  
All kids have medicaid

Live in Section 8 housing  
3 bedroom house with 6 adults

Tyler preparing to live independently

Grandmother recently moved in with family – change in social supports

engaged Parents as Teachers Program

Edith involved in Early Head Start

# Important Factors

Access to  
healthcare

Father avoids  
doctors  
Grandmother  
does not have  
insurance  
Elliot has  
congenital  
heart disease

Tyler in therapy  
Mother takes  
antidepressant  
All kids have  
medicaid

Neighborhood  
and built  
environment

Family member sleep habits?

Live in Section  
8 housing  
3 bedroom  
house with 6  
adults

Tyler preparing  
to live  
independently

Access to community  
& social connections

Elliot's after school care needs?

Grandmother  
recently moved  
in with family –  
change in  
social supports

Parents  
engaged in  
Parents as  
Teachers  
Program

Edith involved  
in Early Head  
Start

Activity level during the day?

# Important Factors

Economic  
Stability

Food and nutrition needs?  
Housing needs?

Education

Parents work schedule?

Mother  
employed as  
a waitress,  
Father  
employed  
detailing cars

difficulty  
paying bills,  
limited  
insurance,  
transportation  
difficulties

Live in  
Section 8  
housing,  
Food  
insecurity

Siblings all  
enrolled in  
school

Parents  
engaged in  
Parents as  
Teachers  
Program

Edith involved  
in Early Head  
Start

# Important Factors

Support with any sleep challenges with EHS or Parents as Teachers?

Quality childcare?  
Activity level during the day?

## Economic Stability

## Education

Elliot's educational needs/stress?

Mother employed as a waitress,  
Father employed detailing cars

difficulty paying bills,  
limited insurance,  
transportation difficulties

Live in Section 8 housing,  
Food insecurity

Siblings all enrolled in school

Parents engaged in Parents as Teachers Program

Edith involved in Early Head Start



Find **food assistance, help paying bills,** and other free or reduced cost programs, including new programs for the COVID-19 pandemic:


ZIP

67401

Search

6,924,399 people use it (and growing daily)

By continuing, you agree to the [Terms & Privacy](#)


findhelp.org is a service provided by  **auntbertha**

# How to use Find Help

Find **food assistance**, **help paying bills**, and other free or reduced cost programs, including new programs for the COVID-19 pandemic:

ZIP


67401

 Search

**6,924,399** people use it (and growing daily)

Enter your zip code

By continuing, you agree to the [Terms & Privacy](#)

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or reduced-cost help starts here:

Select Language

- FOOD
- HOUSING
- GOODS
- TRANSIT
- HEALTH
- MONEY
- CARE**
- WORK
- LEGAL

I chose the category of "Care"

- Adoption & Foster Care
- Animal Welfare
- Community Support Services
- Daytime Care**
- End-Of-Life Care
- Navigating The System
- Physical Safety
- Residential Care
- Support Network

I chose the category of "Daytime Care"

- Daytime Care - All (49)
  - childcare (21)
    - help find childcare (3)
    - help pay for childcare (14)
  - day camp (6)
  - intervention (2)
  - preschool (10)

or reduced-cost help starts here:

Select Language



FOOD



HOUSING



GOODS



TRANSIT



HEALTH



MONEY



CARE



EDUCATION



WORK



LEGAL

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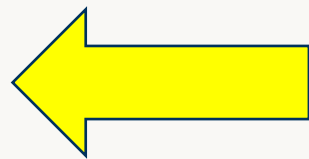
day camp (6)

early childhood intervention (2)

head start (9)

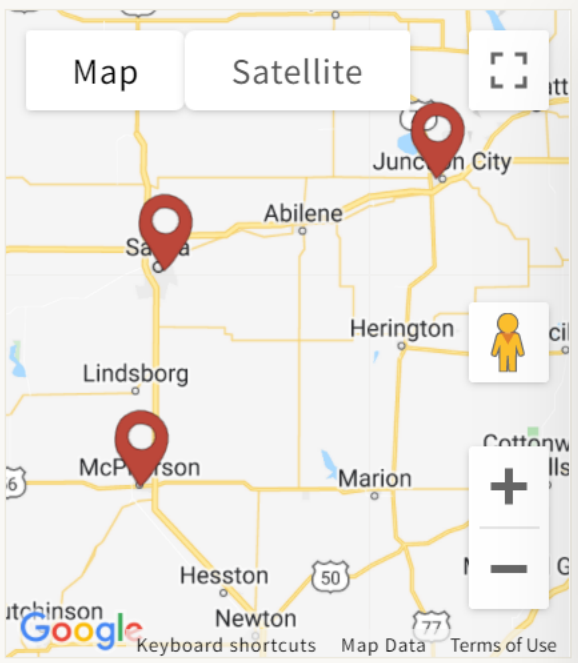
preschool (10)

relief for caregivers (13)



I chose the category of "Help pay for childcare"

Search available resources in the area by scrolling down



Notice out-of-date information or see a program you work for? Click **Suggest** to share an update or claim your program listing to get access to free tools and data.

### Child Care Subsidy Program

by Kansas Department for Children and Families

The Child Care Subsidy Program provides low-income families with help paying for child care costs from their chosen child care provider. They assist families who are working,...

- Main Services: [help pay for childcare](#) , [government benefits](#)
- Serving: [adults](#) , [young adults](#) , [teens](#) , [seniors](#) , [students](#) , [employed](#) , [families](#) , [with children](#) , [benefit recipients](#) , [low-income](#)

MORE INFO



NEXT STEPS

#### Next Steps:

- Go to the [program's website](#) or call 785-826-8000 (your nearest location).
- 2.44 miles ( serves your state)
- 901 Westchester Dr, Salina, KS 67401
- Closed Today** See open hours

### General Assistance

by Friends of Man

Friends of Man helps individuals needing mobility equipment, prosthetics, glasses, dentures, hearing aids, and much more. This program provides:- Mobility Equipment:...

- Main Services: [clothing](#) , [medical supplies](#) , [assistive technology](#) , [prostheses](#) , [financial assistance](#) , [help pay for childcare](#)

#### Next Steps:

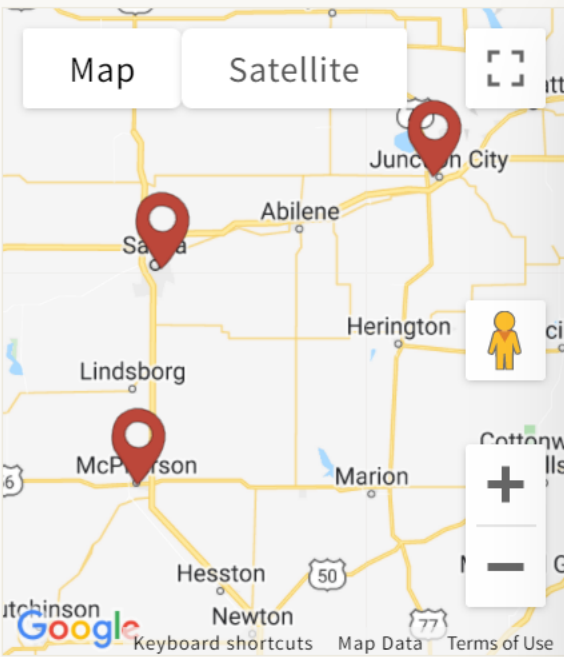
Go to the [program's website](#) or get a referral from a referring professionals such as a case worker, case manager...

Salina, KS (67401) / care / help pay for childcare < 1 - 10 of 14 >

Personal Filters

Program Filters

Once you select one click "next steps" and follow the directions



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[901 Westchester Dr, Salina, KS 67401](#)

**Closed Today** See open hours

MORE INFO

SAVE

SHARE

NOTES

SUGGEST

NEXT STEPS

Notice out-of-date information or see a

# Take aways



Highly  
prevalent



Assess  
regularly



Use the  
Ask-ID-Act  
framework



Be familiar  
with how  
SDOH  
Impact Sleep



# Resources

- Pediatric Sleep Council: Sleep Advice for Parents & Kids  
<https://www.babysleep.com/>
- Mid-America MHTTC <https://mhttcnetwork.org/centers/mid-america-mhttc/home>
- Find Help: <https://www.findhelp.org/> [findhelp.org]