Texas Risk Assessment for Type 2 Diabetes in Children

A Report to the Governor and the 88th Legislature of the State of Texas

The University of Texas Rio Grande Valley

The University of Texas Rio Grande Valley College of Health Professions Border Health Office

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Acknowledgments

The Texas Risk Assessment for Type 2 Diabetes in Children (TRAT2DC) program is a legislatively mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office (UTRGV BHO). It is the longest-running and largest program of its kind in all of the United States. As we slowly begin to emerge from the coronavirus pandemic, the obesity and type 2 diabetes epidemic remains ahead. The past three years have been challenging for our program as we learned and maneuvered through the complications and implications brought forth by the coronavirus pandemic. But our staff moved forward - working with safety and optimism to fulfill the mission of the TRAT2DC - because continuing our mission is paramount for the health of Texas families. I would like to commend the resolution of the 5 people who staff the UTRGV BHO for making the impossible possible.

The TRAT2DC program is funded by the Texas State Legislature. A healthy Texas begins with our children, and we thank all legislators who have supported the mission of the TRAT2DC throughout the years. The UTRGV BHO would like to recognize and thank State Senator Jesus "Chuy" Hinojosa, D-District 20 and State Senator Eddie Lucio Jr., D-District 27 for their continued support and dedication to a healthier Texas.

We are grateful for the leadership at UTRGV who understands that the TRAT2DC program is an important public health service not just to families in Rio Grande Valley, but across the state of Texas. For his support and dedication in the continued fight against diabetes, we would like to thank UTRGV President Dr. Guy Bailey. We would also like to thank Dr. Michael Lehker, Dean of the College of Health Professions for his unwavering support of the Border Health Office.

As it pertains to this program, no greater challenge was faced during the covid pandemic than by those on the front line of children's health – school nurses. School nurses were called to keep their schools and communities safe during the pandemic. Through all the home visits, covid testing, contact tracing, and vaccination drives, school nurses still managed to identify children who had risk factors in the development of type 2 diabetes. Sometimes a "thank you" just doesn't seem like it is enough.

Message from the Director

This school year marks the 22nd anniversary of The Texas Risk Assessment for Type 2 Diabetes in Children (TRAT2DC) program. Growing the program from its origin along the Texas border to a statewide mandate has not been without its challenges. One of the hardest challenges we faced was seeing the program through the coronavirus pandemic. The TRAT2DC program sets assessment goals based on numbers of current enrollment from the Texas Education Agency for grades 1, 3, 5, and 7 in the TEA Education Service Center Regions that are mandated by the Texas Legislature.

The coronavirus pandemic seriously impacted the assessments. This was especially true during the height of the pandemic in the 2020-2021 school year. Assessment numbers fell from 880,175 in 2019-2020 to 529,319 in 2020-2021. Interviews conducted with school health administrators around the state of Texas provided insight as to why the less assessments were conducted during the pandemic. The following is a summary of their reasonings:

1) Less children were attending school, opting to learn from home. In the absence of children, less assessments were conducted.
2) The pandemic caused a serious reduction in force. Many school nurses decided to retire while many were offered better pay working in hospitals or other care settings taking care of covid patients.
3) For those school nurses that remained with their districts, their focus turned to the pandemic. Many were involved in contact tracing or assisting with vaccination drives.

Despite these challenges, assessment numbers improved to 946,135 for the 2021-2022 reporting period signaling the end of the pandemic impact on the TRAT2DC program. There is no doubt that the pandemic caused significant setbacks to the economy and education and there is no reason to believe that health was left out of the equation. The pandemic impact on the obesity and type 2 diabetes epidemic may be consequential to our younger population. This is why the TRAT2DC program is vital. The risk assessments that are conducted as a part of this program can help families become aware of these risk factors for obesity and diabetes, giving them the opportunity to make lifestyle changes that are necessary to reverse course of these conditions for their children and even themselves. In addition, the TRAT2DC program provides schools and researchers with important information to help schools and communities be healthier by making risk assessment data readily available.

The TRAT2DC receives $104,201 in annual nonformula funding to administer the program statewide. An economic impact analysis conducted in 2019 determined that for every $1 the state of Texas invests in the TRAT2DC program, it generates $338 in medical cost savings. Therefore, a total of $37,126,643 of medical direct and indirect costs savings for the state are estimated. This report includes a descriptive presentation of risk assessments that were conducted in Texas Education Agency Education Service Center (ESC) Regions 1, 2, 3, 4, 10, 11, 13, 15, 18, 19, and 20 for the 2020-2021 and 2021-2022 school years.

The Texas Risk Factor Assessment for Type 2 Diabetes in Children program continues to support the Texas Diabetes Council's state plan for diabetes prevention and control. Risk assessment information is available to school administrators via website by state, Regional Education Service Center (ESC), school district, and individual schools. Risk assessment fact sheets by state and Regional ESCs for the 2020-2021and 2021-2022 reporting periods are included in this report.

Doreen D. Garza, MPH
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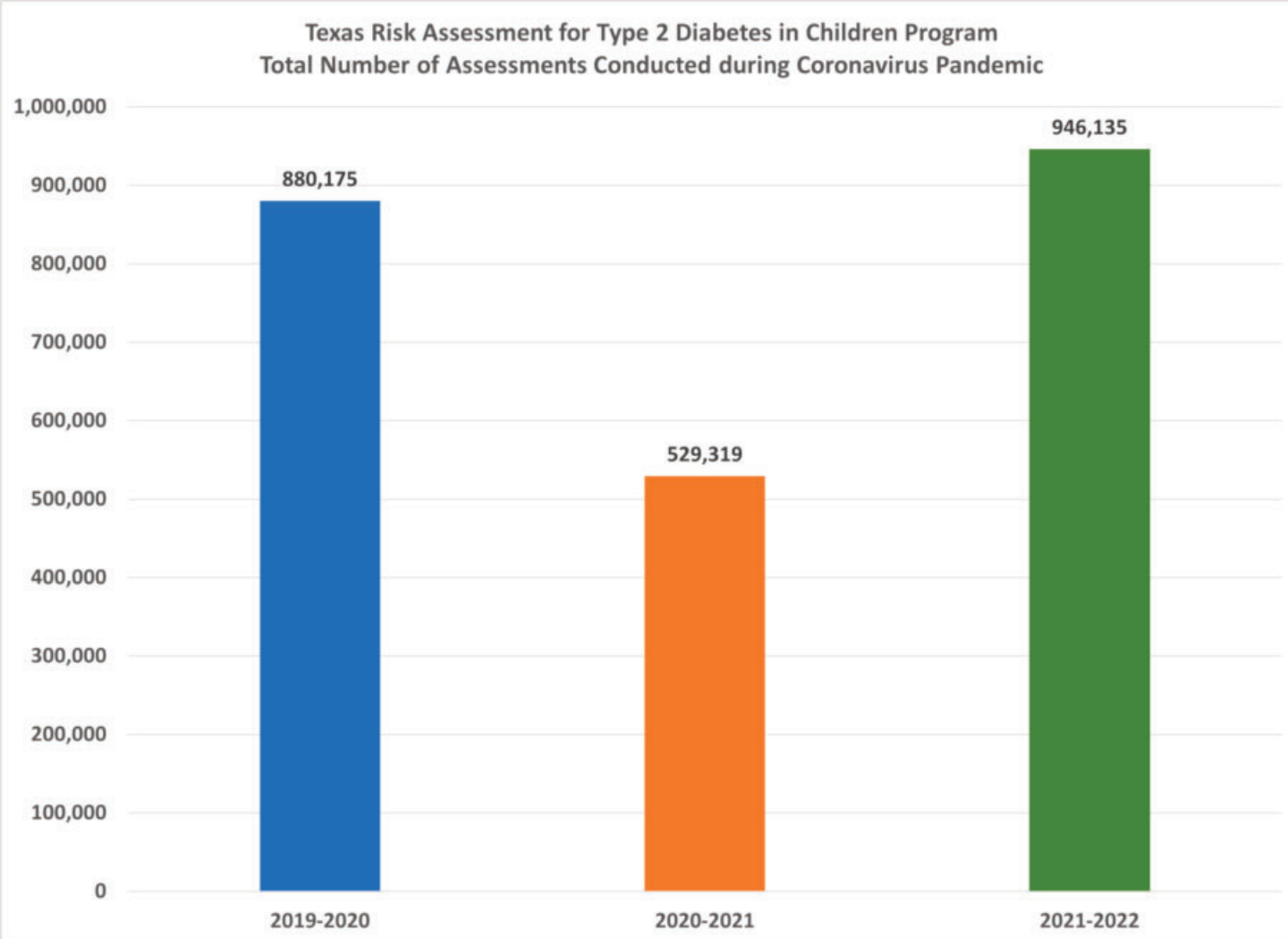
Border Health Office

The Impact of the Coronavirus Pandemic on the TRAT2DC program - 3 Year Comparison

The TRAT2DC program sets assessment goals based on numbers of current enrollment from the Texas Education Agency (TEA) for grades 1, 3, 5, and 7 in the TEA Education Service Center Regions that are mandated by the Texas Legislature. As a reference, the UTRGV BHO sets an annual benchmark of 1,000,000 assessments per reporting period or school year. The coronavirus pandemic seriously impacted the assessments and was especially true during the height of the pandemic in the 2020-2021 school year. Assessment numbers fell from 880,175 in 2019-2020 to 529,319 in 2020-2021. Assessment numbers improved to 946,135 for the 2021-2022 reporting period signaling the end of the pandemic impact on the TRAT2DC program. Focus groups conducted with school health administrators provided some insight as to why numbers decreased. Mainly, less children were attending school. Other factors that impacted assessments were a reduction in force in school health and greater focus on covid contact tracing and vaccination drives. The following chart represents the total assessment numbers that were conducted during the coronavirus pandemic.

The graph below shows a 3-year comparison of TRAT2DC assessment reporting during the coronavirus pandemic.



Texas Risk Assessment for Type 2 Diabetes in Children Program

The Texas Risk Assessment for Type 2 Diabetes in Children (TRAT2DC) is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley (UTRGV) College of Health Professions (COHP) Border Health Office (BHO). This program helps assess children who may be at high risk to develop type 2 diabetes. This assessment is conducted in public and private schools during vision/hearing and scoliosis screenings by individuals, mainly school nurses, who have been certified by the BHO to conduct and report the risk assessments.

Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure.

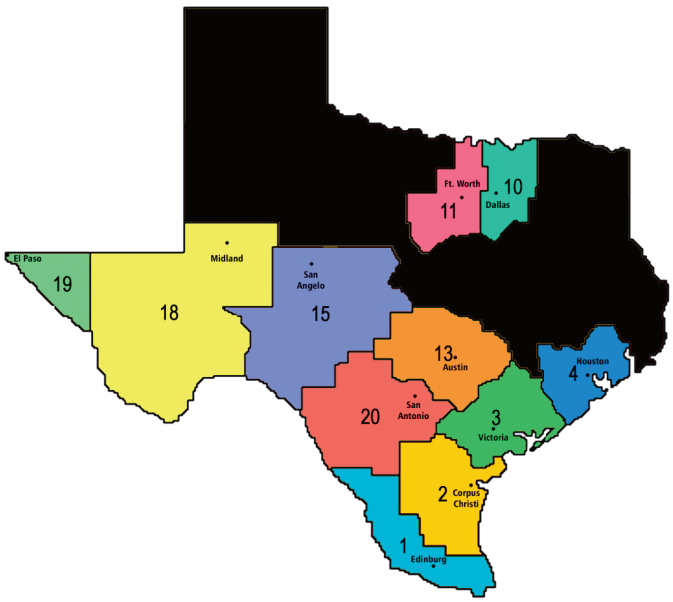
Risk assessment referrals are issued to the parents of these children, alerting parents of the child's risk factors and encouraging further evaluation from a health professional. The risk assessment referrals have been effective in getting at-risk children to seek appropriate follow-up evaluation/testing from a health care provider to prevent or delay future health problems.

The program assesses children who may be at-risk to develop type 2 diabetes in Texas Education Agency (TEA) Education Service Center (ESC) Regions 1, 2, 3, 4, 10, 11, 13, 15, 18, 19, and 20. The program also encourages and provides support to other TEA ESC Regions who are not identified by the mandate to conduct risk assessments as funding allows.

Total Number of Children Assessed (Grades 1st, 3rd, 5th, and 7th)

ESC	2020-2021	2021-2022
Region 1	24,213	94,990
Region 2	17,588	27,757
Region 3	11,065	11,287
Region 4	126,398	235,493
Region 10	101,346	175,912
Region 11	91,635	130,772
Region 13	36,821	81,437
Region 15	10,947	12,084
Region 18	19,191	25,494
Region 19	9,877	29,900
Region 20	79,407	113,059
Other	831	7,950
Total	**529,319**	**946,135**

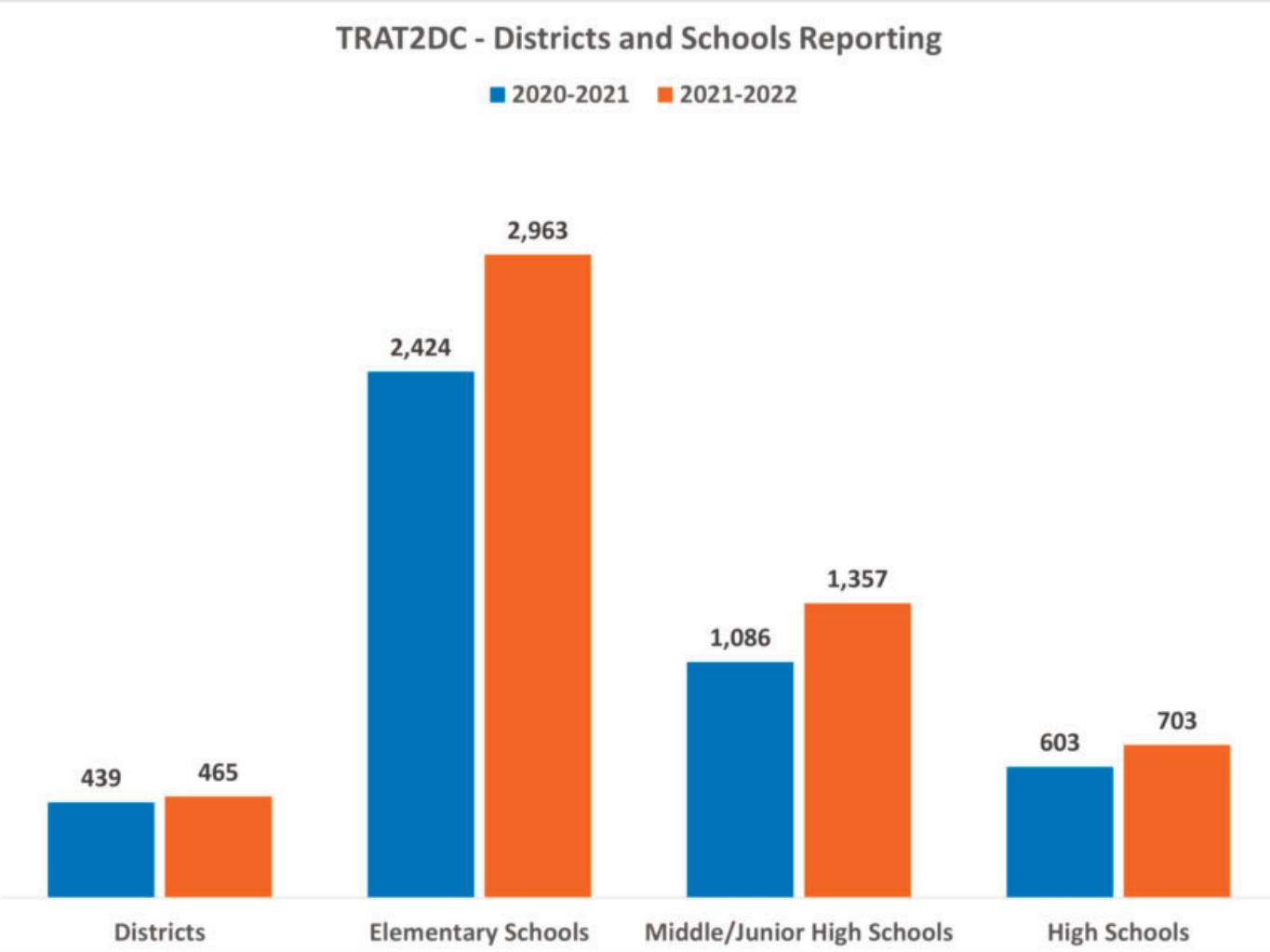
TRAT2DC Risk Assessment Map
(11 TEA ESC Regions)



The TRAT2DC program assesses school children in grades 1st, 3rd, 5th, and 7th in public and private schools throughout the State of Texas each year for risk factors associated with type 2 diabetes. The figure above represents the number of children who were assessed during the 2020-2021 and 2021-2022 school years.

Public and Private Schools Reporting

Legislation mandates that the TRAT2DC program conduct risk assessments for children attending 1st, 3rd, 5th, and 7th grades in public and private schools within the required 11 TEA ESC Regions. Most of the risk assessments are conducted by certified individuals in elementary and middle schools, with some districts carrying out the assessments in high school if they choose to conduct the assessment beyond the required grades. Prior to the start of each school year, the UTRGV COHP BHO provides program updates to participating districts and schools by correspondence or via website. BHO health education coordinators also contact participating districts for any changes regarding personnel responsible for conducting the risk assessments and the inclusion or removal of campuses to the TRAT2DC database.

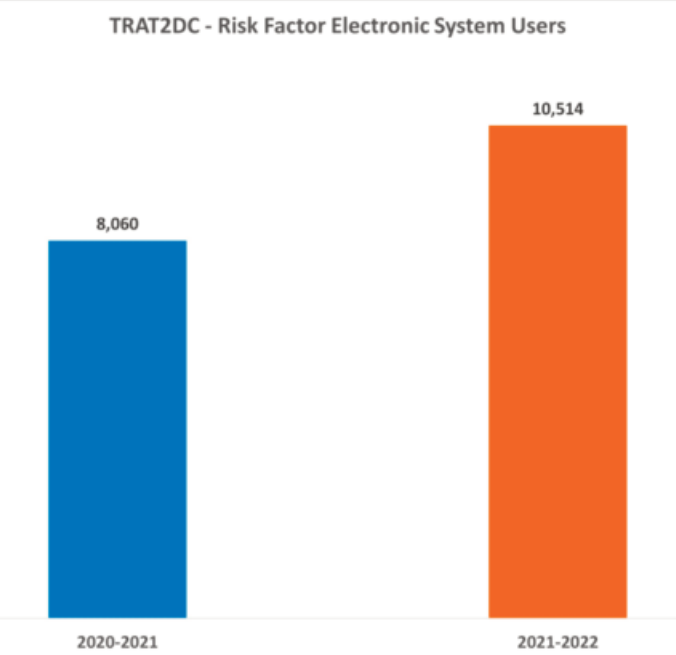


The TRAT2DC program conducts risk assessments for children attending 1st, 3rd, 5th, and 7th grades in public and private schools within the required 11 TEA ESC Regions, with most assessments being conducted in elementary and middle schools. The COVID-19 pandemic impacted the school district and campus reporting numbers for the 2020-2021 school year. More schools reported during the 2021-2022 as more children began to attend school as they emerged from the pandemic.

TRAT2DC Training/Certification and Risk Factor Electronic System

The UTRGV COHP BHO provides training and certification to school nurses or other designated individuals assigned to conduct risk assessments. Requests for materials, training, and technical support for the Risk Factor Electronic System (RFES) is also provided by the BHO. The TRAT2DC RFES is a unique secure-access, web-based risk assessment software that is mission critical to the UTRGV COHP BHO in order to fulfill requirements and responsibilities of the TRAT2DC program. The RFES is an indispensable complement to the TRAT2DC program because it eliminates the need for manual calculation and interpretation of the raw information being entered into the system. The RFES is also capable of plotting and printing individual growth charts and providing referral forms with the result and description of each assessment conducted (AN, BMI, and blood pressure).

Risk assessment certification offered through the TRAT2DC RFES is valid for 5 years. New users and users with expired certifications must complete and pass all modules associated with training in order to obtain certification. Risk assessment training and certification is an important on-going activity as new nurses are hired by districts every year due to growth or turnover. The UTRGV COHP BHO estimates that over 95% of individuals needing certification is achieved through the online certification system.



The UTRGV COHP BHO provides training and certification to school nurses or other designated individuals assigned to conduct risk assessments. Risk assessment certification offered through the TRAT2DC RFES is valid for 5 years. The number of individuals who were trained and certified to conduct risk assessments was 1,950 in 2020-2021 and 2,693 in 2021-2022.

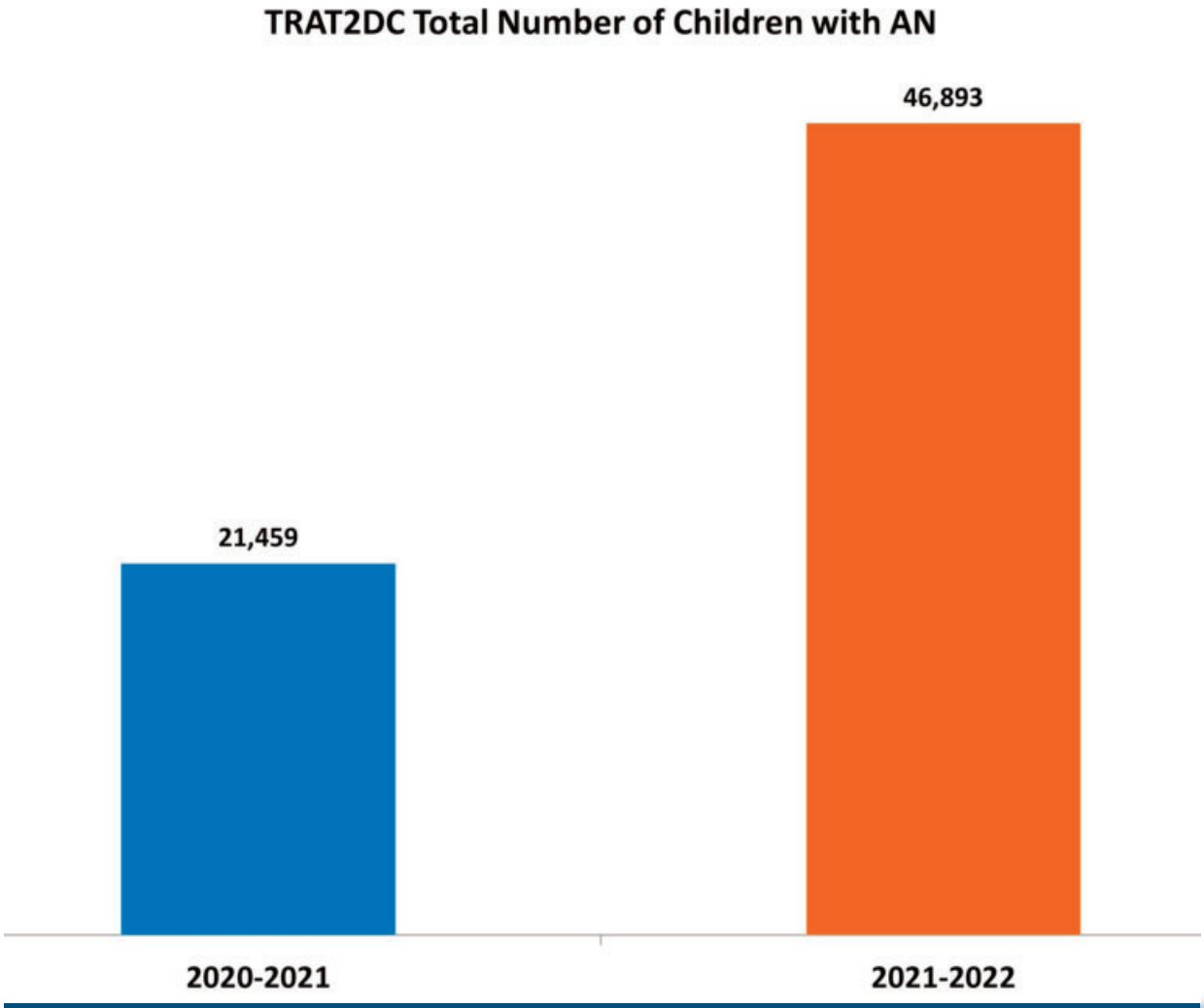
The TRAT2DC RFES is a unique secure-access, web-based risk assessment software that is mission critical to the UTRGV COHP BHO in order to fulfill requirements and responsibilities of the TRAT2DC program. The number of RFES users increased by 2,454 between the 2020-2021 and 2021-2022 reporting periods.

Risk Assessments

Acanthosis Nigricans

Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for type 2 diabetes and other chronic diseases. Because of the increasingly alarming rates of children developing type 2 diabetes, AN assessments are important and can help identify children with high insulin levels who may be at-risk for developing the disease.

Acanthosis Nigricans(AN)

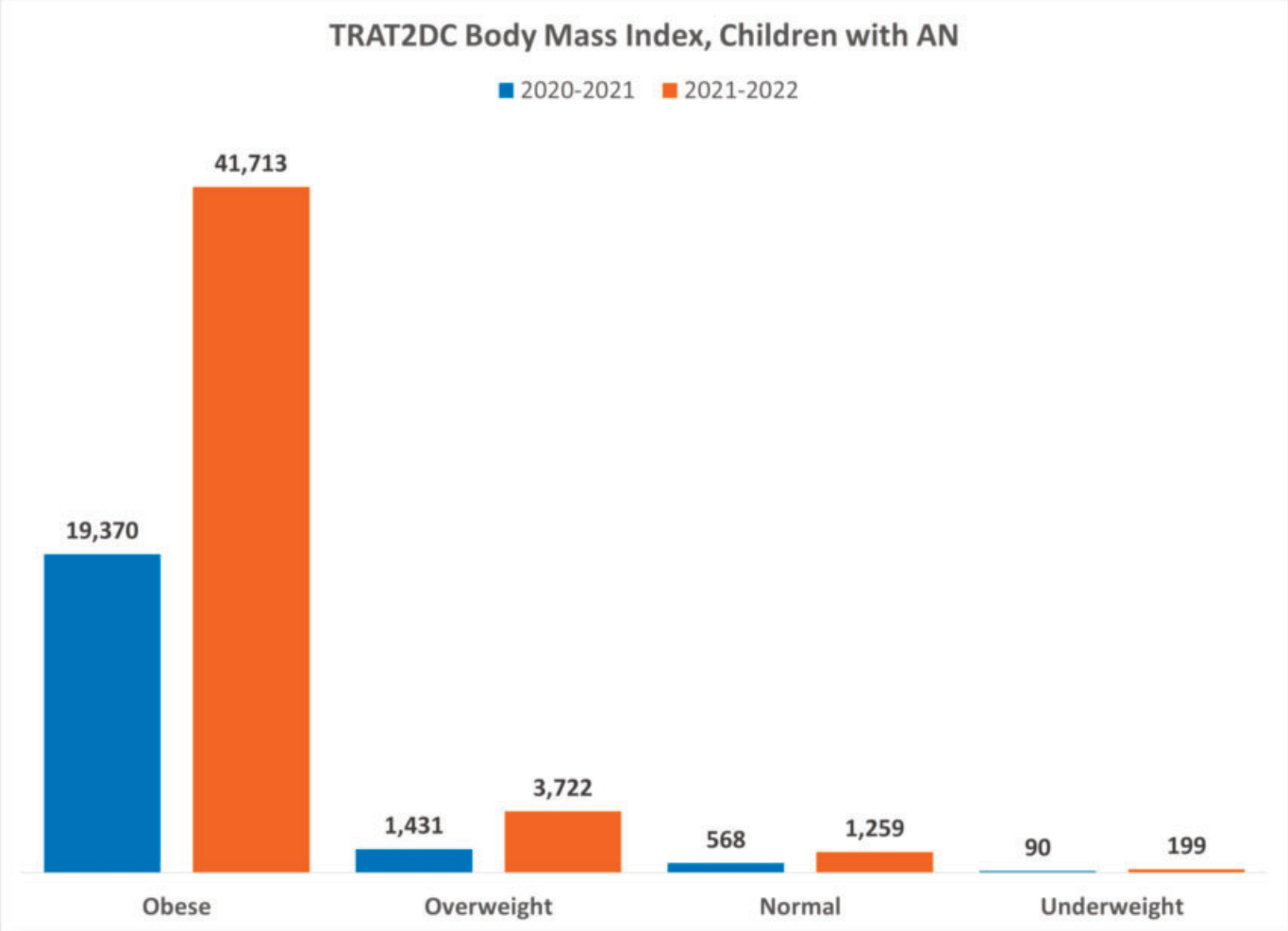


Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for type 2 diabetes and other chronic diseases. During the 2020-2021 reporting period, 21,459 children were identified with the AN marker while 46,893 children were reported as having the marker in the 2021-2022 reporting period. The COVID-19 pandemic impacted the reporting ability of some districts and campuses as observed in the difference between the two reporting periods.

Risk Assessments

Body Mass Index

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. After BMI is calculated for children and teens with acanthosis nigricans, the BMI number is plotted on the Centers for Disease Control and Prevention (CDC) BMI-for-age growth charts. BMI categories are obese, overweight, normal, and underweight. A child with a BMI greater or equal to the 95th percentile is considered obese and has a greater chance of maintaining obesity into adulthood. This is also significant since studies have shown that BMI above the 95th percentile is associated with elevated blood pressure, hyperlipidemia, and obesity-related disease and mortality. A child whose BMI falls between the 85th and 94th percentile is considered overweight and should be evaluated carefully and should be given particular attention to secondary complications of obesity.

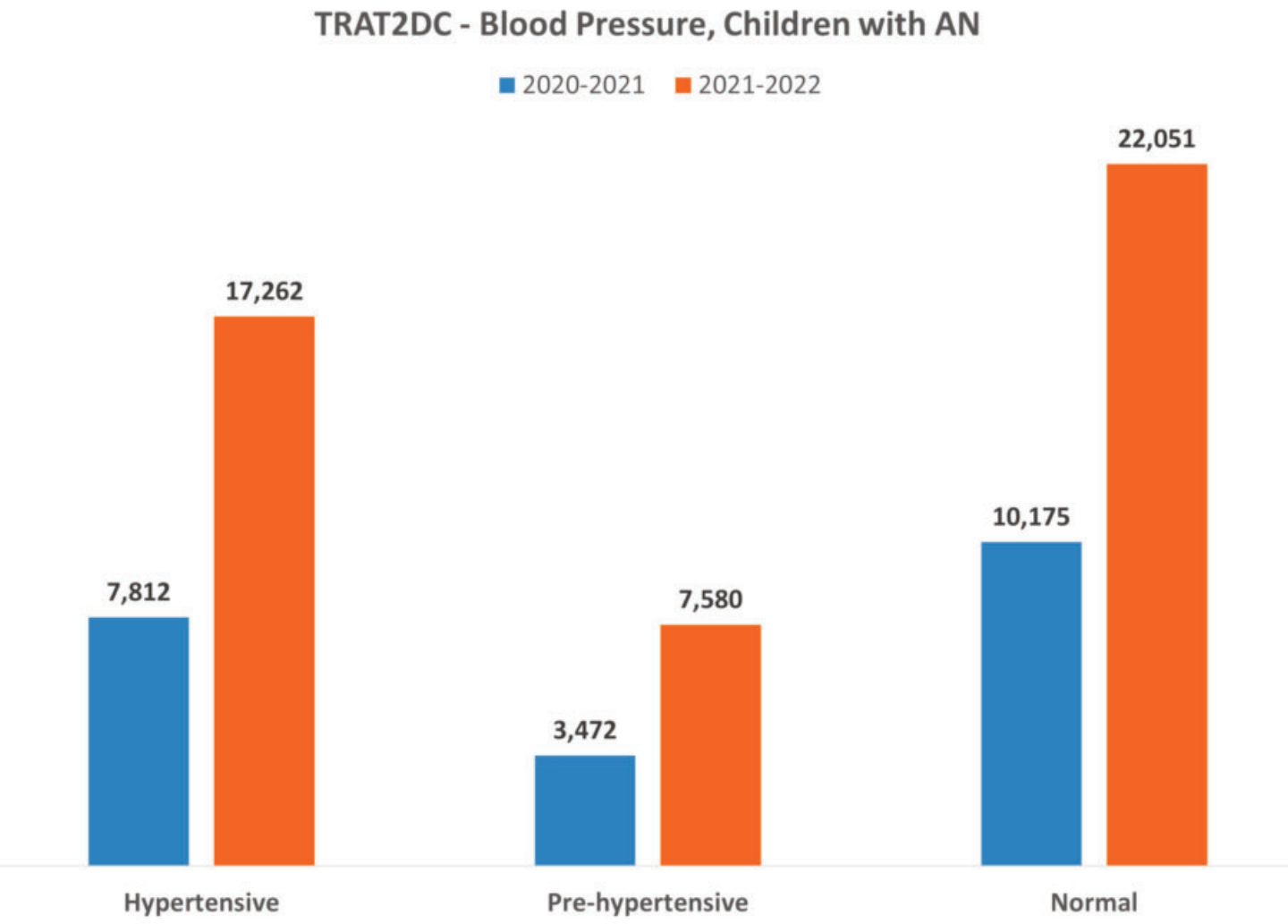


Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. The graph above illustrates the number of children with AN who were identified as obese, overweight, normal, or underweight for the 2020-2021 and 2021-2022 reporting periods. Most children with the AN marker are above the 95%-ile for body mass index for age despite the difference in numbers between reporting periods due to COVID-19 pandemic.

Risk Assessments

Blood Pressure

Hypertension increases the risk for cardiovascular disease and is a complication of obesity. Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to track blood pressure in children. As part of this program, certified personnel perform two blood pressure readings on children who have the AN marker. Blood pressure is taken on the child's right arm in a controlled environment, allowing three-to-five minutes of rest in between each reading as recommended by the National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

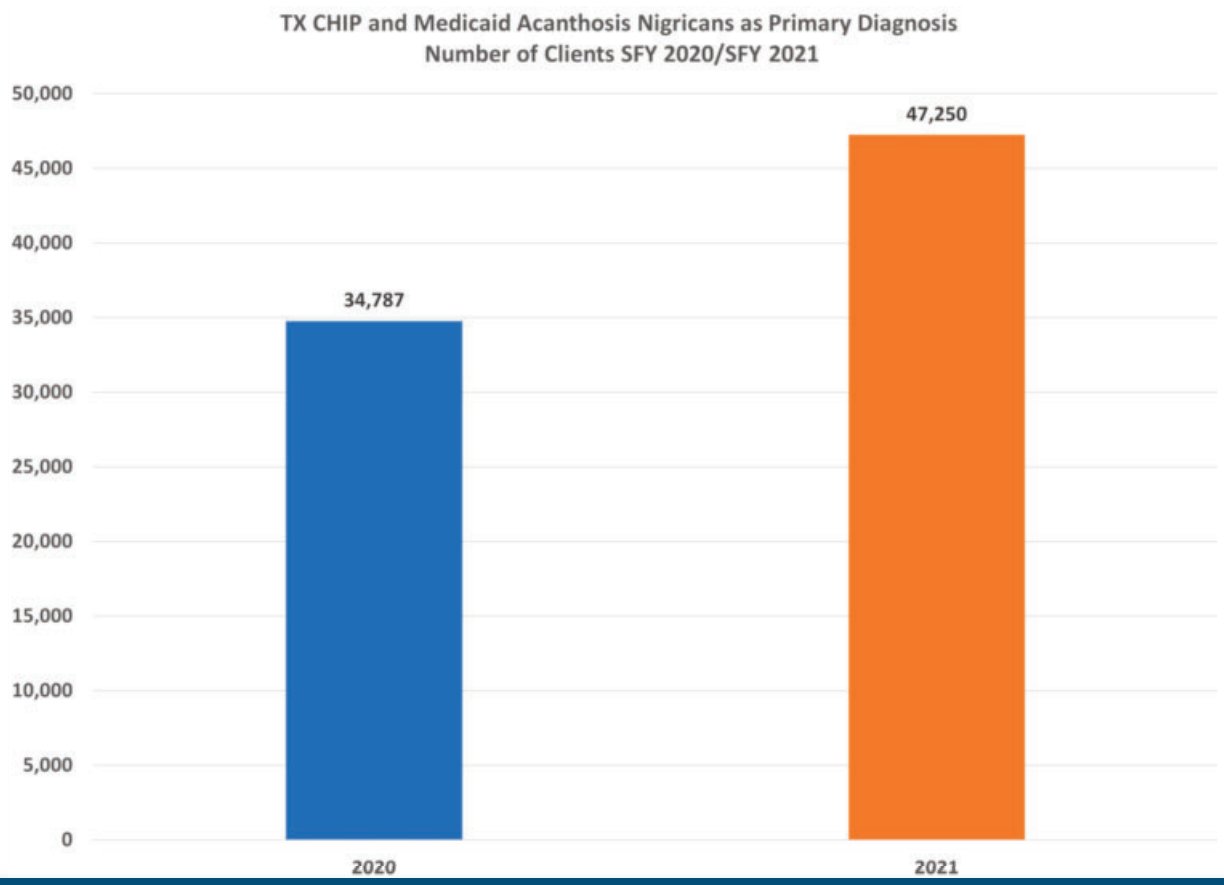


Hypertension increases the risk for cardiovascular disease and is a complication of obesity. Hypertension is also associated with insulin resistance and hyperinsulinemia. Despite the difference in reporting periods due to the COVID-19 pandemic, 36% and 16% of children with AN were classified as hypertensive and prehypertensive, respectively.

Risk Assessment Referral Results/International Classification of Diseases-9 CPT Code 701.2 Acquired Acanthosis Nigricans Member Claim/Encounter Data

The Texas Risk Assessment for Type 2 Diabetes in Children program helps identify those children who may be at-risk to develop type 2 diabetes through simple, non-invasive assessments that have been identified as risk factors for the development of the disease and other complications. During vision/hearing and scoliosis screenings, certified individuals assess school children for these risk factors. If these risk factors are present, a referral is issued to the parents of the child explaining what was found and why it is of concern. The referral includes recommendations to seek further evaluation from a health care professional.

Texas Department of State Health Services Medicaid/CHIP claims data helps understand the medical community's response to the Texas Risk Assessment for Type 2 Diabetes in Children program. Data on International Classification of Diseases (ICD-9) Code 701.2 Acquired Acanthosis Nigricans (AN) claims/encounters among children 0-17 years of age shows an increase since the program began in 1999.

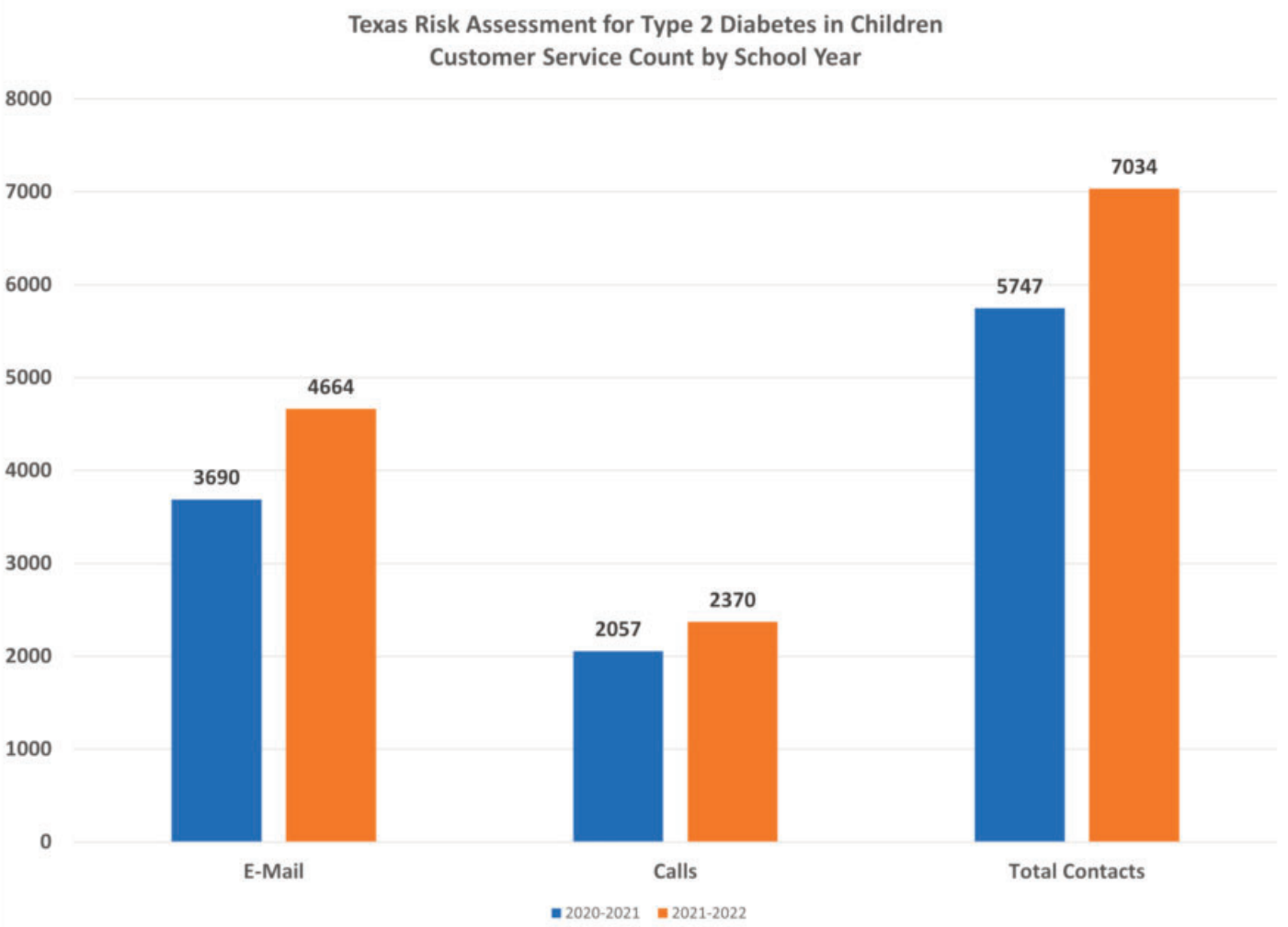


Medicaid/CHIP data for ICD-9 Code 701.2 in FY 2020 (34,787 client claims) and FY 2021 (47,250 client claims) suggest that families are following following up their child's risk assessment referral with a health care professional. This data reflects the awareness and education promoted through the TRATDC2 program as well as physician response to the risk assessment referral.

Data Source:
AHQP Claims Universe, TMHP; Enc_Best Picture Universe, TMHP; Provider Enrollment Database, HHSC.
Prepared By:
Data Dissemination & Reporting, Office of Data, Analytics, and Performance, Texas Health and Human Services Commission, June 2022 (NA)

Technical/Educational Services & TRAT2DC Budget

The Texas Risk Assessment for Type 2 Diabetes in Children program provides risk assessment training and certification to school nurses or other certified individuals. Training and certification is an important on-going activity as new nurses are hired by districts every year due to growth or turnover. Technical assistance is provided by 2 health education coordinators that are assigned, but not restricted to, certain Texas Education Agency Regional Education Service Centers. Requests for materials, training, and technical support for the Risk Factor Electronic System is also provided by these coordinators. Providing these services is pertinent to the success of the program. Services are provided year round.



The Texas Risk Assessment for Type 2 Diabetes in Children program provides risk assessment training and certification to school nurses or other certified individuals. This graph shows number of service calls and technical support that the Border Health Office provided during the 2020-2021 and 2021-2022 reporting periods.

The TRAT2DC program provides educational materials to school nurses/certified individuals who take part in the risk assessments. These materials are an excellent resource for parents. A colorful, easy-to-read bilingual foldout brochure is available for comprehensible use by school nurses to assist in educating parents and the community-at-large about the TRAT2DC program and the risk factors assessments. Training posters that include helpful tips on how to identify and assess for the acanthosis nigricans marker are provided by request.

The TRAT2DC program is funded in the amount of $104,201 annually.

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Texas Risk Assessment for Type 2 Diabetes in Children Program
Texas Education Agency Regional Education Service Center
2020-2021/2021-2022 Fact Sheets

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet

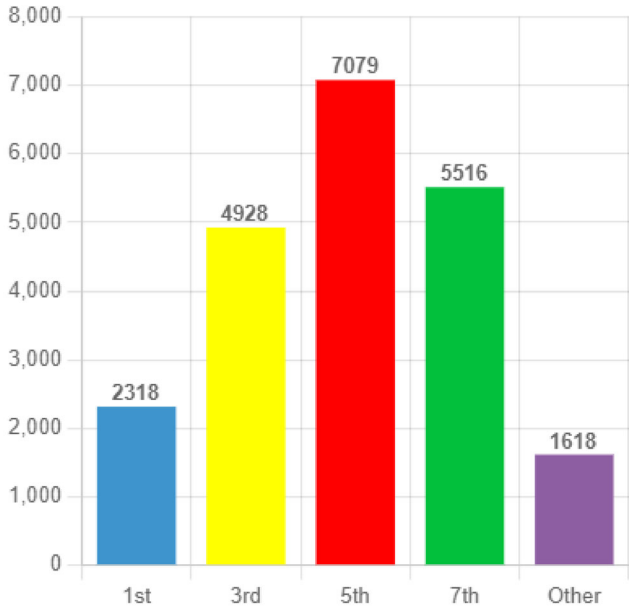
MANDATED REGIONS 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 529319	Seen by health care provider: 1733	Not Seen by health care provider: 64
Total Acanthosis Nigricans: 21459	Already under care: 418	Referral not issued: 27
		Referral not returned: 16958

Acanthosis Nigricans (AN)

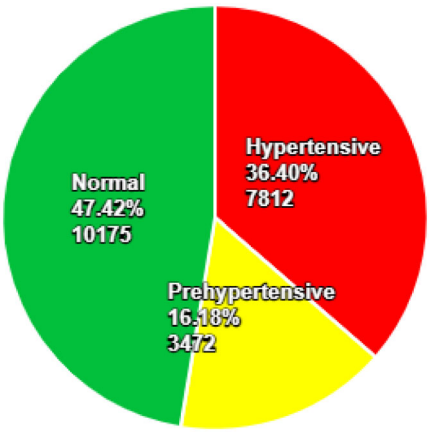
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

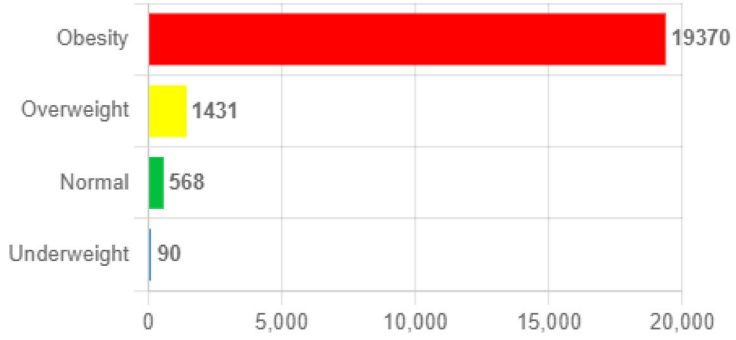
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	725	1574	2617	2270	626
Prehypertensive	323	772	1220	905	252
Normal	1270	2582	3242	2341	740



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	2091	4490	6388	4914	1487
Overweight	102	283	522	426	98
Normal	112	126	148	156	26
Underweight	13	29	21	20	7

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

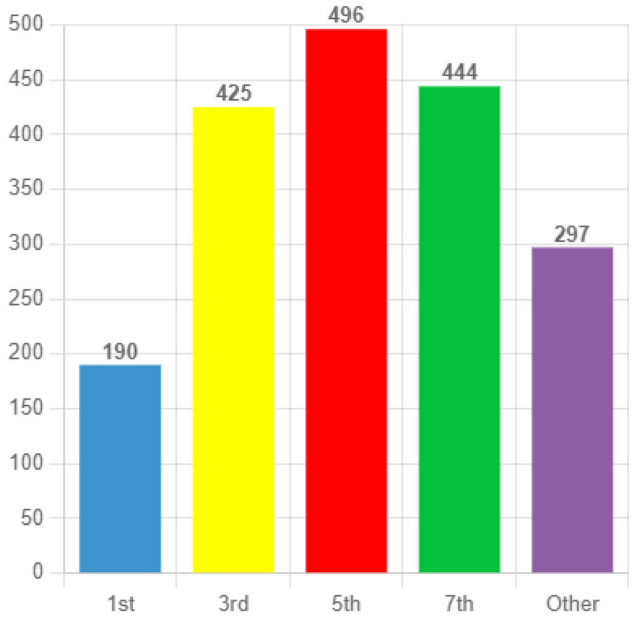
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 1 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 24213	Seen by health care provider: 191	Not Seen by health care provider: 11
Total Acanthosis Nigricans: 1852	Already under care: 36	Referral not issued:
		Referral not returned: 1248

Acanthosis Nigricans (AN)

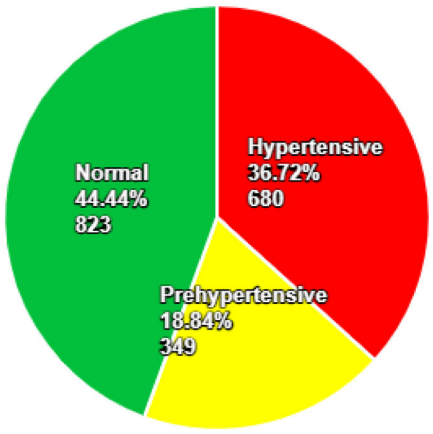
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

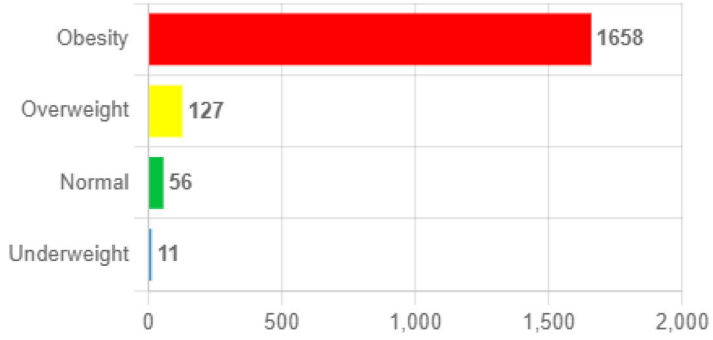
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	60	129	196	175	120
Prehypertensive	25	75	94	98	57
Normal	105	221	206	171	120



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	178	375	446	397	262
Overweight	3	23	38	35	28
Normal	6	21	12	10	7
Underweight	3	6	0	2	0

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

Texas Risk Assessment for Type 2 Diabetes in Children

Risk Assessments Fact Sheet

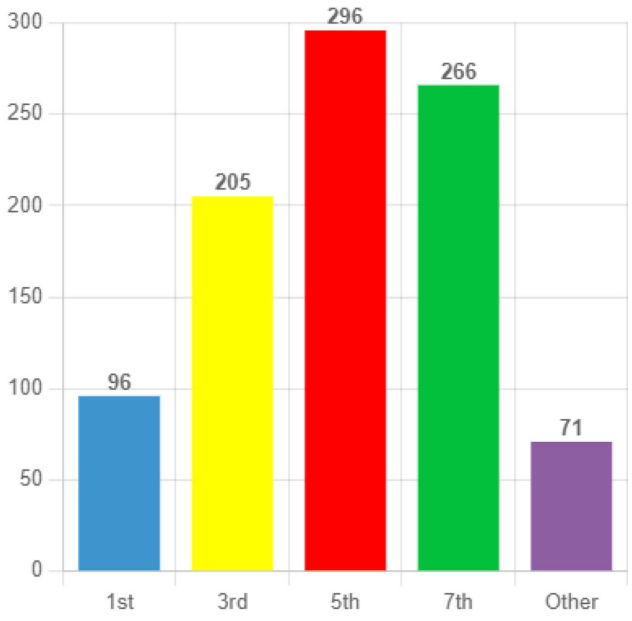
REGION 2 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 17588	Seen by health care provider: 132	Not Seen by health care provider: 17
Total Acanthosis Nigricans: 934	Already under care: 41	Referral not issued: 1
		Referral not returned: 680

Acanthosis Nigricans (AN)

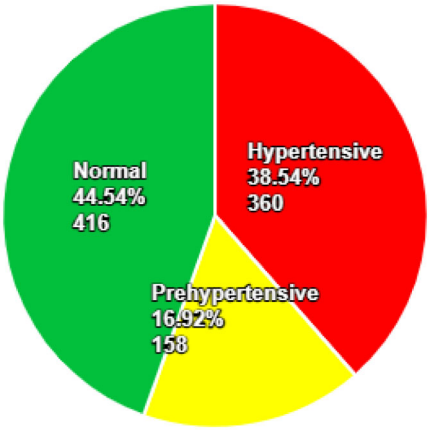
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

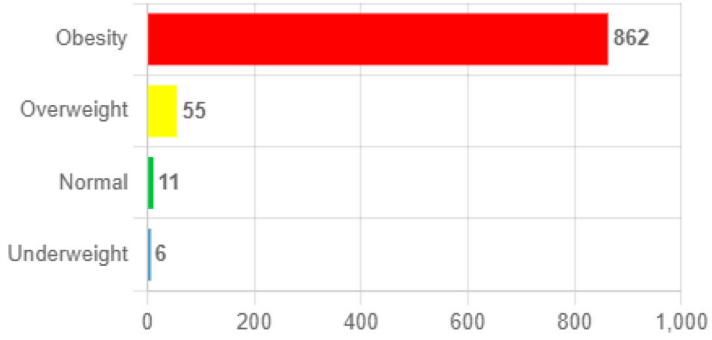
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	35	70	107	125	23
Prehypertensive	18	31	58	38	13
Normal	43	104	131	103	35



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	95	192	270	239	66
Overweight	0	9	22	21	3
Normal	0	3	2	5	1
Underweight	1	1	2	1	1

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

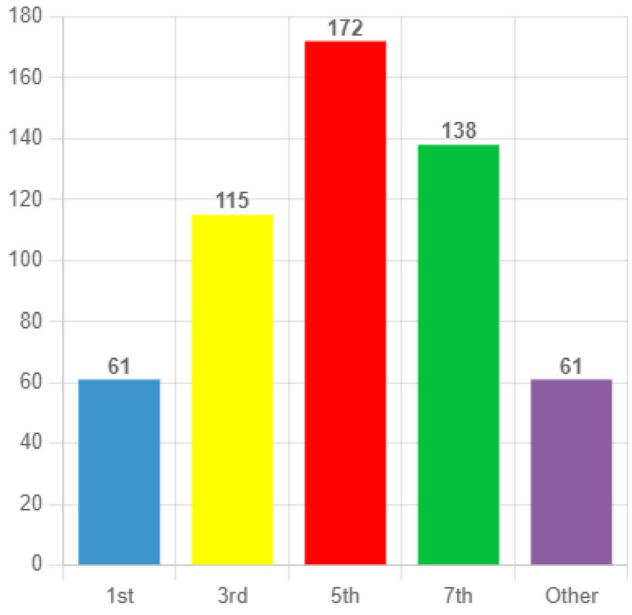
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 3 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 11065	Seen by health care provider: 49	Not Seen by health care provider: 3
Total Acanthosis Nigricans: 547	Already under care: 18	Referral not issued:
		Referral not returned: 468

Acanthosis Nigricans (AN)

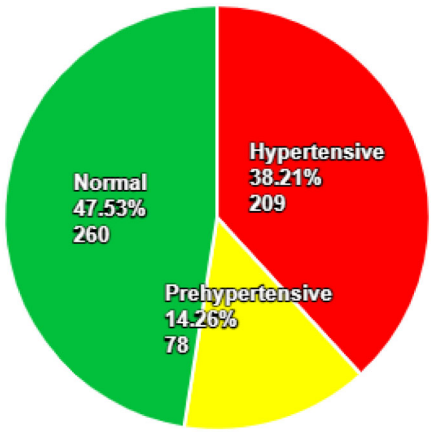
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

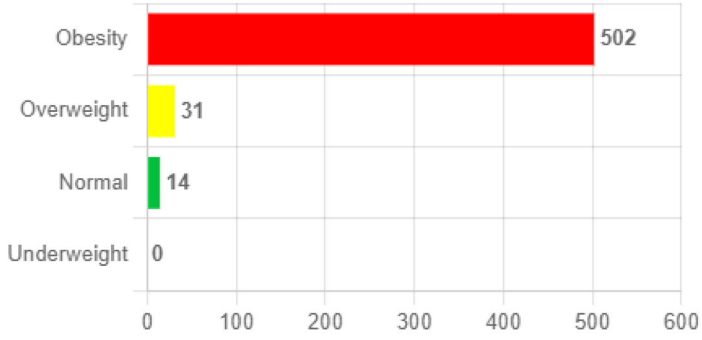
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	22	46	53	64	24
Prehypertensive	5	19	31	11	12
Normal	34	50	88	63	25



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	56	108	157	121	60
Overweight	2	3	13	12	1
Normal	3	4	2	5	0
Underweight	0	0	0	0	0

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

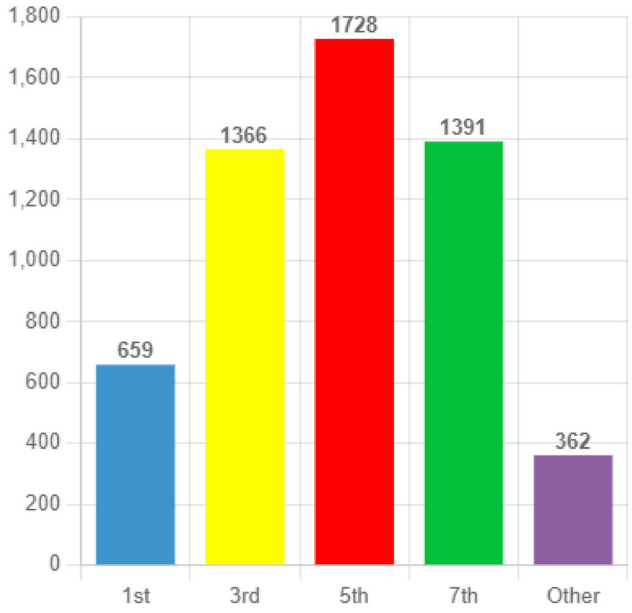
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 4 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 126398	Seen by health care provider: 398	Not Seen by health care provider: 7
Total Acanthosis Nigricans: 5506	Already under care: 87	Referral not issued: 1
		Referral not returned: 4522

Acanthosis Nigricans (AN)

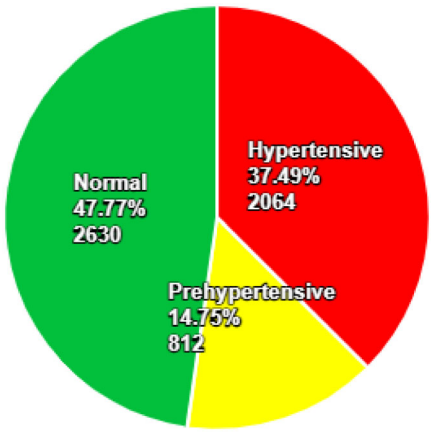
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

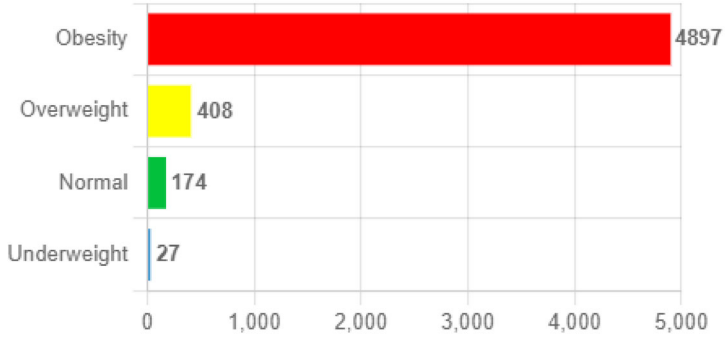
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	221	443	683	586	131
Prehypertensive	96	201	264	206	45
Normal	342	722	781	599	186



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	584	1224	1543	1215	331
Overweight	36	89	144	113	26
Normal	37	45	35	54	3
Underweight	2	8	6	9	2

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 10 2020-2021

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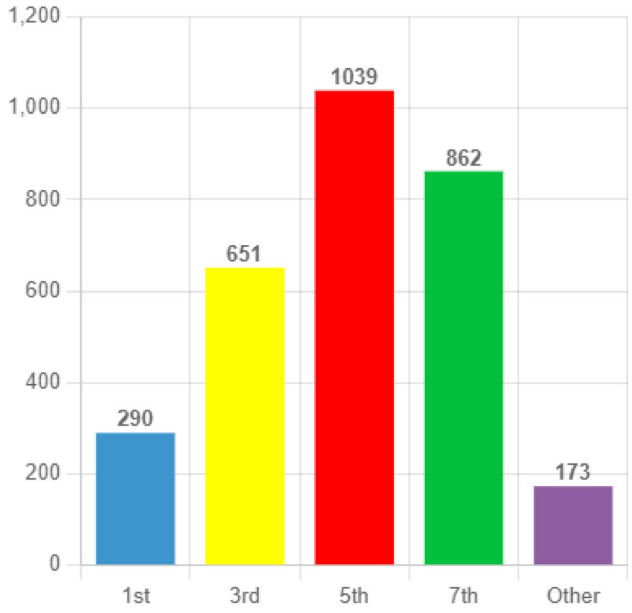
Risk Assessment Data	Referral Information	
Total Children Assessed: 101346	Seen by health care provider: 251	Not Seen by health care provider: 3
Total Acanthosis Nigricans: 3015	Already under care: 56	Referral not issued:
		Referral not returned: 2346

Acanthosis Nigricans (AN)

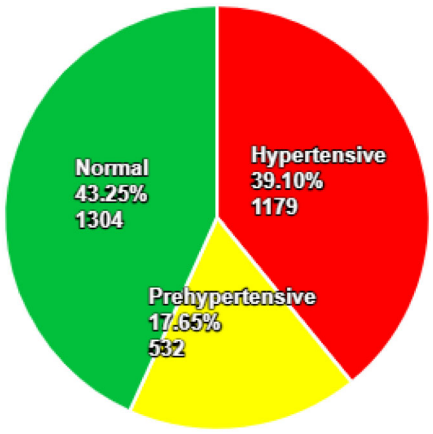
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

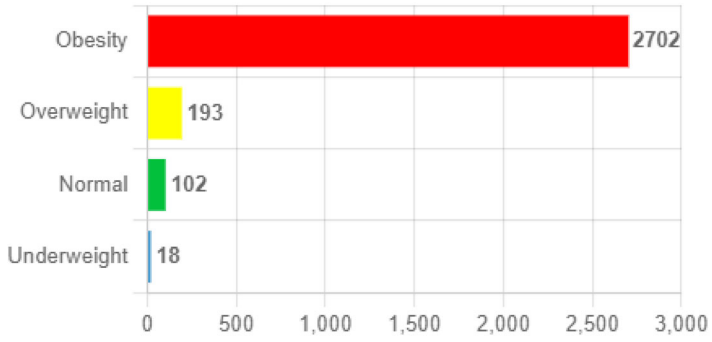
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	90	243	388	383	75
Prehypertensive	48	104	206	148	26
Normal	152	304	445	331	72



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	252	583	936	773	158
Overweight	13	42	73	56	9
Normal	21	18	26	32	5
Underweight	4	8	4	1	1

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

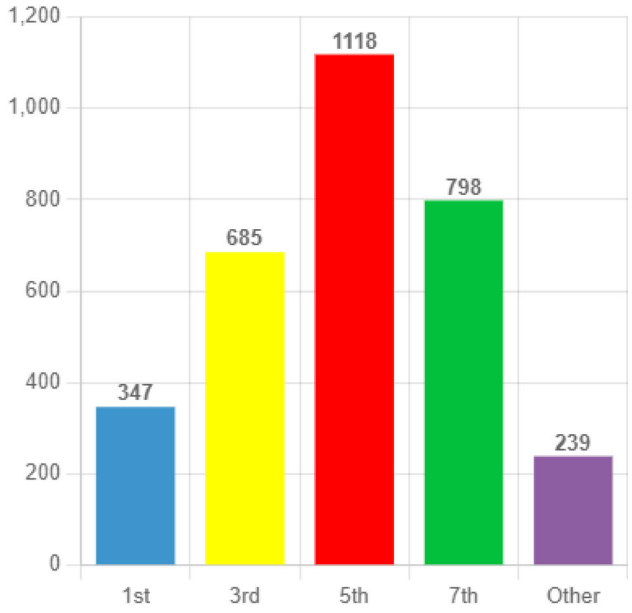
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 11 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 91635	Seen by health care provider: 227	Not Seen by health care provider: 9
Total Acanthosis Nigricans: 3187	Already under care: 35	Referral not issued: 1
		Referral not returned: 2788

Acanthosis Nigricans (AN)

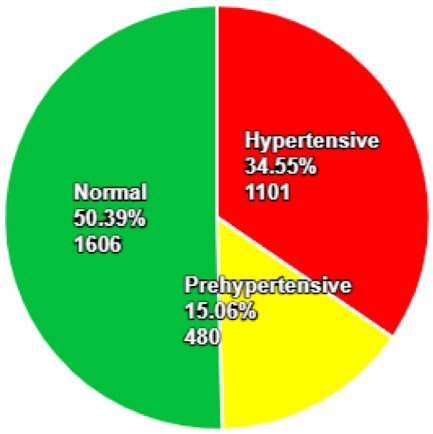
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

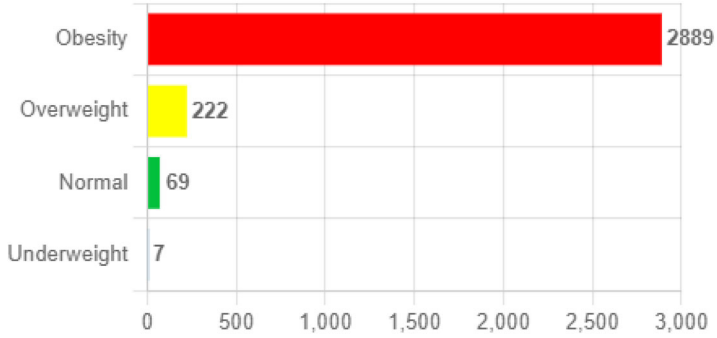
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	99	195	375	327	105
Prehypertensive	40	108	178	119	35
Normal	208	382	565	352	99



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	324	631	993	718	223
Overweight	11	41	93	66	11
Normal	12	12	28	13	4
Underweight	0	1	4	1	1

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 13 2020-2021

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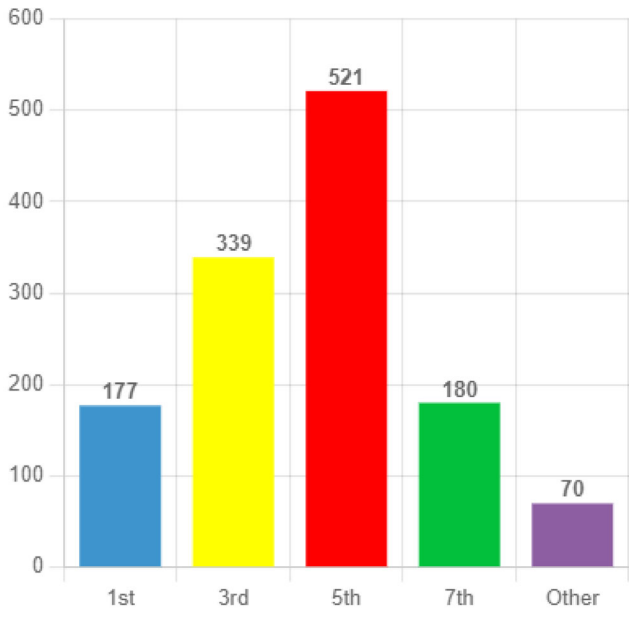
Risk Assessment Data	Referral Information	
Total Children Assessed: 36821	Seen by health care provider: 95	Not Seen by health care provider: 5
Total Acanthosis Nigricans: 1287	Already under care: 24	Referral not issued: 20
		Referral not returned: 1038

Acanthosis Nigricans (AN)

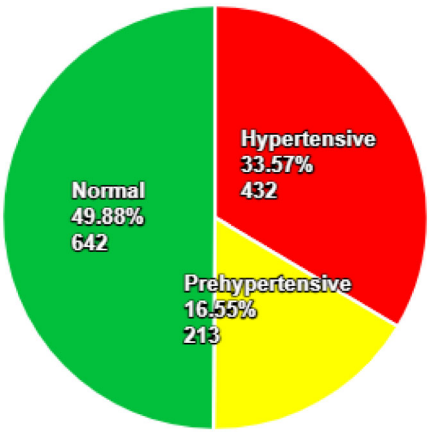
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

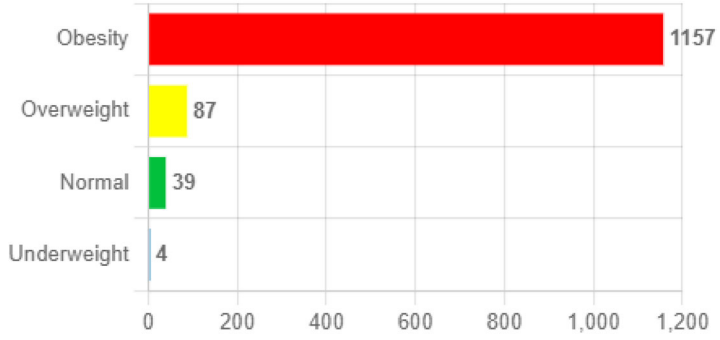
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	45	107	183	77	20
Prehypertensive	24	44	91	43	11
Normal	108	188	247	60	39



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	145	311	475	158	68
Overweight	14	21	36	15	1
Normal	16	6	10	6	1
Underweight	2	1	0	1	0

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

Texas Risk Assessment for Type 2 Diabetes in Children

Risk Assessments Fact Sheet

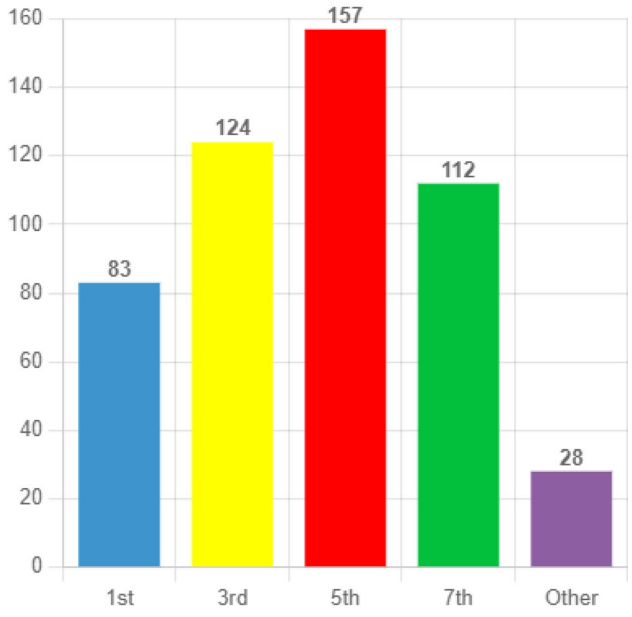
REGION 15 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 10947	Seen by health care provider: 34	Not Seen by health care provider: 2
Total Acanthosis Nigricans: 504	Already under care: 46	Referral not issued:
		Referral not returned: 393

Acanthosis Nigricans (AN)

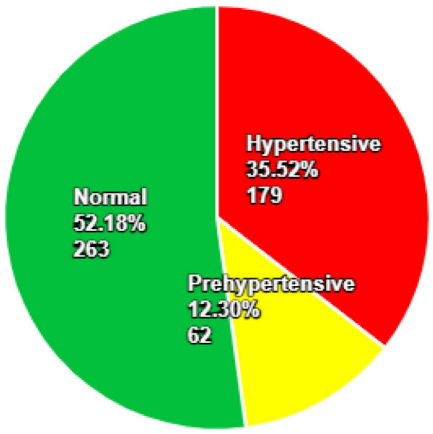
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

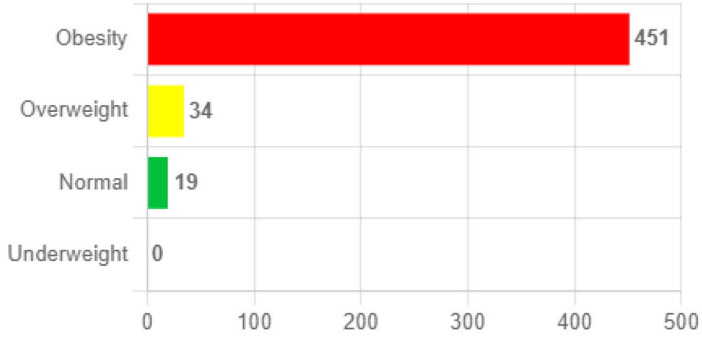
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	34	41	65	34	5
Prehypertensive	5	21	24	10	2
Normal	44	62	68	68	21



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	73	110	139	101	28
Overweight	7	10	12	5	0
Normal	3	4	6	6	0
Underweight	0	0	0	0	0

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

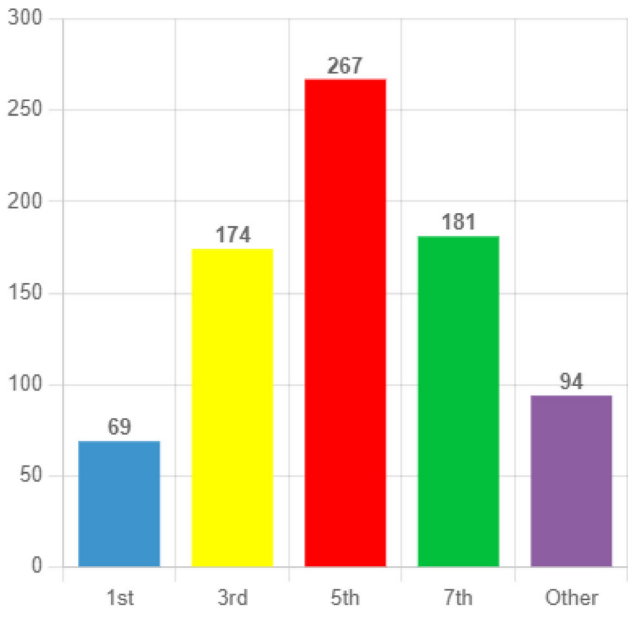
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 18 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 19191	Seen by health care provider: 75	Not Seen by health care provider:
Total Acanthosis Nigricans: 785	Already under care: 11	Referral not issued:
		Referral not returned: 567

Acanthosis Nigricans (AN)

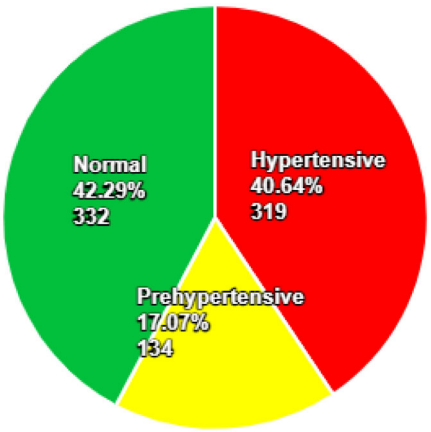
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

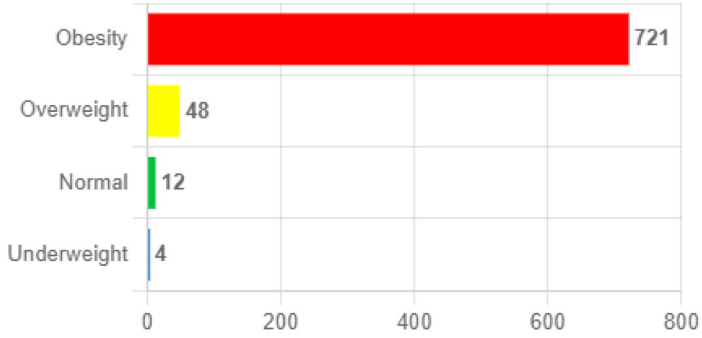
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	23	47	137	76	36
Prehypertensive	15	25	46	31	17
Normal	31	102	84	74	41



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	64	158	249	166	84
Overweight	3	9	14	15	7
Normal	2	5	2	0	3
Underweight	0	2	2	0	0

The University of Texas Rio Grande Valley
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Border Health Office

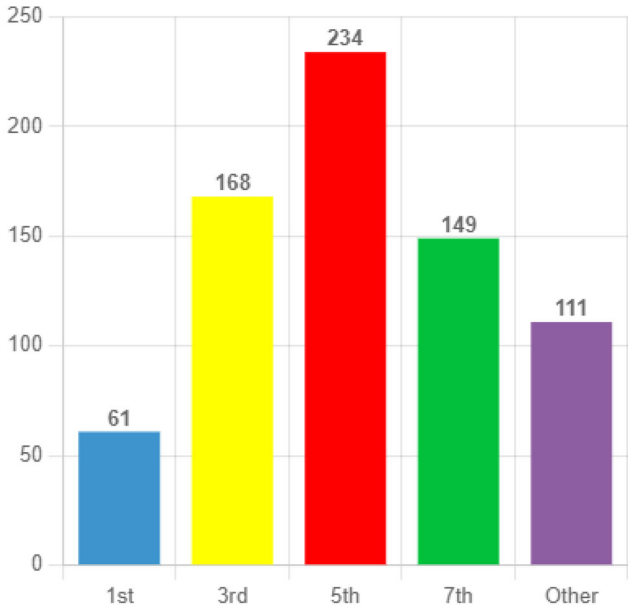
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 19 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 9877	Seen by health care provider: 73	Not Seen by health care provider: 1
Total Acanthosis Nigricans: 723	Already under care: 31	Referral not issued: 1
		Referral not returned: 580

Acanthosis Nigricans (AN)

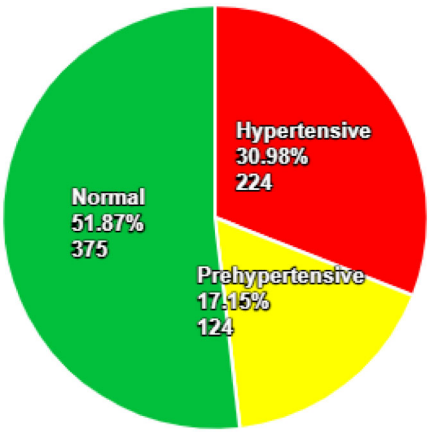
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

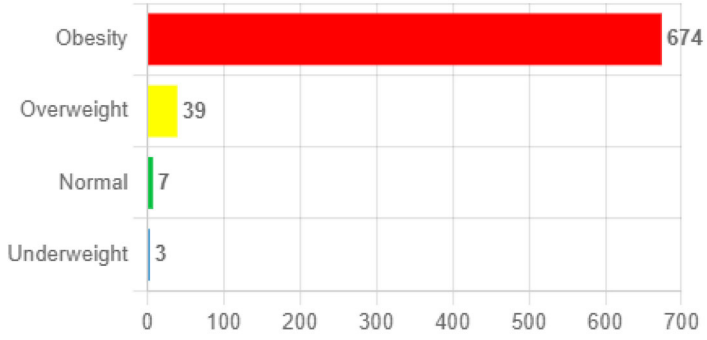
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	6	46	62	76	34
Prehypertensive	9	32	40	24	19
Normal	46	90	132	49	58



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	56	159	217	138	104
Overweight	3	7	13	10	6
Normal	2	1	3	1	0
Underweight	0	1	1	0	1

The University of Texas Rio Grande Valley
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Border Health Office

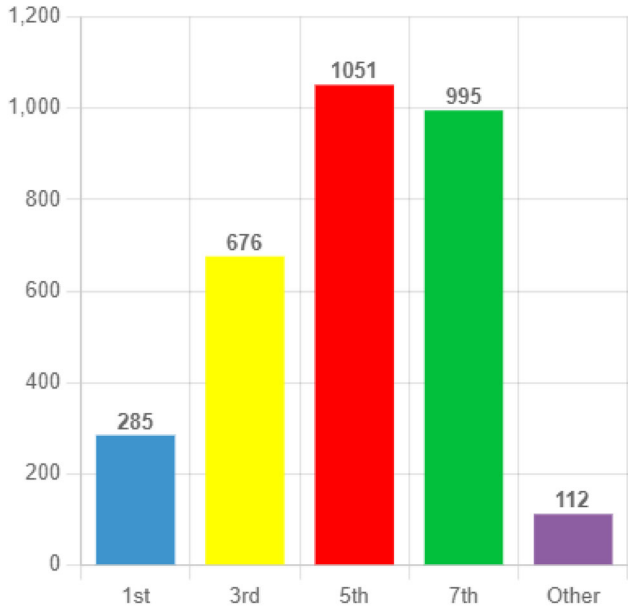
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 20 2020-2021

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 79407	Seen by health care provider: 208	Not Seen by health care provider: 6
Total Acanthosis Nigricans: 3119	Already under care: 33	Referral not issued: 3
		Referral not returned: 2328

Acanthosis Nigricans (AN)

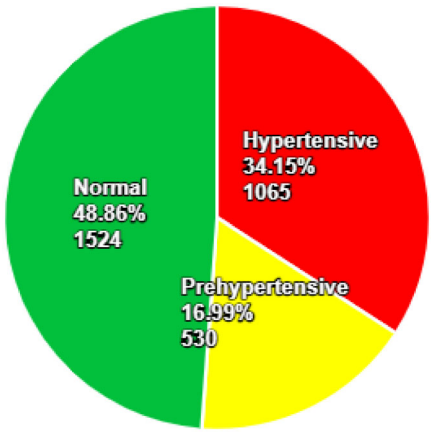
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

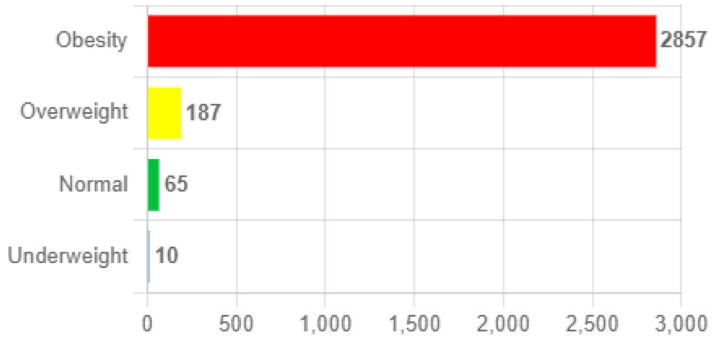
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	90	207	368	347	53
Prehypertensive	38	112	188	177	15
Normal	157	357	495	471	44



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	264	639	963	888	103
Overweight	10	29	64	78	6
Normal	10	7	22	24	2
Underweight	1	1	2	5	1

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet

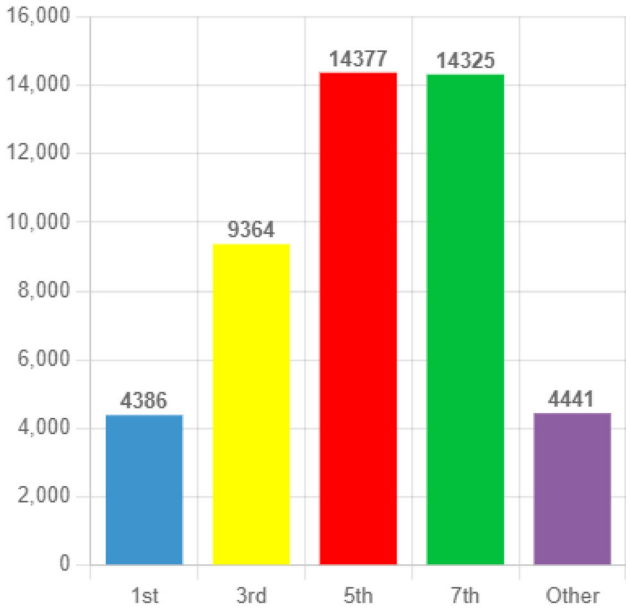
MANDATED REGIONS 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 946135	Seen by health care provider: 3579	Not Seen by health care provider: 182
Total Acanthosis Nigricans: 46893	Already under care: 684	Referral not issued: 57
		Referral not returned: 36914

Acanthosis Nigricans (AN)

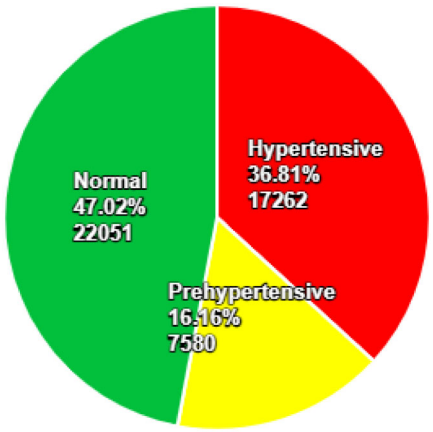
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

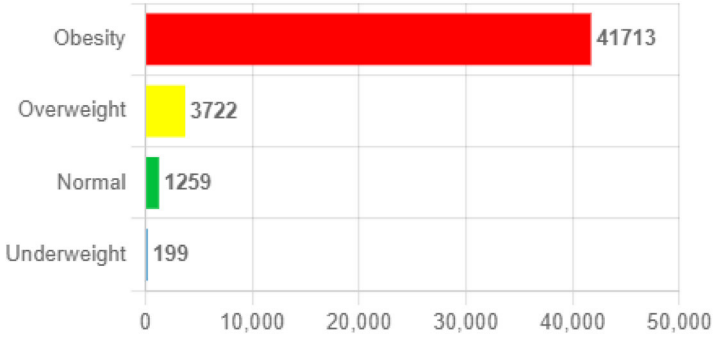
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	1397	3080	5008	5941	1836
Prehypertensive	648	1440	2433	2374	685
Normal	2341	4844	6936	6010	1920



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	4024	8501	12696	12490	4002
Overweight	198	584	1278	1346	316
Normal	140	231	360	419	109
Underweight	24	48	43	70	14

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

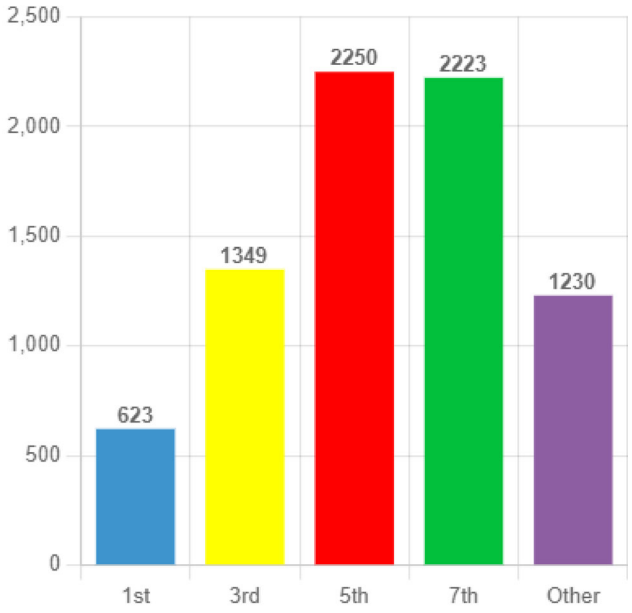
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 1 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 94990	Seen by health care provider: 649	Not Seen by health care provider: 38
Total Acanthosis Nigricans: 7675	Already under care: 151	Referral not issued: 1
		Referral not returned: 5469

Acanthosis Nigricans (AN)

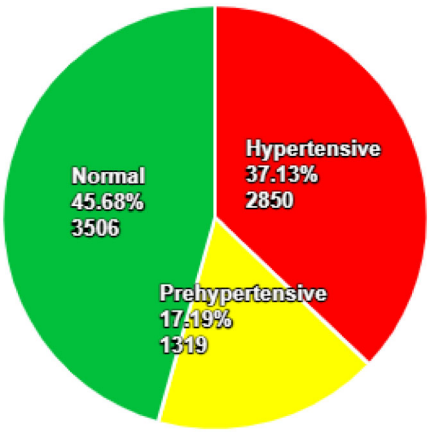
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

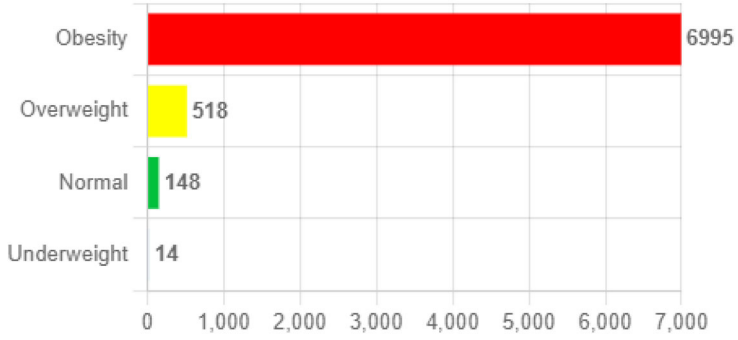
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	195	437	780	905	533
Prehypertensive	84	225	403	398	209
Normal	344	687	1067	920	488



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	590	1248	2049	1996	1112
Overweight	20	82	160	173	83
Normal	9	18	38	51	32
Underweight	4	1	3	3	3

The University of Texas Rio Grande Valley
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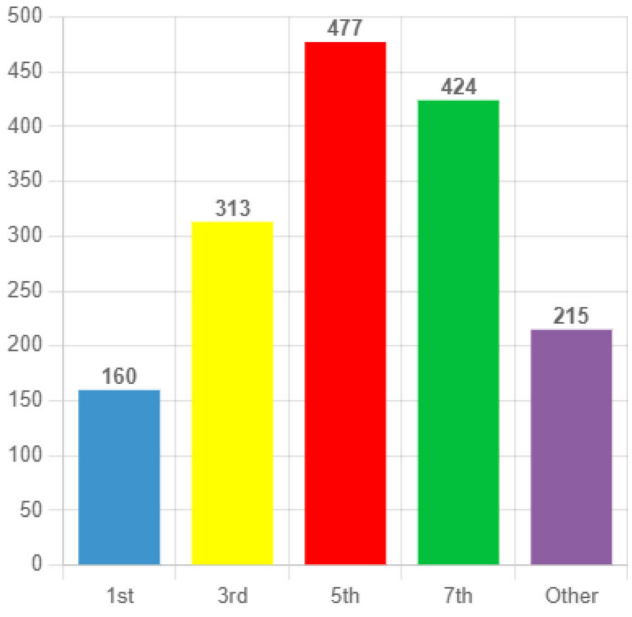
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 2 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 27757	Seen by health care provider: 207	Not Seen by health care provider: 14
Total Acanthosis Nigricans: 1589	Already under care: 59	Referral not issued: 1
		Referral not returned: 1252

Acanthosis Nigricans (AN)

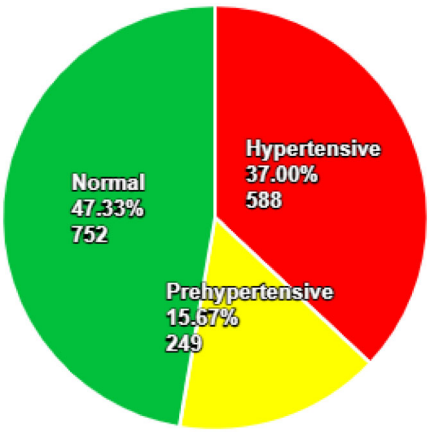
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

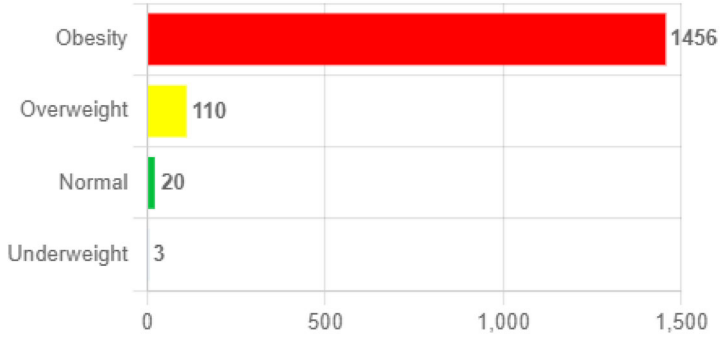
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	47	96	170	172	103
Prehypertensive	22	45	76	70	36
Normal	91	172	231	182	76



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	147	293	435	380	201
Overweight	10	15	38	36	11
Normal	3	5	4	6	2
Underweight	0	0	0	2	1

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 3 2021-2022

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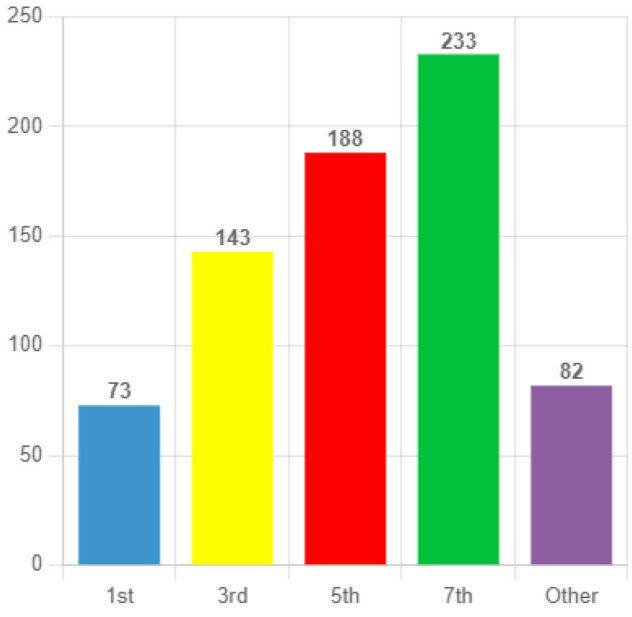
Risk Assessment Data	Referral Information	
Total Children Assessed: 11287	Seen by health care provider: 62	Not Seen by health care provider: 3
Total Acanthosis Nigricans: 719	Already under care: 13	Referral not issued: 1
		Referral not returned: 602

Acanthosis Nigricans (AN)

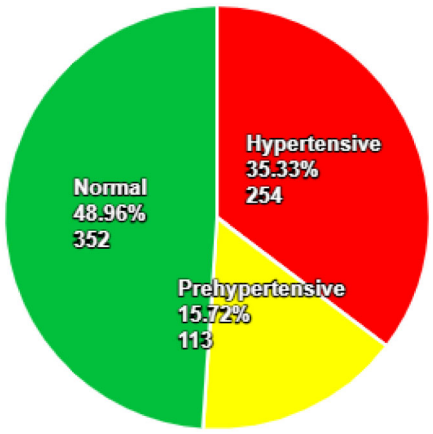
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

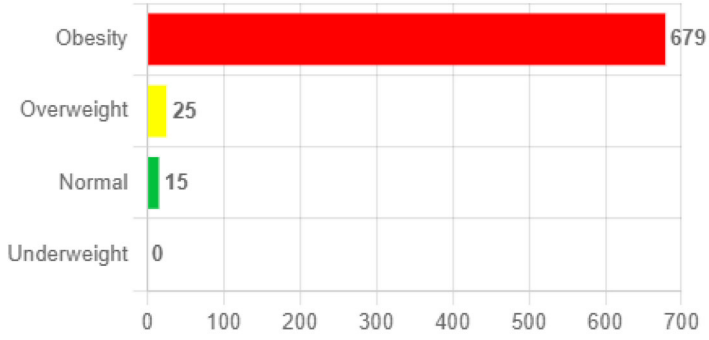
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	18	47	70	97	22
Prehypertensive	12	26	24	37	14
Normal	43	70	94	99	46



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	71	133	177	217	81
Overweight	1	6	9	8	1
Normal	1	4	2	8	0
Underweight	0	0	0	0	0

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

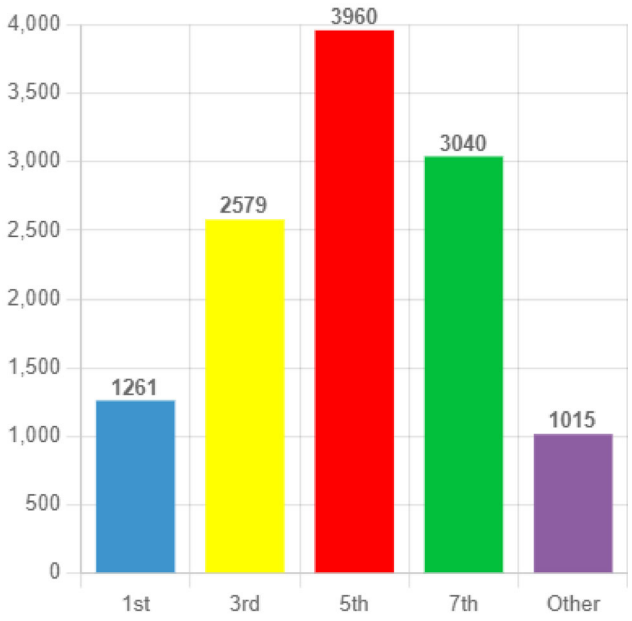
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 4 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 235493	Seen by health care provider: 915	Not Seen by health care provider: 57
Total Acanthosis Nigricans: 11855	Already under care: 145	Referral not issued: 14
		Referral not returned: 9586

Acanthosis Nigricans (AN)

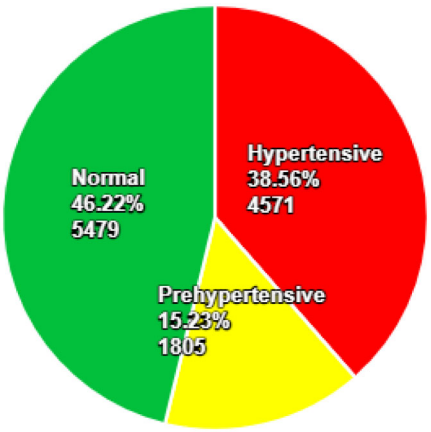
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

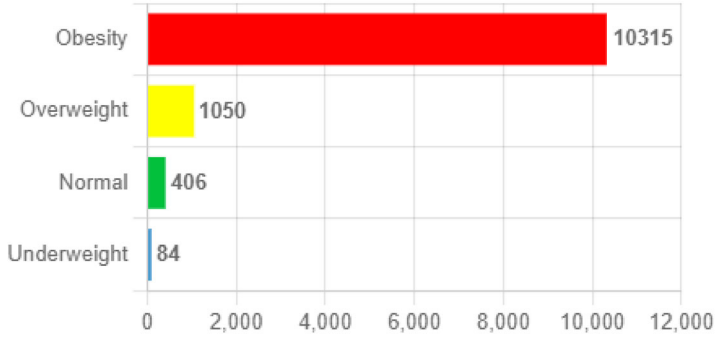
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	428	901	1452	1339	451
Prehypertensive	186	363	629	486	141
Normal	647	1315	1879	1215	423



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	1120	2274	3406	2591	924
Overweight	79	182	409	313	67
Normal	52	99	134	102	19
Underweight	10	24	11	34	5

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

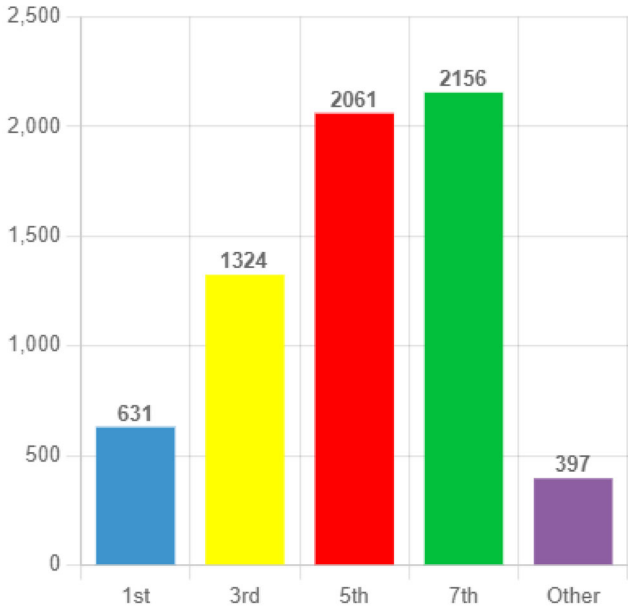
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 10 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 175912	Seen by health care provider: 543	Not Seen by health care provider: 17
Total Acanthosis Nigricans: 6569	Already under care: 79	Referral not issued: 3
		Referral not returned: 5024

Acanthosis Nigricans (AN)

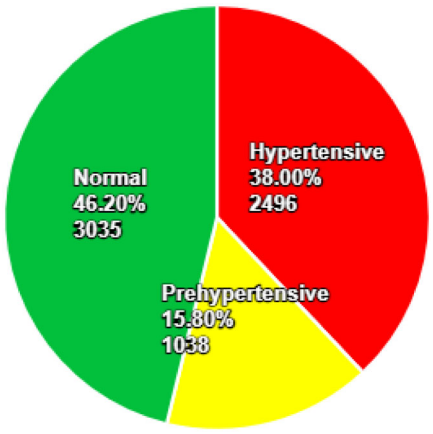
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

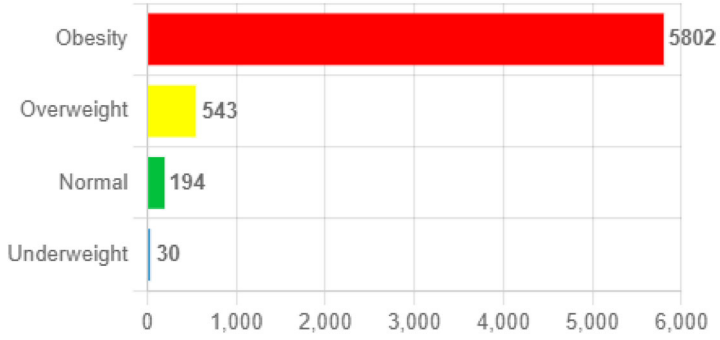
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	212	450	737	956	141
Prehypertensive	93	201	346	335	63
Normal	326	673	978	865	193



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	572	1181	1790	1914	345
Overweight	31	88	209	182	33
Normal	28	47	52	51	16
Underweight	0	8	10	9	3

The University of Texas Rio Grande Valley
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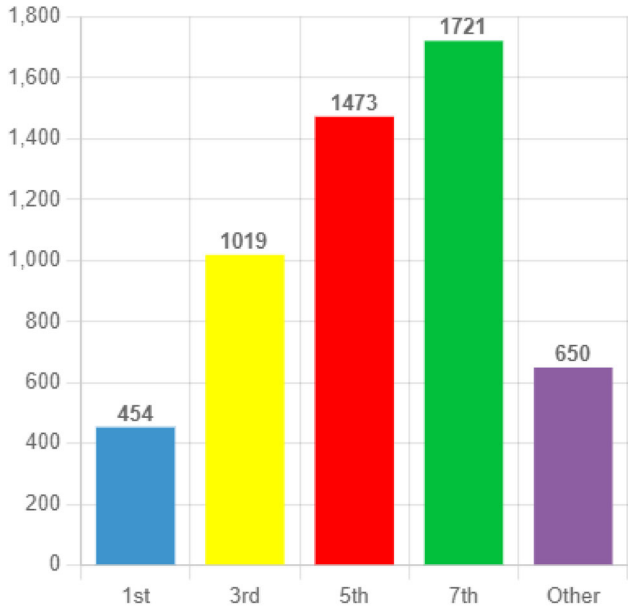
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 11 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 130772	Seen by health care provider: 329	Not Seen by health care provider: 11
Total Acanthosis Nigricans: 5317	Already under care: 81	Referral not issued:
		Referral not returned: 4664

Acanthosis Nigricans (AN)

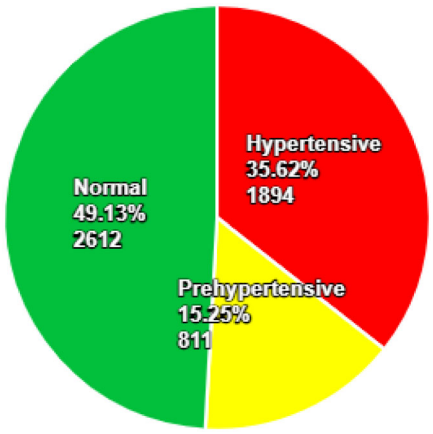
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

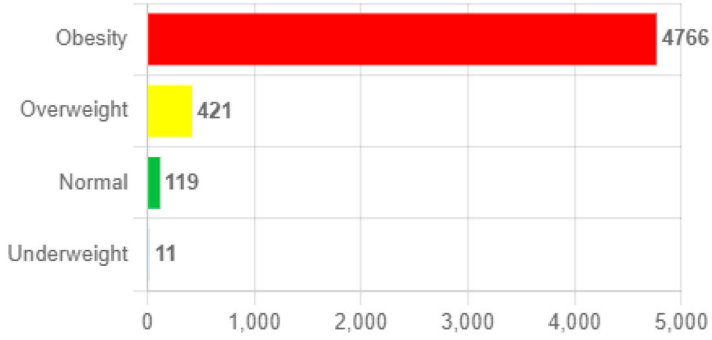
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	128	289	477	729	271
Prehypertensive	71	156	223	272	89
Normal	255	574	773	720	290



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	426	944	1327	1489	580
Overweight	11	59	117	179	55
Normal	16	13	27	48	15
Underweight	1	3	2	5	0

The University of Texas Rio Grande Valley
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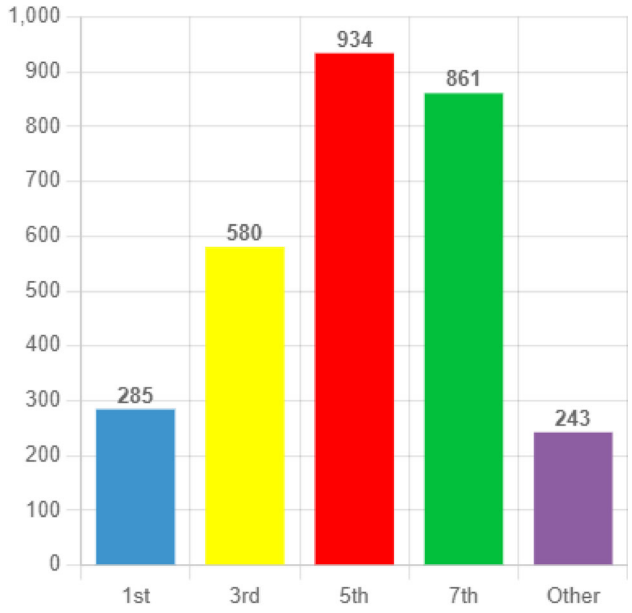
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 13 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 81437	Seen by health care provider: 156	Not Seen by health care provider: 12
Total Acanthosis Nigricans: 2903	Already under care: 15	Referral not issued: 34
		Referral not returned: 2430

Acanthosis Nigricans (AN)

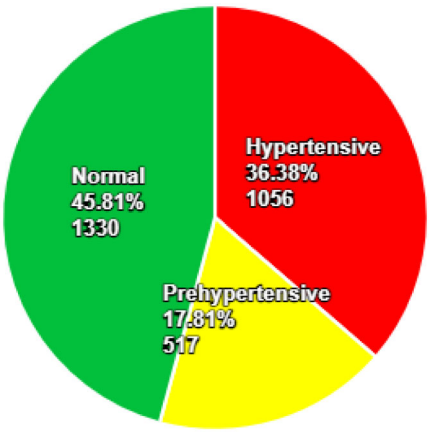
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

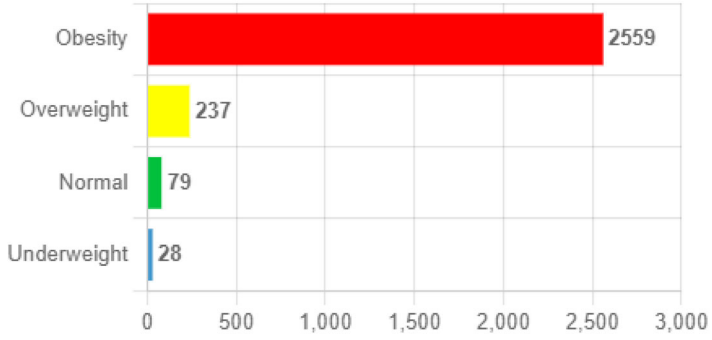
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	85	205	299	357	110
Prehypertensive	45	100	163	173	36
Normal	155	275	472	331	97



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	261	532	821	739	206
Overweight	9	30	82	90	26
Normal	13	12	24	20	10
Underweight	2	6	7	12	1

The University of Texas Rio Grande Valley
College of Health Professions
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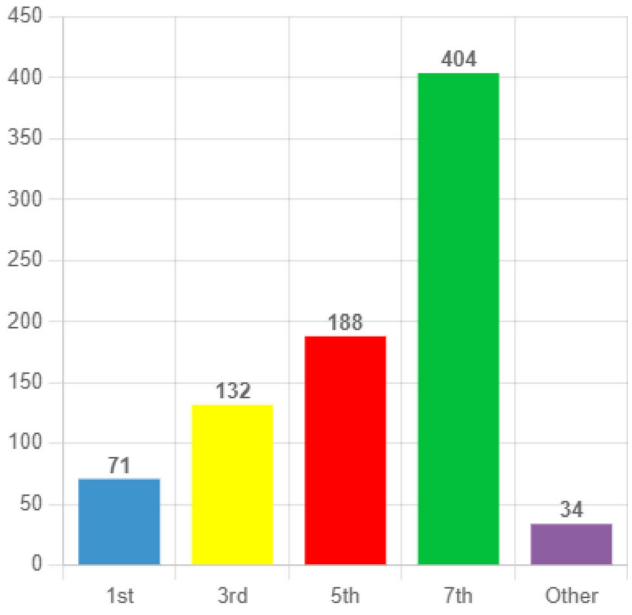
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 15 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 12084	Seen by health care provider: 74	Not Seen by health care provider: 4
Total Acanthosis Nigricans: 829	Already under care: 4	Referral not issued:
		Referral not returned: 721

Acanthosis Nigricans (AN)

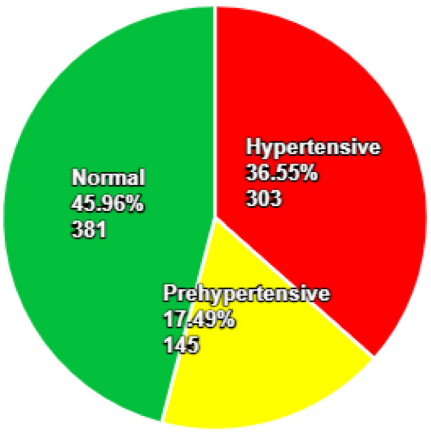
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

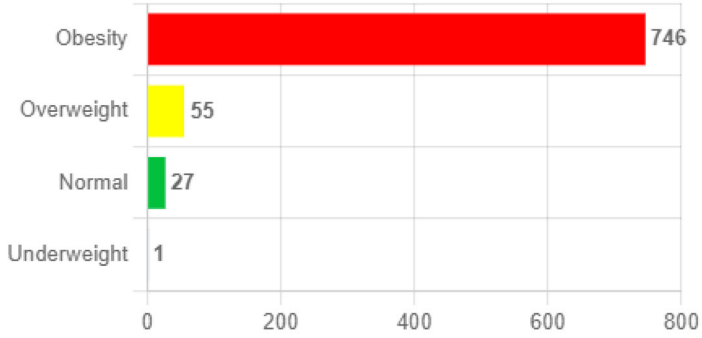
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	30	41	71	153	8
Prehypertensive	11	27	35	65	7
Normal	30	64	82	186	19



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	66	119	164	364	33
Overweight	5	10	15	24	1
Normal	0	3	9	15	0
Underweight	0	0	0	1	0

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

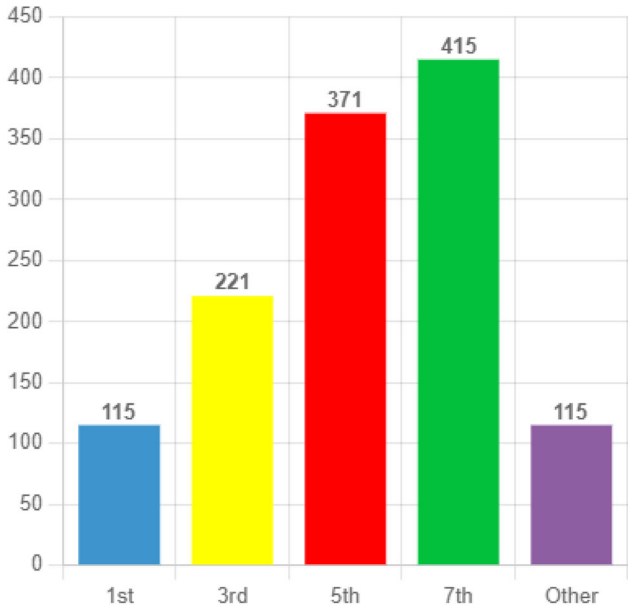
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 18 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 25494	Seen by health care provider: 114	Not Seen by health care provider: 4
Total Acanthosis Nigricans: 1237	Already under care: 38	Referral not issued:
		Referral not returned: 958

Acanthosis Nigricans (AN)

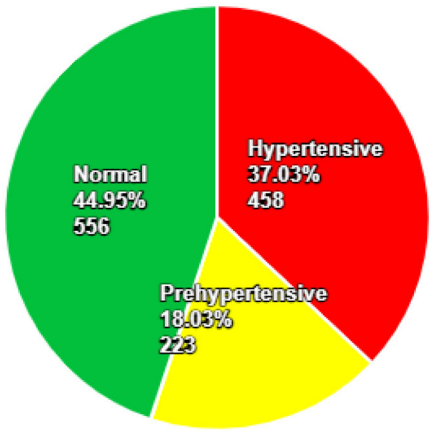
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

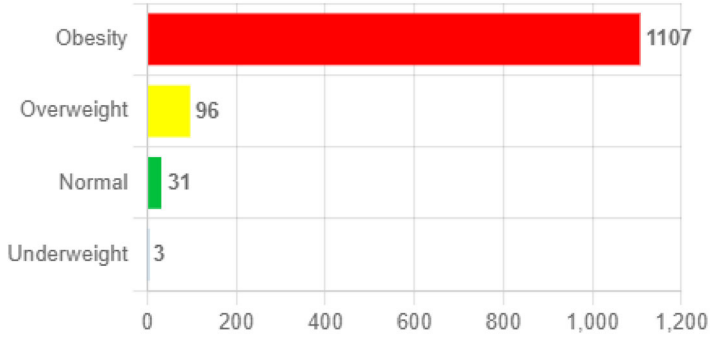
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	36	76	142	158	46
Prehypertensive	23	38	63	75	24
Normal	56	107	166	182	45



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	107	207	333	354	106
Overweight	2	10	29	49	6
Normal	6	3	7	12	3
Underweight	0	1	2	0	0

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

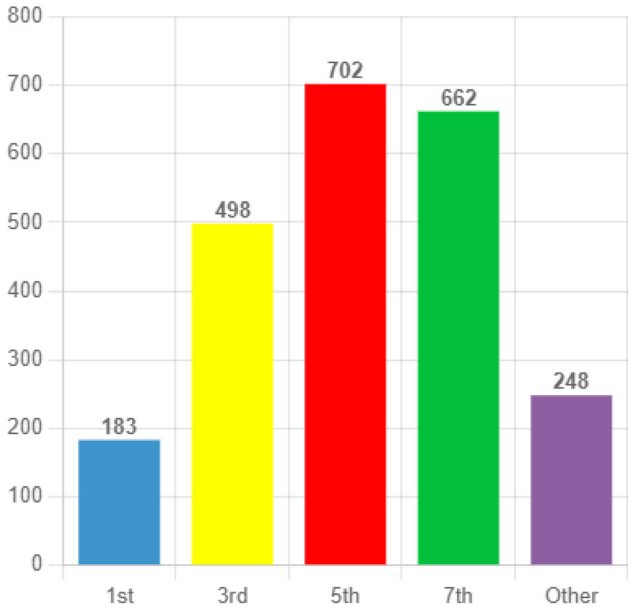
Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 19 2021-2022

The Texas Risk Assessment for Type 2 Diabetes in Children is a state mandated program developed, coordinated, and administrated by The University of Texas Rio Grande Valley College of Health Professions Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. Every year during vision/hearing and scoliosis screenings, children in 1st, 3rd, 5th, and 7th grades are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure. These are the results:

Risk Assessment Data	Referral Information	
Total Children Assessed: 29900	Seen by health care provider: 183	Not Seen by health care provider: 5
Total Acanthosis Nigricans: 2293	Already under care: 39	Referral not issued:
		Referral not returned: 1906

Acanthosis Nigricans (AN)

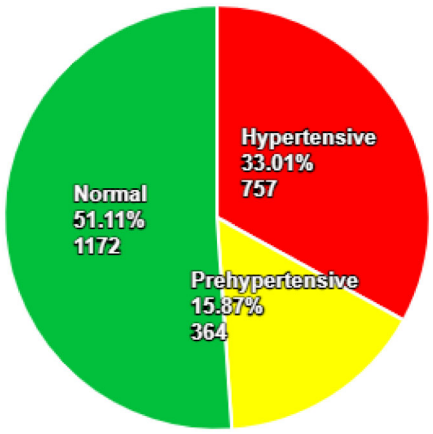
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

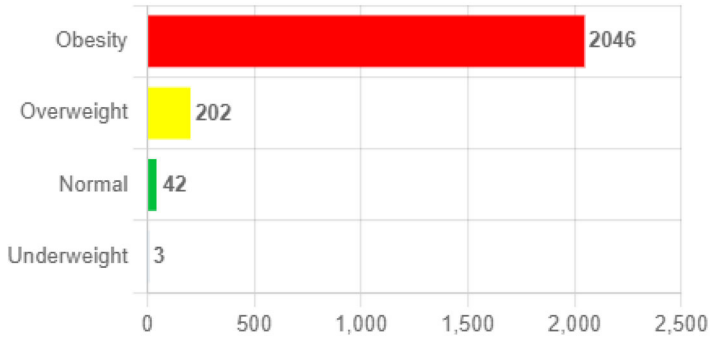
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	50	144	229	268	66
Prehypertensive	22	73	116	119	34
Normal	111	281	357	275	148



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	170	456	629	572	219
Overweight	10	33	56	81	22
Normal	3	8	15	9	7
Underweight	0	1	2	0	0

The University of Texas Rio Grande Valley
College of Health Professions
Border Health Office

Texas Risk Assessment for Type 2 Diabetes in Children
Risk Assessments Fact Sheet
REGION 20 2021-2022

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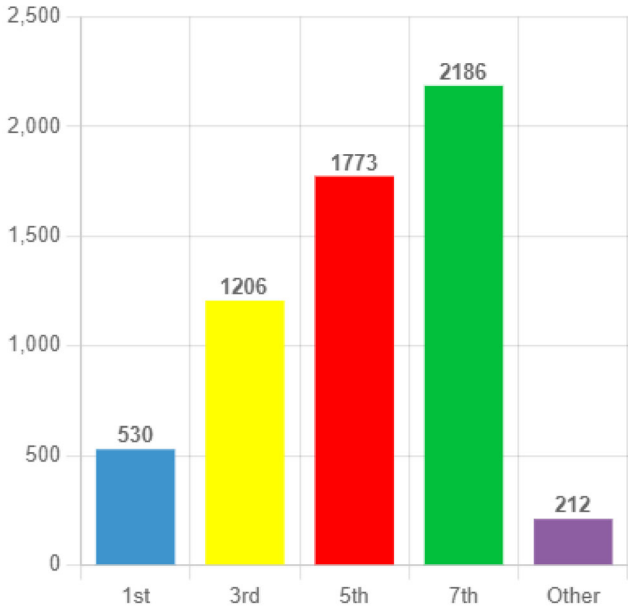
Risk Assessment Data	Referral Information	
Total Children Assessed: 113059	Seen by health care provider: 347	Not Seen by health care provider: 17
Total Acanthosis Nigricans: 5907	Already under care: 60	Referral not issued: 3
		Referral not returned: 4302

Acanthosis Nigricans (AN)

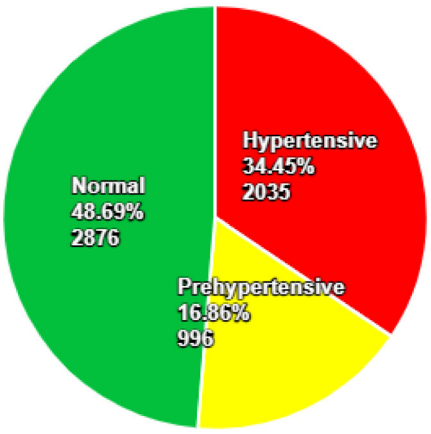
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for the development of type 2 diabetes.



Blood Pressure - Children with AN

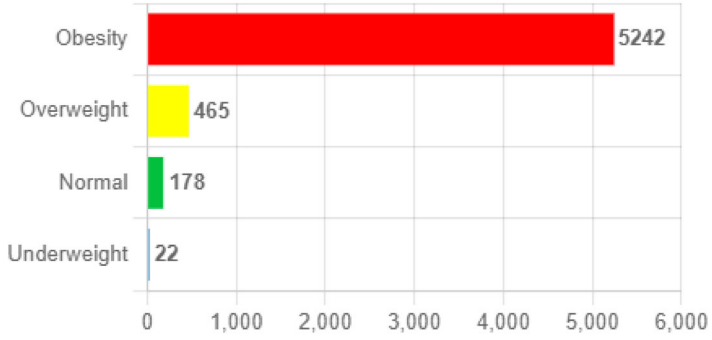
Hypertension is also associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood correlates with hypertension in early adulthood. Blood pressure categories are identified as hypertensive, prehypertensive, or normal.

	1st	3rd	5th	7th	Other
Hypertensive	168	394	581	807	85
Prehypertensive	79	186	355	344	32
Normal	283	626	837	1035	95



Body Mass Index - Children with AN

Body Mass Index (BMI) is a measurement that helps determine overweight status by using a mathematical formula that takes into account age, height, and weight. BMI categories are obesity, overweight, normal, and underweight.



	1st	3rd	5th	7th	Other
Obesity	494	1114	1565	1874	195
Overweight	20	69	154	211	11
Normal	9	19	48	97	5
Underweight	7	4	6	4	1