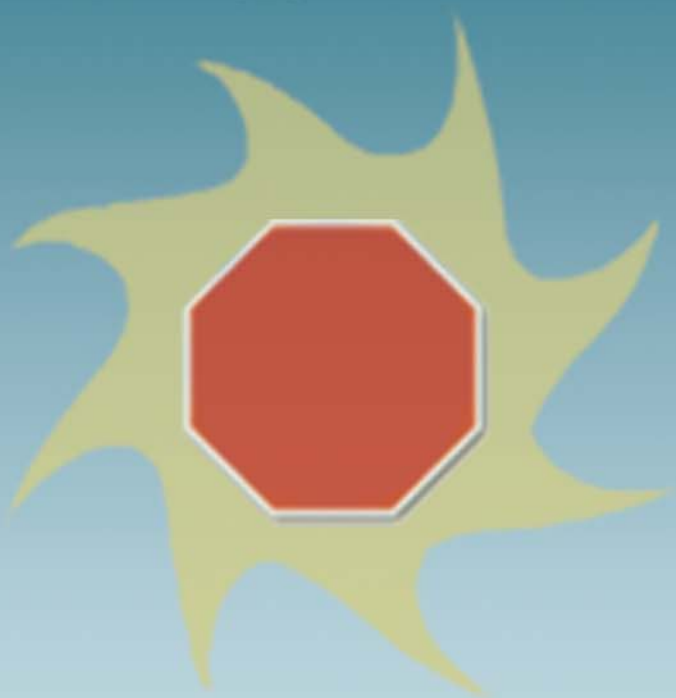


Texas Risk Assessment for Type 2 Diabetes in Children

A Report to the Governor
and the 84th Legislature of
the State of Texas



The University of Texas-Pan American
College of Health Sciences and Human Services
Border Health Office





**The University of Texas-Pan American
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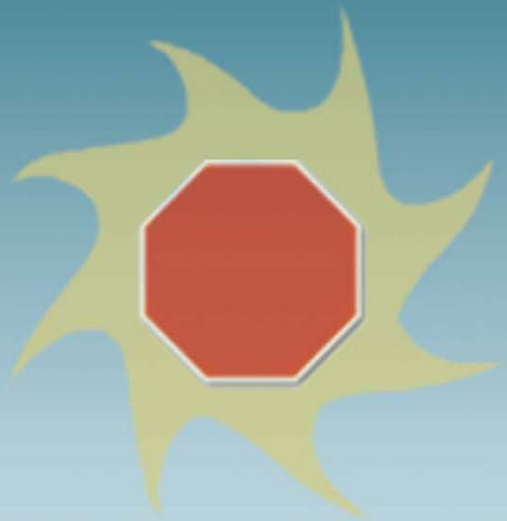
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ACKNOWLEDGMENTS

The Texas Risk Assessment for Type 2 Diabetes in Children, a legislatively mandated program developed, coordinated, and administrated by The University of Texas Pan-American, College of Health Sciences and Human Services, Border Health Office (BHO), has proudly served the state of Texas by helping families in the fight against type 2 diabetes by identifying children with risk factors for the disease since 1999. The fight against type 2 diabetes cannot be won alone and we would like to extend a special thanks to those who truly make this initiative work - our Texas school nurses. Day-to-day, school nurses caringly assume many roles and responsibilities to ensure the health and safety of children in their communities. With this program, school nurses are truly an integral part to the solution in the prevention of this devastating disease.

Programs such as the Texas Risk Assessment for Type 2 Diabetes in Children program would not be possible without a champion advocating for the health and wellness for children in the Texas State Legislature. For his unwavering support and belief in the program, The University of Texas-Pan American, College of Health Sciences and Human Services, Border Health Office would like to recognize and thank State Senator Eddie Lucio Jr., D-District 27 for his commitment to reduce the burden of type 2 diabetes in children throughout the State of Texas.

The Texas Risk Assessment for Type 2 Diabetes in Children program has been housed and supported by The University of Texas-Pan American, soon to be the new University of Texas-Rio Grande Valley. For their support and dedication in the continued fight against diabetes, we would like to thank University of Texas-Rio Grande Valley President Dr. Guy Bailey and Provost Dr. Havidán Rodríguez. We would also like to thank Dr. John P. Ronnau, Dean of the College of Health Sciences and Human Services, for cultivating the Border Health Office through new opportunities and inspiring our team to succeed.

The UTPA Border Health Office also appreciates the support and guidance of the Texas Risk Assessment for Type 2 Diabetes in Children Advisory Committee. Their experience, ideas and recommendations have made a positive way forward for the program. Committee members include:

Doreen D. Garza, MPH Executive Director UTPA COHSBS Border Health Office	Arnoldo F. Benavides Principal Freddy Gonzalez Elementary Edinburg CISD	Diana Martinez, RN Parent representative
Victor H. Gonzalez, MD Chair, Texas Diabetes Council	Clara Cácares Contreras Health Specialist Region 1 ESC	Julia Soper, RN School Nurse Pharr-San Juan- Alamo ISD
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EXECUTIVE STATEMENT

Since 1999, the Texas Risk Factor Assessment for Type 2 Diabetes in Children (TRAT2DC) program has been helping families across the state of Texas by identifying children who may be at high risk to develop type 2 diabetes through assessments in public and private schools. Through these assessments, parents are alerted if risk factors are present in children and are encouraged to seek further evaluation from a health professional. Utilizing risk assessments as a starting point for health promotion and disease prevention in a population who is at risk to develop type 2 diabetes has merit and complements concerted efforts to prevent or reduce future health problems. Through these risk assessments, families have become more aware of the signs and risk factors of type 2 diabetes. Equipped with the knowledge and awareness of what these risk factors mean, parents can take action by consulting with a health professional to give their child, and possibly their entire family, the opportunity to make positive lifestyle changes.

The program has also played a role in supporting coordinated school health education programs and public health policy for the prevention of diabetes. A unique and important feature of the Texas Risk Assessment for Type 2 Diabetes in Children program allows school administrators to readily access risk assessment results in real time. The risk assessment results have helped schools initiate systems changes, assist with other school health initiatives, and improve the school health environment. One such initiative is the Children And Neighbors Defeat Obesity (CAN DO) Houston. This non-profit program focuses on improving nutrition, physical activity, and healthy behaviors for Houston children, ages 4-12. Through the sharing of TRAT2DC risk assessment information and data from Houston Independent School District, CAN DO has been able to establish the case for acquiring funds and establishing partnerships and collaborations with organizations such as Houston Health and Human Services, M.D. Anderson, Recipe for Success Foundation, and Houston Parks and Recreation. With these funds, CAN DO Houston has developed above-ground gardens and initiated an after school busing program that takes students to parks for physical activity in schools within Houston ISD.

Included in this report is 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 2012-2013 and 2013-2014 reporting periods. Over 3,900 public and private campuses conducted risk assessments for over 1 million children each reporting year. In the following pages, data will be presented by ESC region on the number of children with the acanthosis nigricans marker, a risk factor for the development of type 2 diabetes. Descriptive data on elevated blood pressure and body mass index from children with the marker will also be presented.

In addition, the report presents information on the TRAT2DC risk referral returns and on member count data for International Classification of Diseases-9 (ICD-9) Code 701.2 Acquired Acanthosis Nigricans. These data suggest the risk assessments have increased and provided important information to families. Based upon the data, there is reason to believe the risk assessments may be effective in getting children who are identified as at-risk to seek follow-up care with a health professional.

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 2012-2013 and 2013-2014 reporting periods are included in this report.

Doreen D. Garza, MPH
Executive Director
The University of Texas-Pan American
College of Health Sciences and Human Services
Border Health Office

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 Pan-American College of Health Sciences and Human Services Border Health Office. This program helps assess children who may be at high risk to develop type 2 diabetes. This assessment is conducted by certified individuals in public and private schools during vision/hearing and scoliosis screenings.

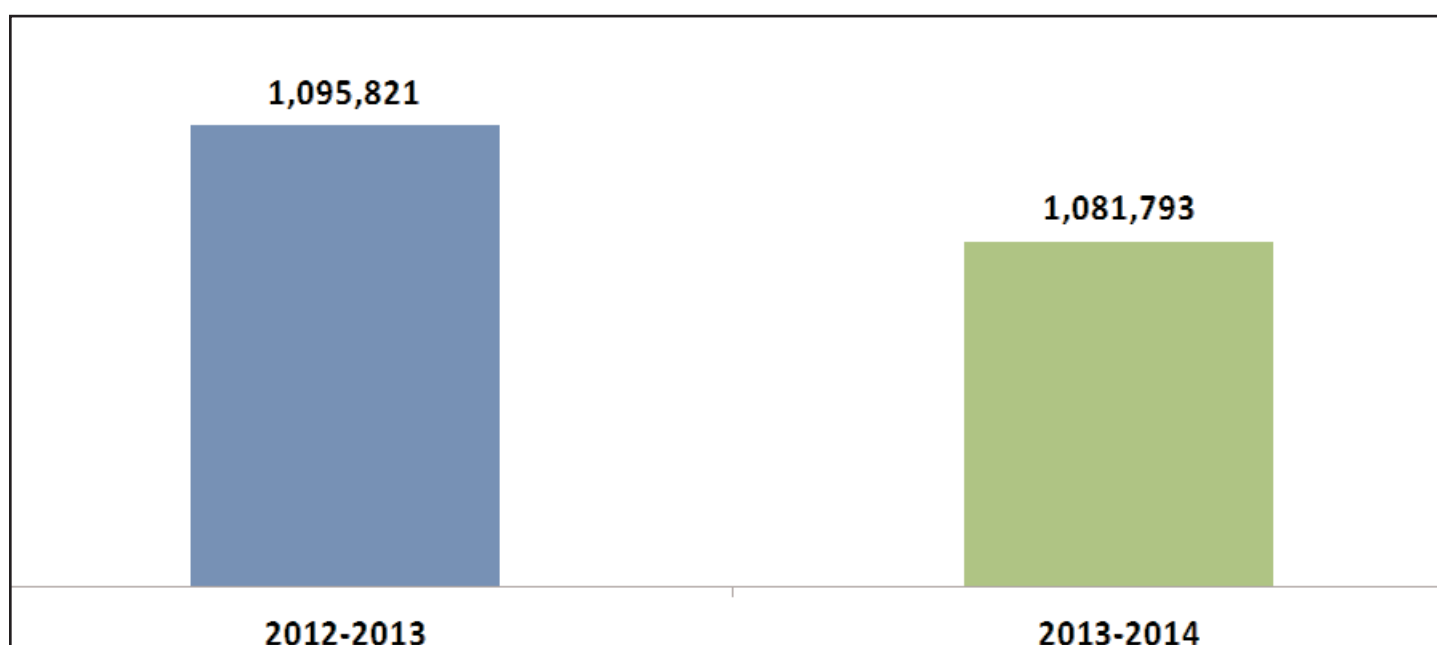
During these vision/hearing and scoliosis screenings, children are assessed for the acanthosis nigricans marker - a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed to determine body mass index (BMI) and blood pressure.

Risk assessments 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 assessments 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 Education Service Center Regions 1, 2, 3, 4, 10, 11, 13, 15, 18, 19, and 20.

The TRAT2DC program impacts over 1 million children throughout the State of Texas each year. The figure below represents the number of children who were assessed in 1st, 3rd, 5th, and 7th grades during the 2012-2013 and 2013-2014 school years.

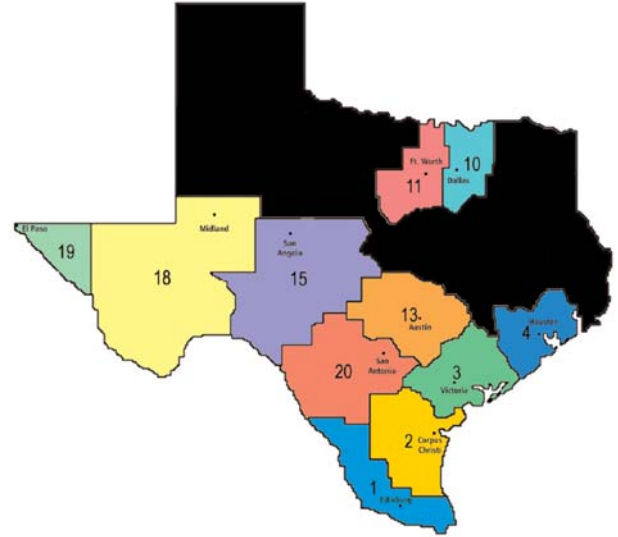
Number of Children Assessed



Number of Students Assessed by Texas Education Agency Education Service Center Region

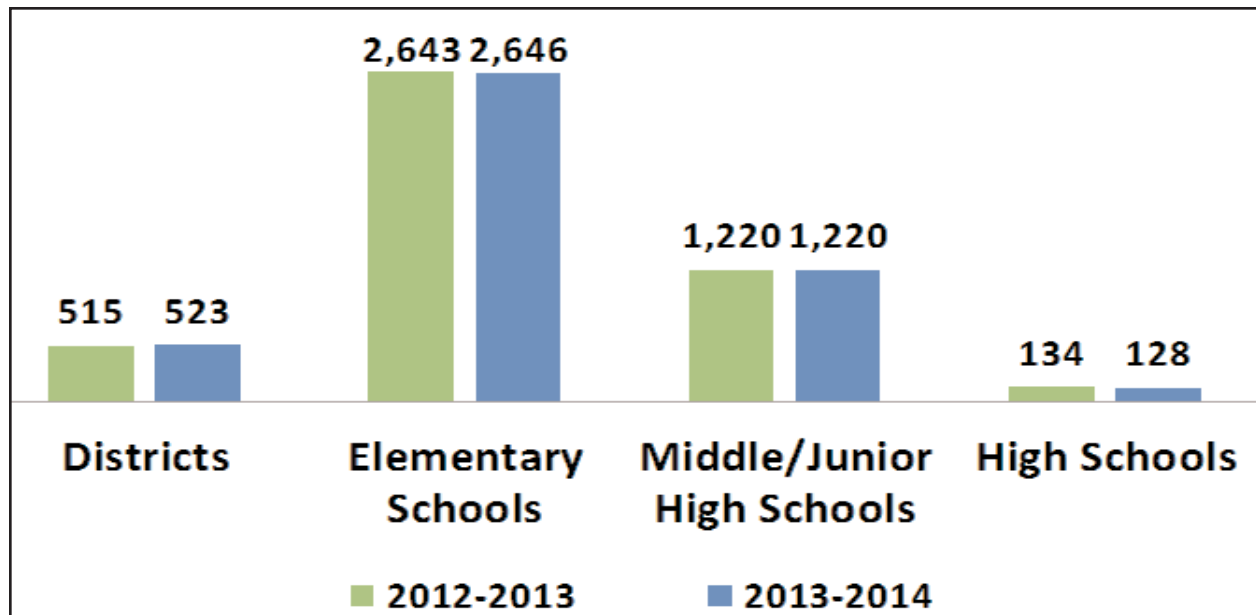
**TRAT2DC Risk Assessment Map
(11 TEA ESC Regions)**

	2012-2013	2013-2014
Region 1	130,466	126,999
Region 2	29,218	30,833
Region 3	13,471	13,064
Region 4	275,878	277,616
Region 10	184,085	176,558
Region 11	168,484	165,745
Region 13	104,864	102,690
Region 15	11,491	12,995
Region 18	19,268	18,924
Region 19	47,993	46,222
Region 20	108,372	106,876



The University of Texas-Pan American, College of Health Sciences and Human Services, Border Health Office provides training, certification, and technical support to over 5,000 school nurses, nursing students, and other personnel qualified to conduct risk assessments throughout the 11 mandated Regional Education Service Centers. The figure below represents the number of school districts and campuses participating in the Texas Risk Assessment for Type 2 Diabetes in Children program during the 2012-2013 and 2013-2014 school years.

Number of School Districts and Schools Reporting



Risk Assessments

Acanthosis Nigricans

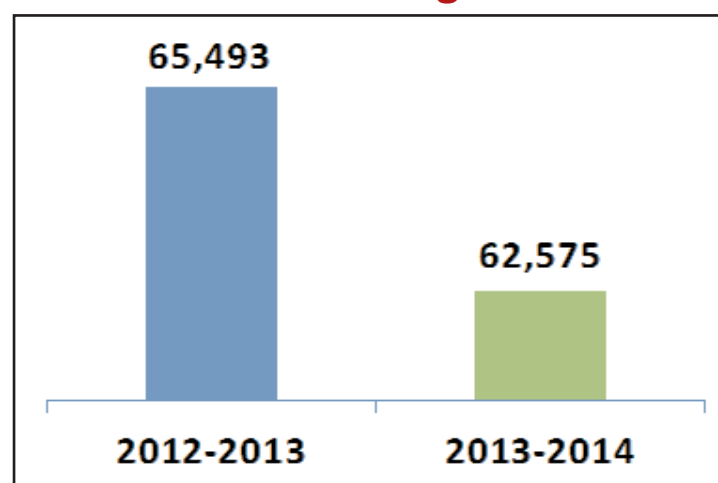
Acanthosis nigricans (AN) is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for type 2 diabetes and other chronic diseases. Because of the increasingly alarming rates of children developing type 2 diabetes, AN assessments are important and can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



Acanthosis Nigricans(AN)

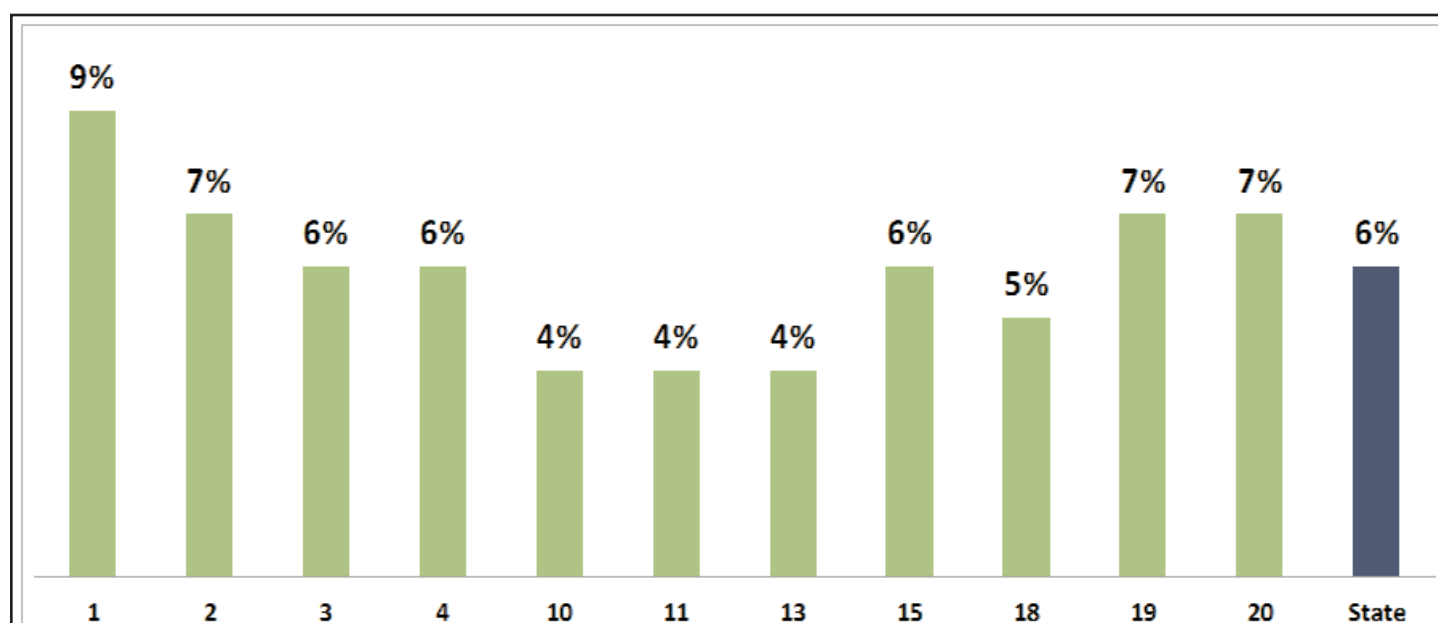
In 2012-2013, the number of children identified with the AN marker was 65,493 (5.9% of the total number of children assessed). In 2013-2014, the number of children with acanthosis nigricans was 62,575 (5.7%).

Number of Children with Acanthosis Nigricans



Below: The percent of children identified with the AN marker varies between TEA ESC regions. The region reporting the highest percent of AN (9%) in children was TEA ESC Region 1 (Rio Grande Valley). (TRAT2DC 2013-2014)

Percent Acanthosis Nigricans, TRAT2DC TEA ESC Regions and State 2013-2014



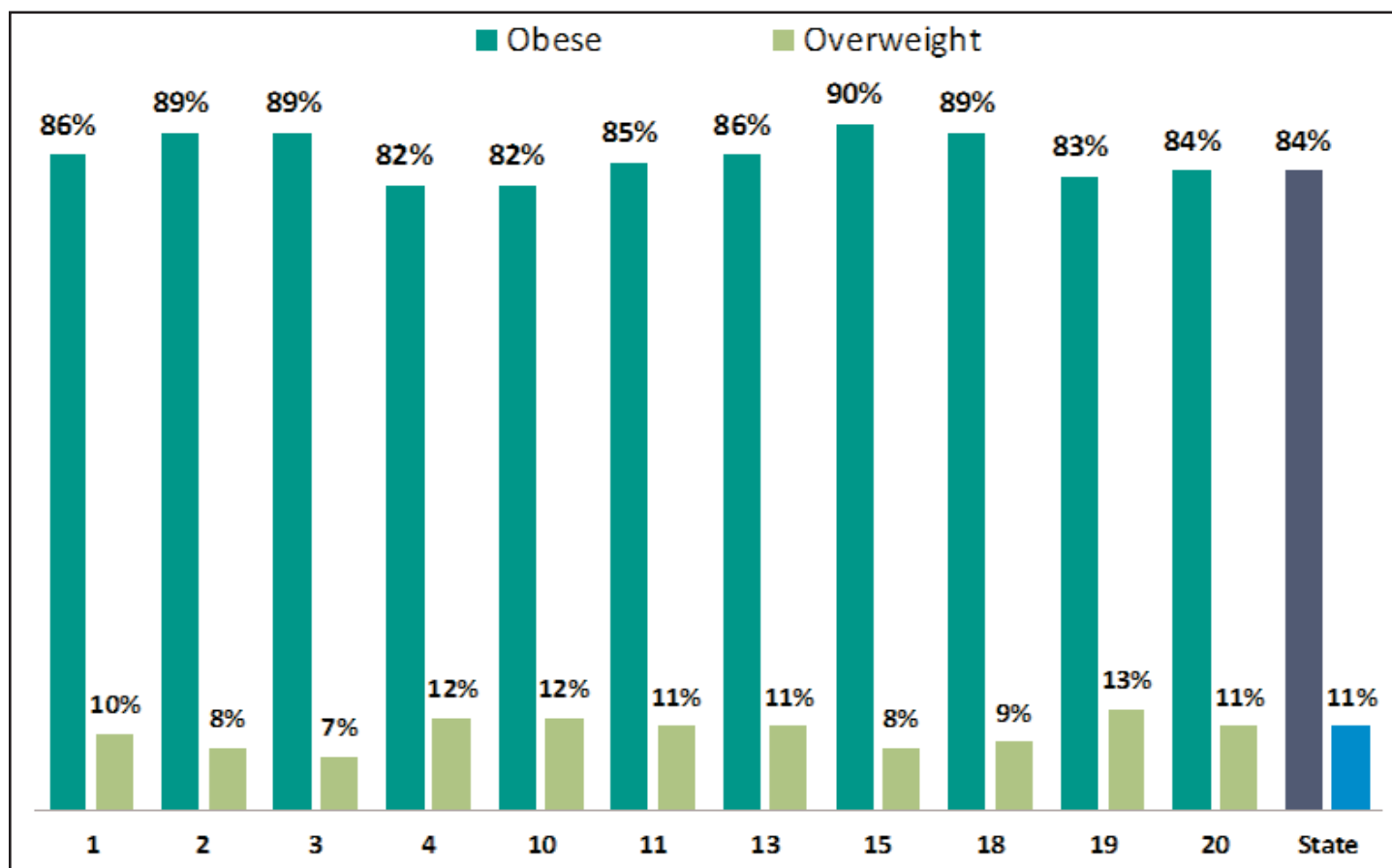
Risk Assessments

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 Center for Diseases 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.

The graph below illustrates the percent of children with AN who were identified as obese and overweight as reported by the TEA ESC regions participating in the Texas Risk Assessment for Type 2 Diabetes in Children program. As the graph indicates, most children with AN were at or above the 95th percentile for BMI.

Children with Acanthosis Nigricans: Percent Obese and Overweight TRAT2DC TEA ESC Regions and State 2013-2014



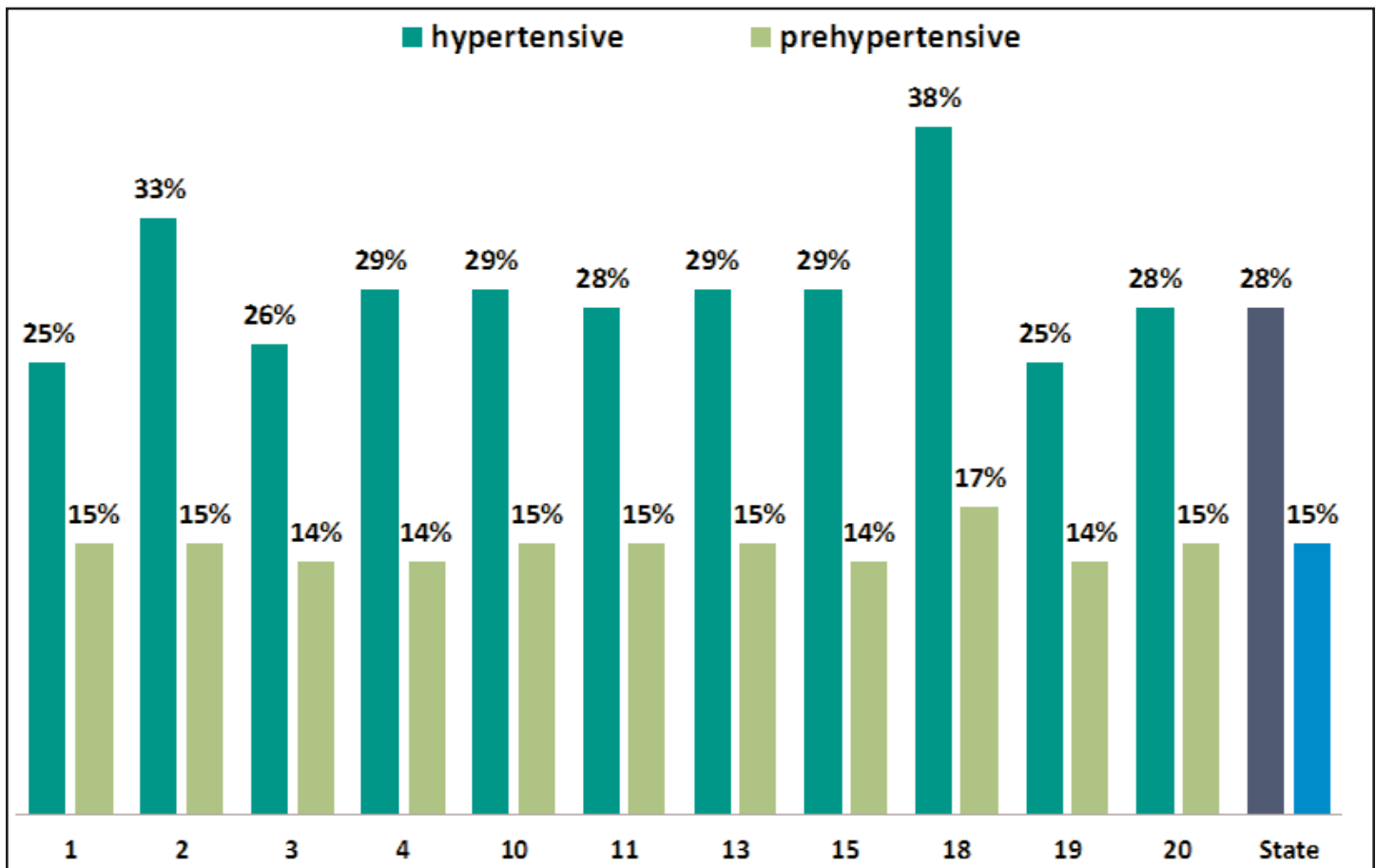
Risk Assessments

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 measures 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.

The graph below illustrates the percent of children with AN who were identified as hypertensive and prehypertensive. The TEA ESC Region reporting the highest percentage of children with acanthosis nigricans who were hypertensive (38%) and prehypertensive (17%) was TEA ESC Region 18 (Midland/Odessa).

Children with Acanthosis Nigricans: Percent Hypertensive and Prehypertensive TRAT2DC TEA ESC Regions and State 2013-2014



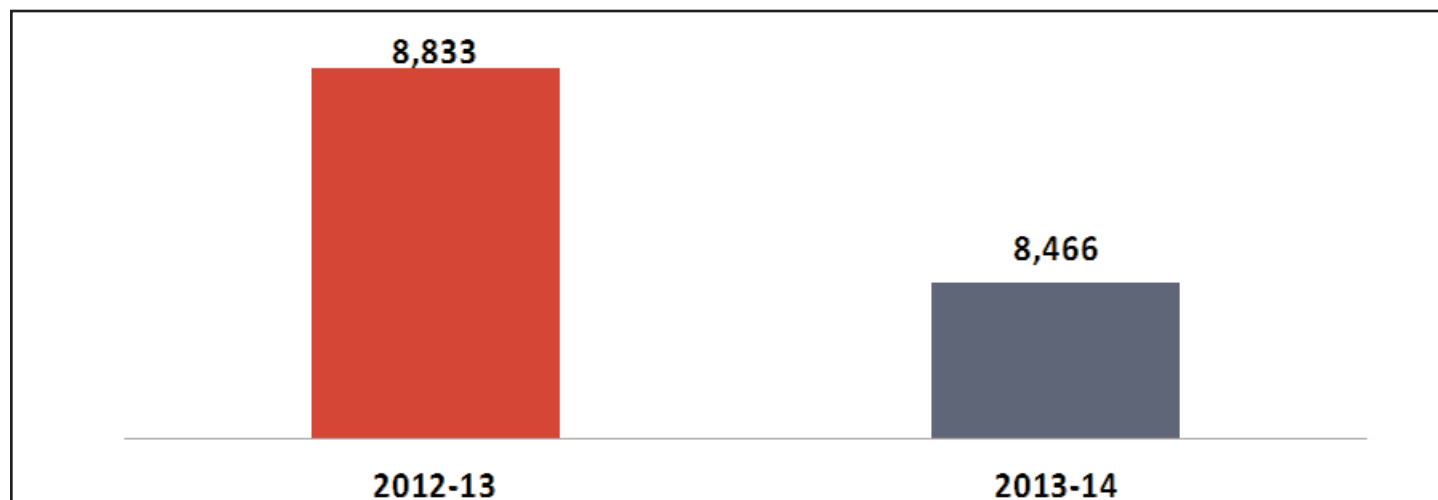
Risk Assessment Referral Results/International Classification of Diseases-9 Code 701.2 Acquired Acanthosis Nigricans Member Count Data

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 professional.

Research shows that the origins of type 2 diabetes are firmly rooted in childhood and experts agree that the best chance to reduce the burden of diabetes is to identify those with pre-diabetes to prevent its onset. It is important then for children with these risk factors to be evaluated by a health care professional. This contact between child, parent, and physician is a significant first step to reduce the burden of diabetes in the State of Texas.

The 2012-2013 referral results indicate that 8,833 children were under the care of a health professional and 8,466 children were reported in this category for the 2013-2014 reporting period.

TRAT2DC Referral Results Under Physician's Care



Texas Department of State Health Services Medicaid/CHIP member claims 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 member claims among children 0-17 years of age shows an increase since the program began in 1999. In 2013, the ICD-9 Code 701.2 Acquired Acanthosis Nigricans Member Claims was approximately 45,000. This number may reflect the awareness and education promoted through the TRATDC2 program as well as physician response to the risk assessment referral.

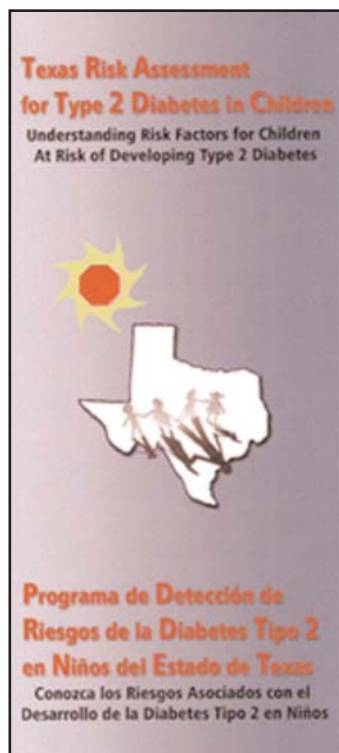
Budget & Support Services

The Texas Risk Assessment for Type 2 Diabetes in Children program provides training and certification to school nurses or other certified individuals in conducting risk assessments. This service is provided by health education coordinators that are assigned, but not restricted to, certain Texas Education Agency Regional Education Service Centers. Requests for materials and 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.

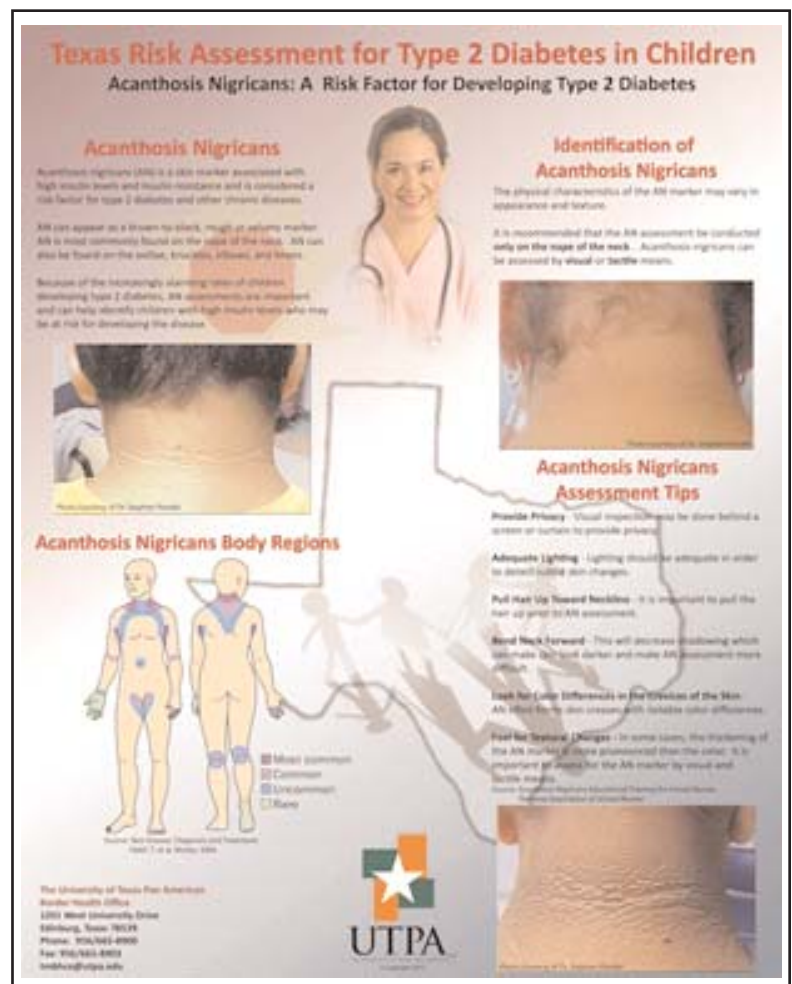
Training and certification is an important on-going activity as new nurses are hired by districts every year due to growth or turnover. The Border Health Office has developed an online certification training through the Risk Factor Electronic System. The BHO estimates that over 95% of individuals needing certification were trained online during the 2013-2014 school year. The BHO also offers training via videoconference and face-to-face trainings on a limited basis.

The TRAT2DC program is funded in the amount of \$161,511 of which 76% is allocated for personnel, 18% allocated for maintenance and operation, and the remaining 6% for travel.

Educational Material



TRAT2DC Brochure



TRAT2DC Acanthosis Nigricans Assessment Poster

Suggested Readings

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**TEXAS RISK ASSESSMENT FOR TYPE 2 DIABETES IN CHILDREN PROGRAM
TEXAS EDUCATION AGENCY REGIONAL EDUCATION SERVICE CENTER
2012-2013/2013-2014 FACT SHEETS**



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

STATEWIDE 2012-2013

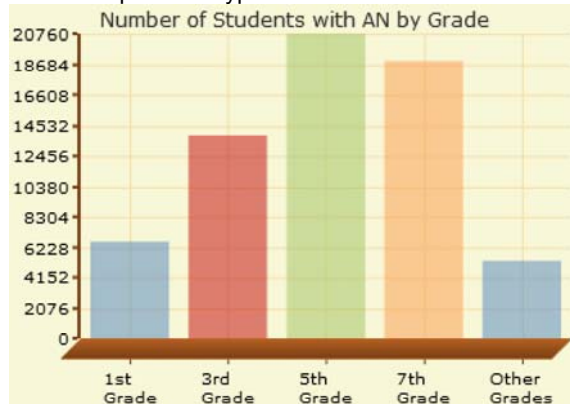
The Risk Assessment for the Type 2 Diabetes in Children is a legislatively mandated program developed, coordinated, and administered by The University of Texas-Pan American Border Health Office (BHO). The program assesses children who may be at high risk of developing type 2 diabetes. During vision/hearing and scoliosis screenings of 1st, 3rd, 5th and 7th graders in public and private schools, certified individuals assess children for the acanthosis nigricans (AN) marker, a skin condition that signals high insulin levels. Children who are identified with the marker undergo additional assessments of body mass index (BMI), BMI percentile, and blood pressure. Referrals are issued to the parents of these children, alerting each parent of what the risk factors are and what changes will be necessary to prevent or delay future health problems for children at risk of developing type 2 diabetes and other health conditions.

The following results are for the assessments conducted in your State:

Assessment Information	Assessment Outcomes	
Assessed: 1095821	Already under care: 891	Referral not issued: 239
Acanthosis Nigricans: 65556	Seen by Physician: 7948	Referral not returned: 49946
		Not Seen by Physician: 476

Acanthosis Nigricans

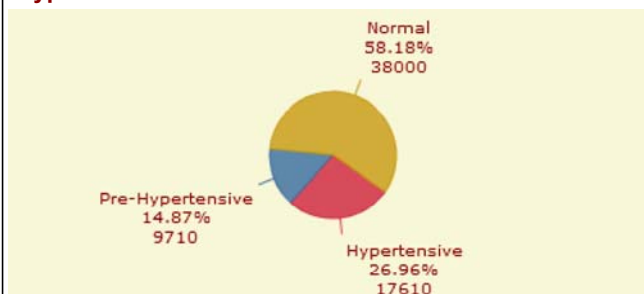
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Blood Pressure

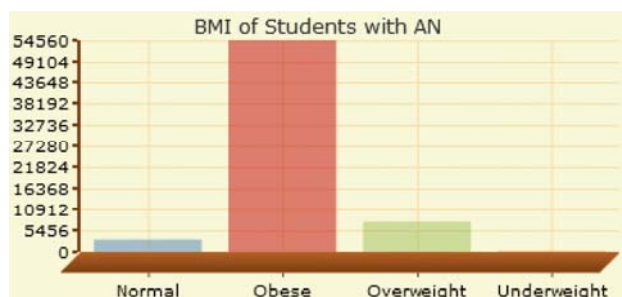
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	4339	8726	11992	10123	2820	21479	16521
Pre-Hypertensive	829	1883	3213	2925	860	5254	4456
Hypertensive	1451	3228	5472	5820	1639	9475	8135



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	412	545	947	846	225
Obesity	5707	11923	16923	15468	4538
Overweight	463	1355	2788	2551	556
Underweight	62	64	94	64	25



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 1

2012-2013

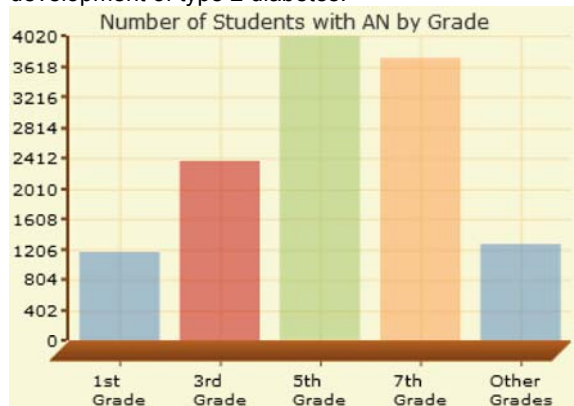
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 130466	Already under care: 233	Referral not issued: 32
Acanthosis Nigricans: 12577	Seen by Physician: 2135	Referral not returned: 8517
		Not Seen by Physician: 90

Acanthosis Nigricans

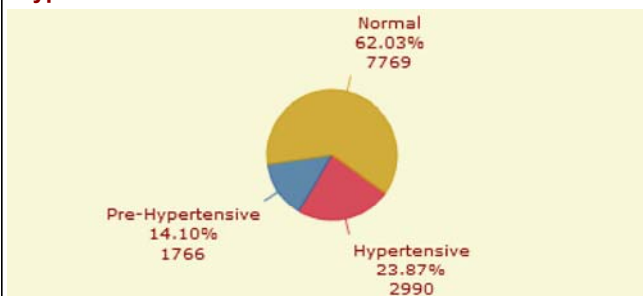
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Blood Pressure

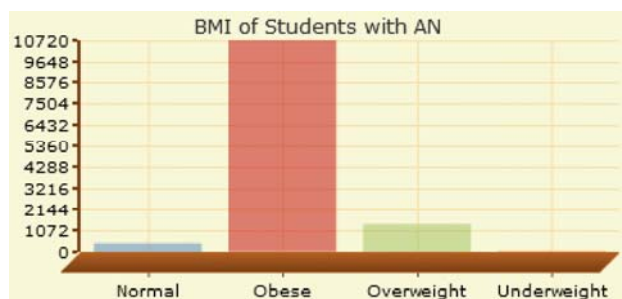
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	805	1622	2551	2118	673	4283	3486
Pre-Hypertensive	142	286	564	576	198	901	865
Hypertensive	223	459	880	1026	402	1533	1457



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	52	64	132	137	46
Obesity	1051	2110	3325	3117	1110
Overweight	63	193	542	467	119
Underweight	12	5	12	12	8



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 2

2012-2013

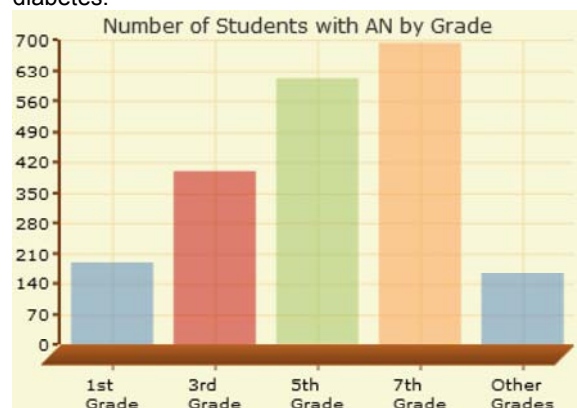
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 29218	Already under care: 66	Referral not issued: 6
Acanthosis Nigricans: 2058	Seen by Physician: 271	Referral not returned: 1575
		Not Seen by Physician: 24

Acanthosis Nigricans

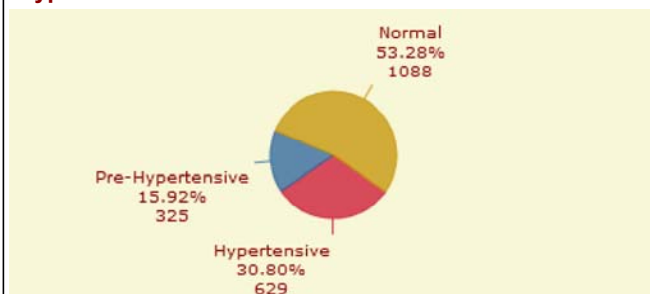
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Blood Pressure

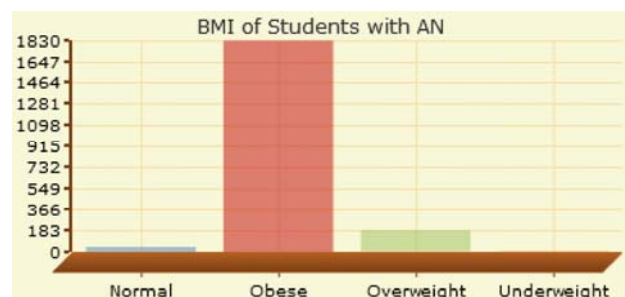
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	98	243	310	368	69	610	478
Pre-Hypertensive	33	50	104	102	36	183	142
Hypertensive	59	101	189	223	57	325	304



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	8	5	17	11	2
Obesity	169	363	534	610	151
Overweight	13	29	56	72	11
Underweight	0	2	4	1	0



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 3

2012-2013

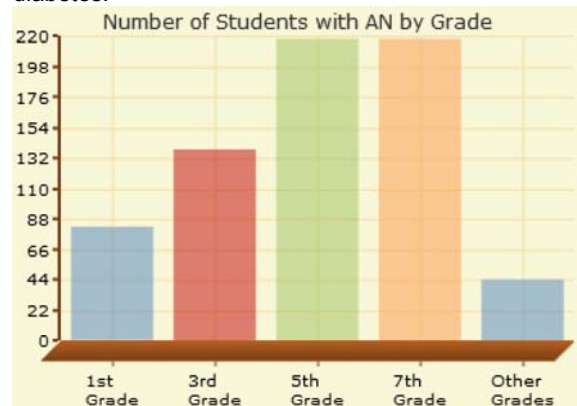
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 13471	Already under care: 22	Referral not issued: 2
Acanthosis Nigricans: 700	Seen by Physician: 89	Referral not returned: 539
		Not Seen by Physician: 4

Acanthosis Nigricans

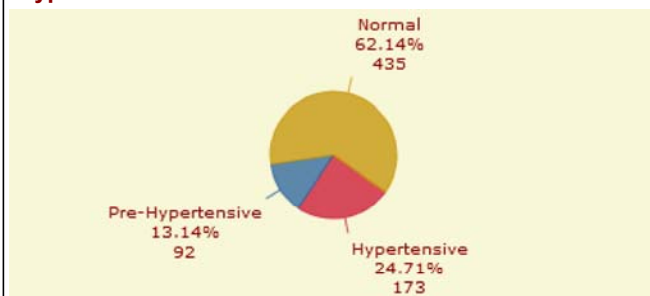
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Blood Pressure

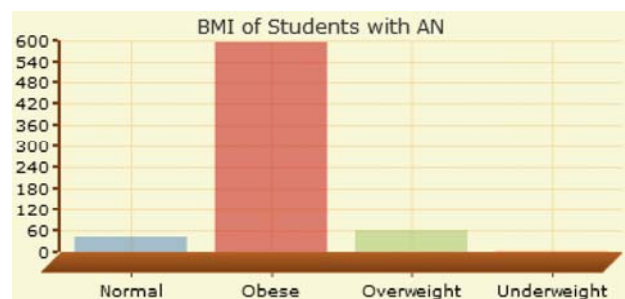
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	59	91	127	133	25	254	181
Pre-Hypertensive	5	17	32	33	5	50	42
Hypertensive	18	30	59	52	14	91	82



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	12	7	9	13	1
Obesity	62	114	188	190	41
Overweight	7	15	21	15	2
Underweight	1	2	0	0	0



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 4

2012-2013

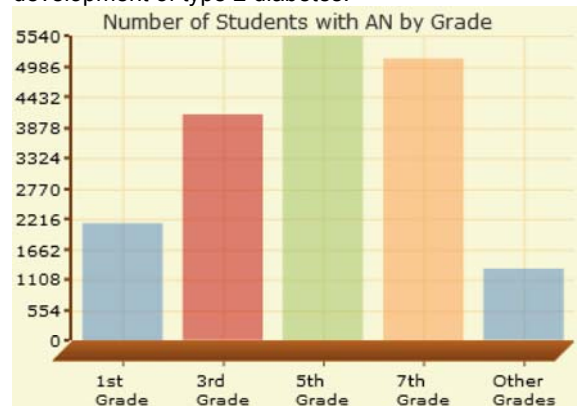
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 275878	Already under care: 185	Referral not issued: 63
Acanthosis Nigricans: 18236	Seen by Physician: 1960	Referral not returned: 14633
		Not Seen by Physician: 113

Acanthosis Nigricans

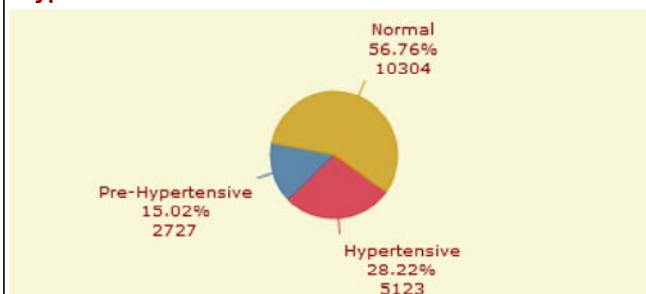
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Blood Pressure

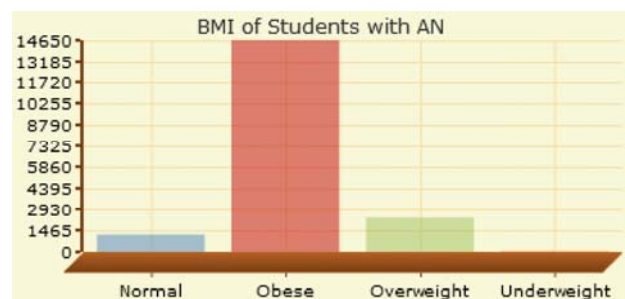
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	1373	2474	3025	2705	727	5714	4590
Pre-Hypertensive	265	602	881	784	195	1464	1263
Hypertensive	483	1022	1606	1628	384	2773	2350



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	202	228	358	302	72
Obesity	1724	3422	4389	4026	1082
Overweight	181	455	766	794	150
Underweight	24	16	19	21	5



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 10

2012-2013

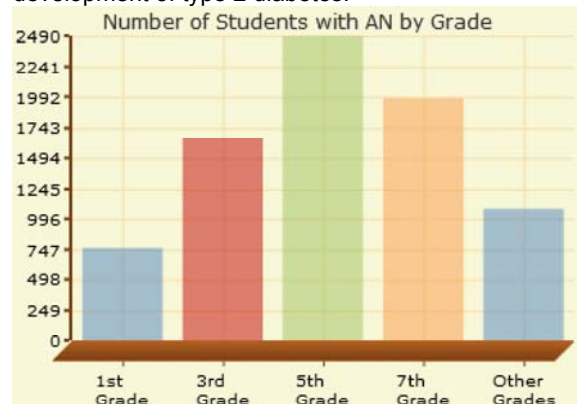
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 184085	Already under care: 96	Referral not issued: 30
Acanthosis Nigricans: 7967	Seen by Physician: 1040	Referral not returned: 5598
		Not Seen by Physician: 40

Acanthosis Nigricans

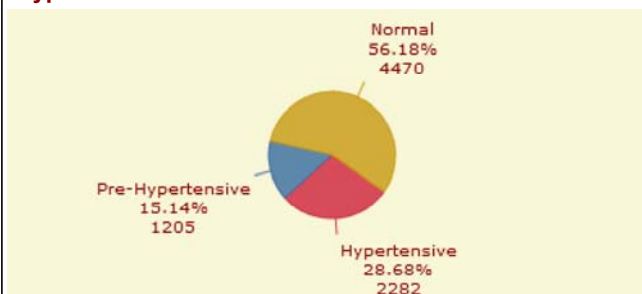
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Blood Pressure

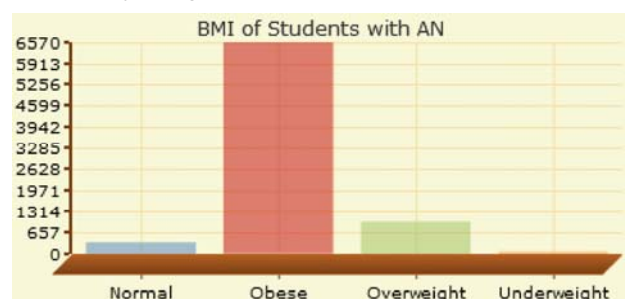
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	499	1046	1392	990	543	2624	1846
Pre-Hypertensive	91	198	420	308	188	674	531
Hypertensive	170	412	673	680	347	1297	985



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	33	51	98	93	61
Obesity	663	1412	2007	1611	873
Overweight	57	178	346	265	137
Underweight	9	15	37	11	10



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 11

2012-2013

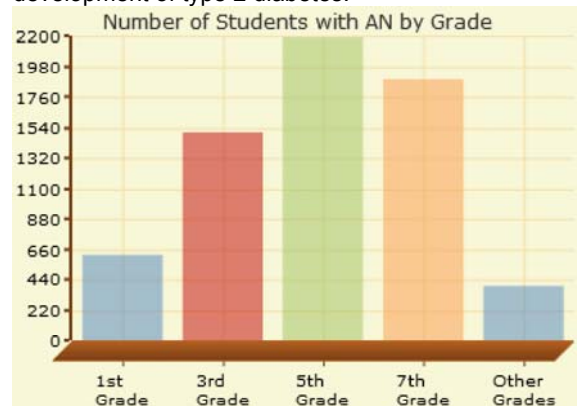
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 168484	Already under care: 66	Referral not issued: 36
Acanthosis Nigricans: 6600	Seen by Physician: 611	Referral not returned: 5260
		Not Seen by Physician: 54

Acanthosis Nigricans

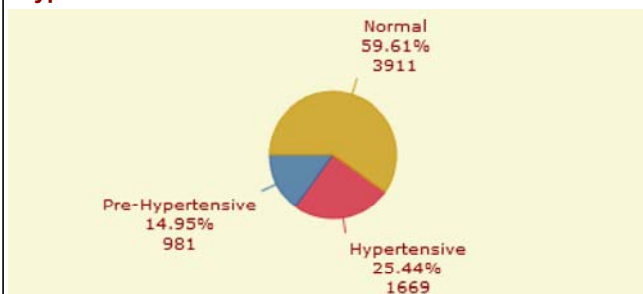
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Blood Pressure

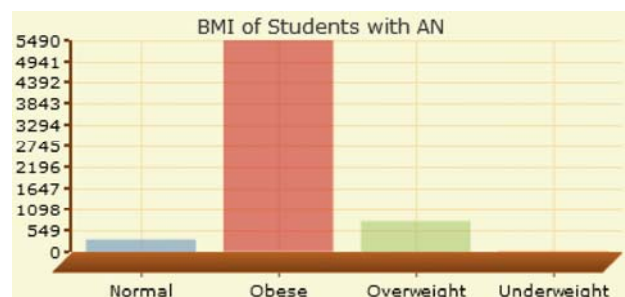
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	444	956	1229	1087	195	2254	1657
Pre-Hypertensive	66	226	338	278	73	536	445
Hypertensive	109	317	612	509	122	914	755



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	45	75	95	75	14
Obesity	526	1284	1794	1544	338
Overweight	44	146	292	261	39
Underweight	7	4	9	7	1



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 13

2012-2013

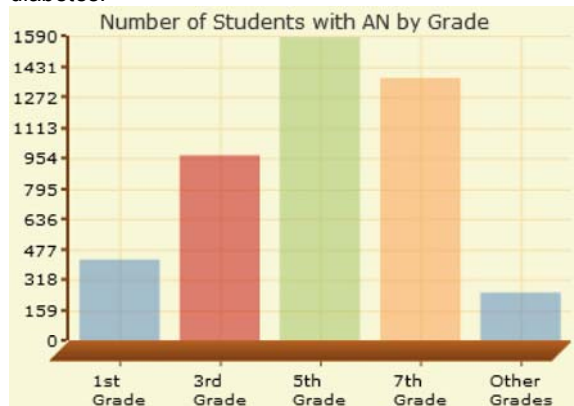
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 104864	Already under care: 62	Referral not issued: 31
Acanthosis Nigricans: 4594	Seen by Physician: 398	Referral not returned: 3805
		Not Seen by Physician: 33

Acanthosis Nigricans

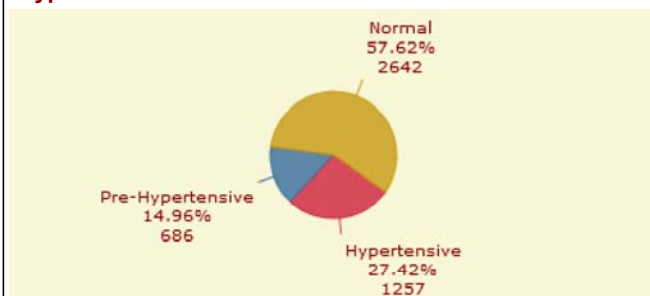
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Blood Pressure

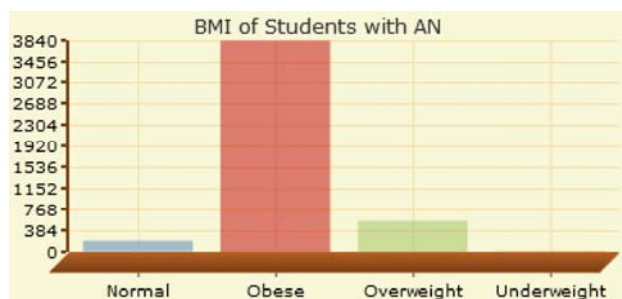
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	290	616	892	702	142	1528	1114
Pre-Hypertensive	47	117	259	219	44	379	307
Hypertensive	86	234	428	446	63	687	570



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	20	32	76	51	9
Obesity	374	846	1292	1110	211
Overweight	26	87	210	205	29
Underweight	4	4	4	4	0



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 15 2012-2013

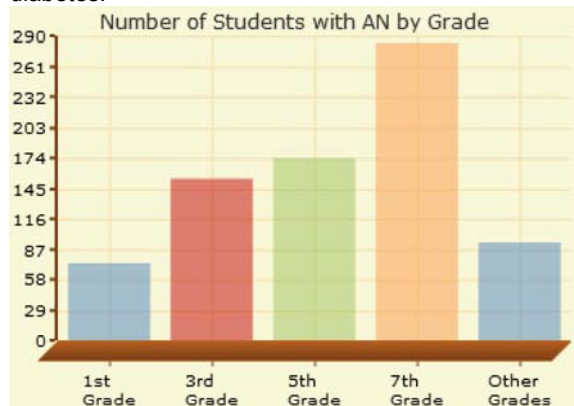
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 11491	Already under care: 35	Referral not issued: 1
Acanthosis Nigricans: 781	Seen by Physician: 97	Referral not returned: 598
		Not Seen by Physician: 8

Acanthosis Nigricans

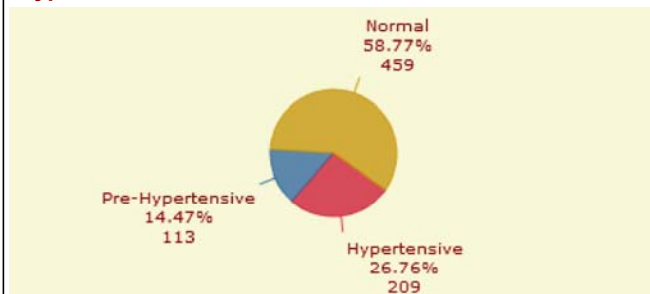
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Blood Pressure

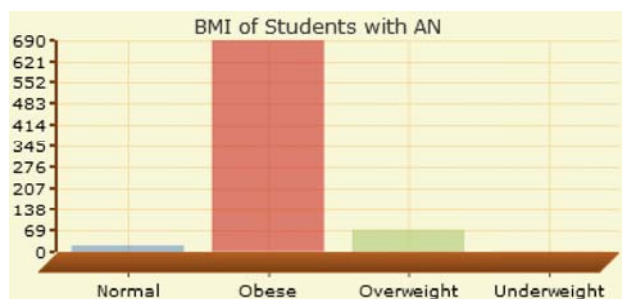
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	43	97	100	163	56	272	187
Pre-Hypertensive	5	24	32	46	6	67	46
Hypertensive	26	34	42	75	32	108	101



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	0	4	4	7	6
Obesity	72	142	150	245	80
Overweight	2	8	20	32	8
Underweight	0	1	0	0	0



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 18

2012-2013

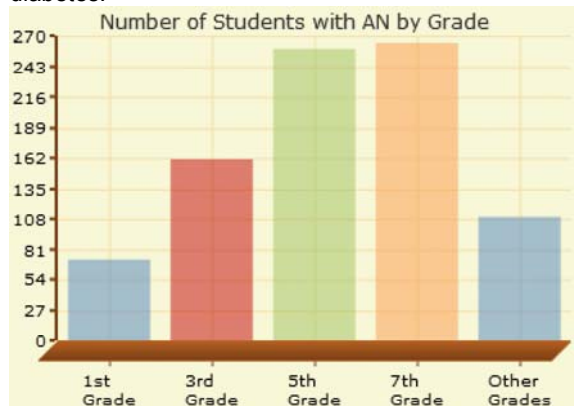
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 19268	Already under care: 8	Referral not issued: 5
Acanthosis Nigricans: 866	Seen by Physician: 81	Referral not returned: 745
		Not Seen by Physician: 13

Acanthosis Nigricans

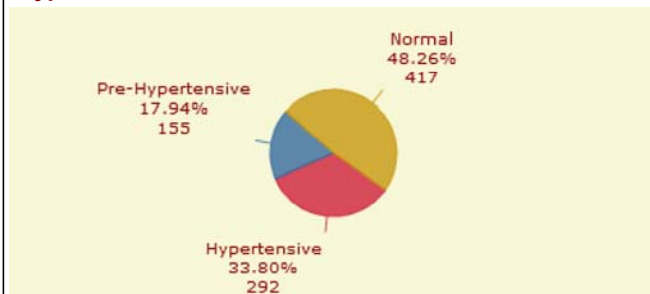
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Blood Pressure

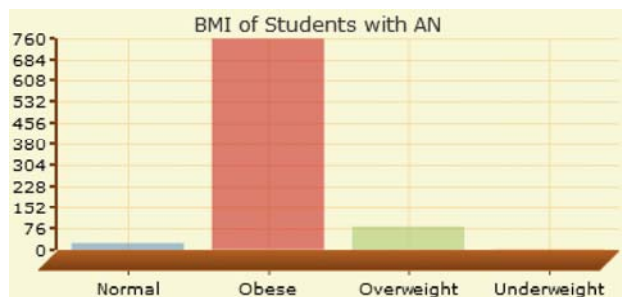
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	33	87	137	113	47	235	182
Pre-Hypertensive	19	25	41	50	20	102	53
Hypertensive	20	48	80	101	43	159	133



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	1	2	11	9	1
Obesity	64	142	215	239	98
Overweight	7	16	33	15	11
Underweight	0	1	0	1	0



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 19

2012-2013

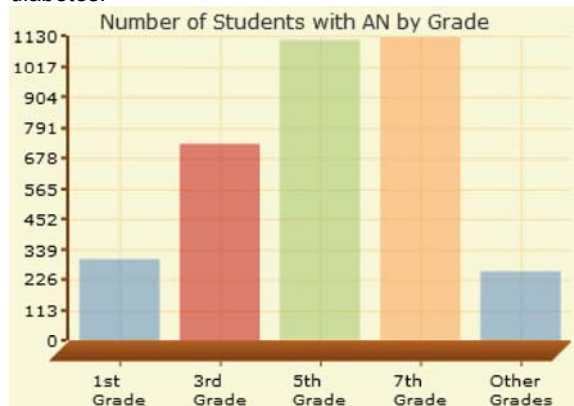
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 47993	Already under care: 40	Referral not issued: 12
Acanthosis Nigricans: 3526	Seen by Physician: 462	Referral not returned: 2827
		Not Seen by Physician: 14

Acanthosis Nigricans

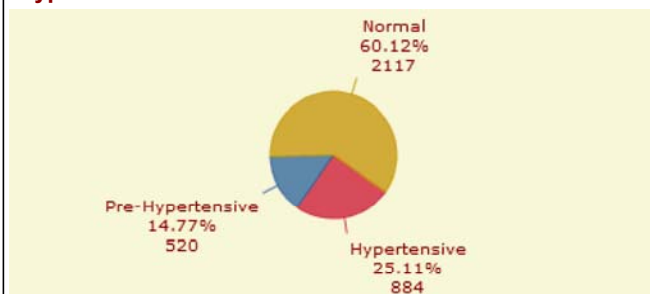
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Blood Pressure

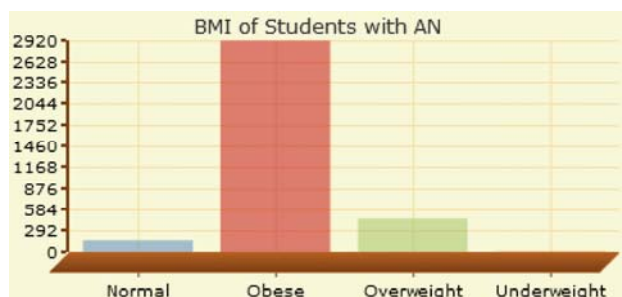
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	187	466	690	612	162	1154	963
Pre-Hypertensive	46	106	156	182	30	283	237
Hypertensive	70	157	267	328	62	437	447



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	11	24	49	59	8
Obesity	270	627	893	907	218
Overweight	22	78	169	155	28
Underweight	1	1	3	2	1



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 20

2012-2013

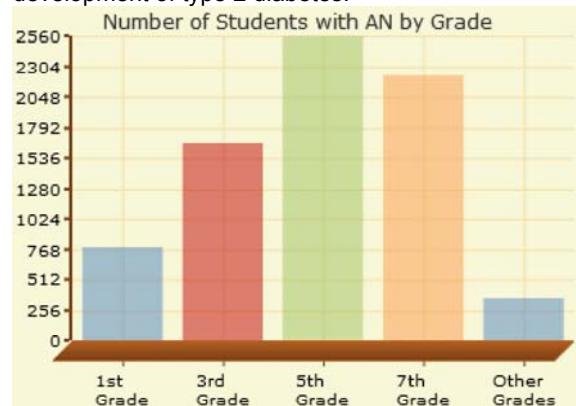
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 108372	Already under care: 78	Referral not issued: 21
Acanthosis Nigricans: 7588	Seen by Physician: 798	Referral not returned: 5793
		Not Seen by Physician: 83

Acanthosis Nigricans

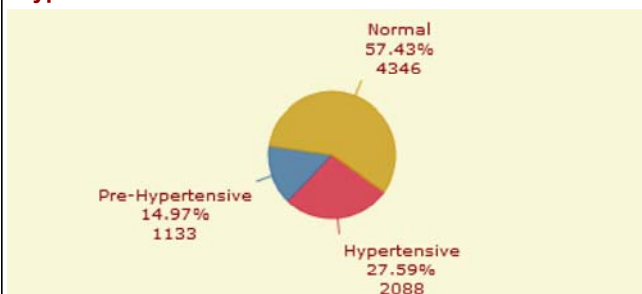
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Blood Pressure

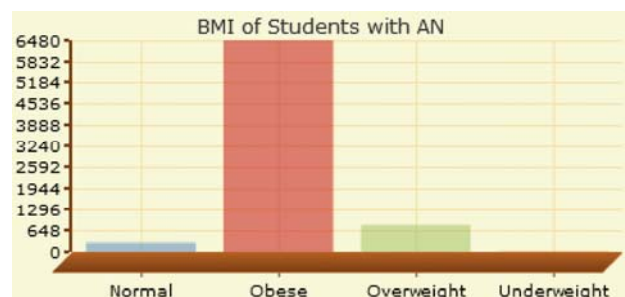
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	500	1017	1522	1132	175	2527	1819
Pre-Hypertensive	108	231	385	347	62	613	520
Hypertensive	182	411	635	749	111	1144	944



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	26	53	97	89	5
Obesity	719	1448	2120	1867	325
Overweight	41	148	331	269	22
Underweight	4	13	6	5	0



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

STATEWIDE 2013-2014

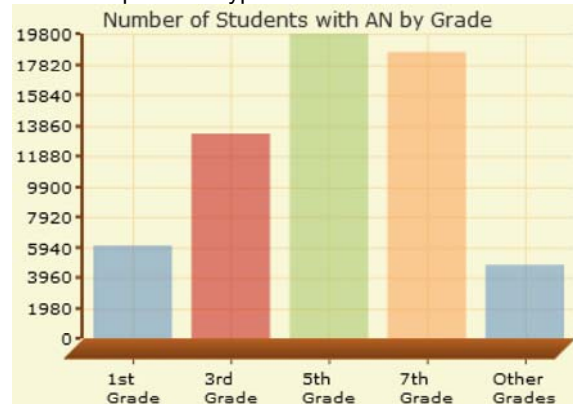
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The following results are for the assessments conducted in your State:

Assessment Information	Assessment Outcomes	
Assessed: 1081793	Already under care: 845	Referral not issued: 202
Acanthosis Nigricans: 62708	Seen by Physician: 7628	Referral not returned: 47654
		Not Seen by Physician: 529

Acanthosis Nigricans

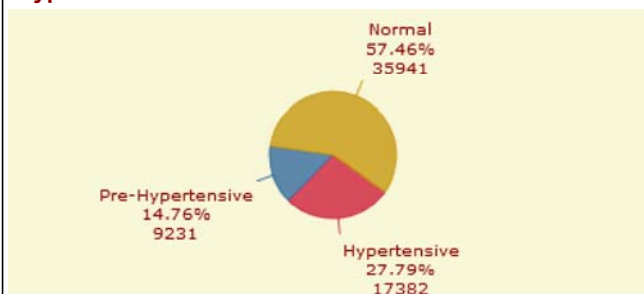
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Blood Pressure

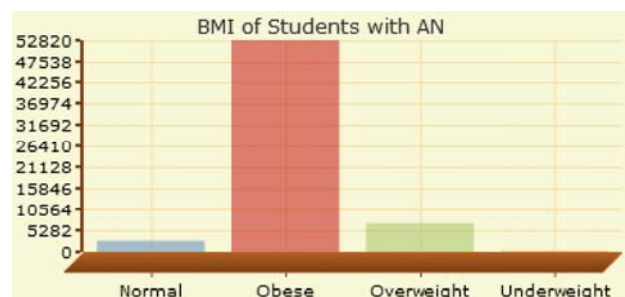
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	3952	8183	11350	9859	2597	20179	15762
Pre-Hypertensive	813	1829	2982	2868	739	4993	4238
Hypertensive	1306	3309	5416	5905	1446	9357	8025



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	337	521	760	840	195
Obesity	5316	11574	16366	15442	4117
Overweight	391	1191	2568	2326	470
Underweight	42	72	97	58	24



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 1

2013-2014

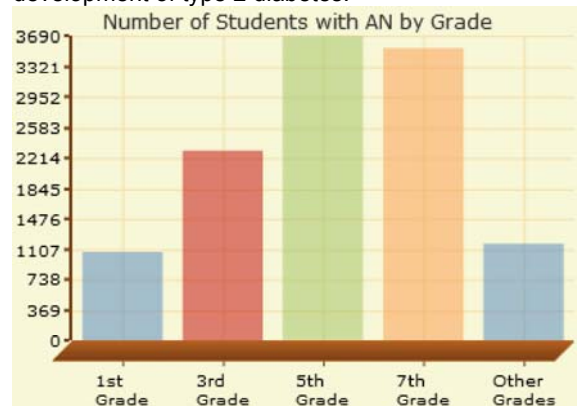
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 126999	Already under care: 202	Referral not issued: 37
Acanthosis Nigricans: 11793	Seen by Physician: 2129	Referral not returned: 8156
		Not Seen by Physician: 86

Acanthosis Nigricans

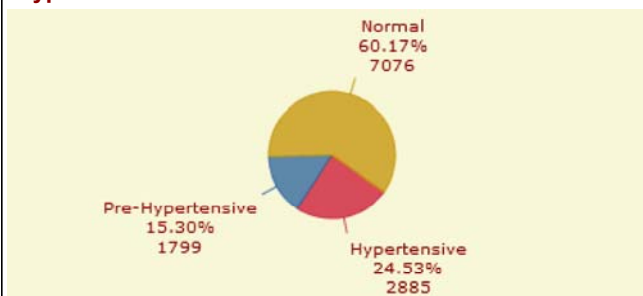
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Blood Pressure

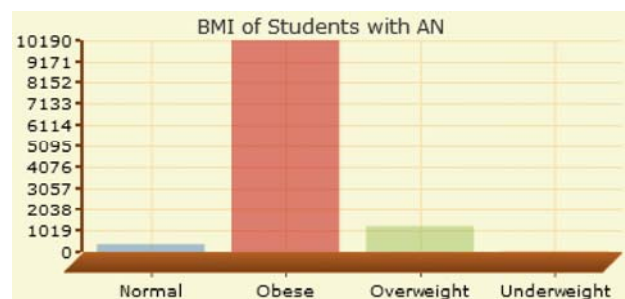
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	716	1527	2246	1963	624	3798	3278
Pre-Hypertensive	156	302	573	582	186	890	909
Hypertensive	201	468	854	998	364	1446	1439



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	31	76	111	105	45
Obesity	983	2047	3079	3046	1032
Overweight	61	176	486	382	103
Underweight	5	4	6	13	1



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 2

2013-2014

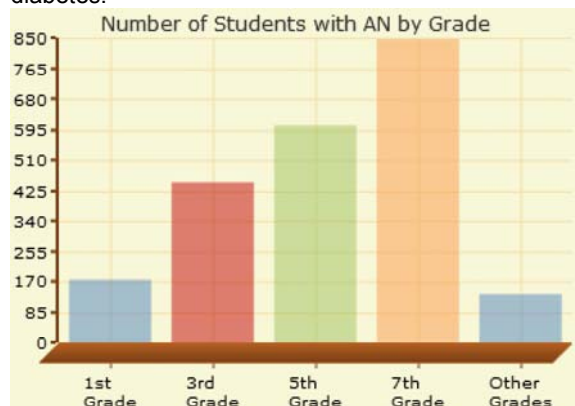
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 30833	Already under care: 51	Referral not issued: 10
Acanthosis Nigricans: 2211	Seen by Physician: 340	Referral not returned: 1708
		Not Seen by Physician: 6

Acanthosis Nigricans

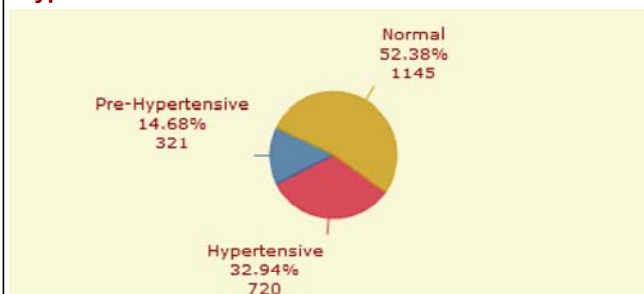
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Blood Pressure

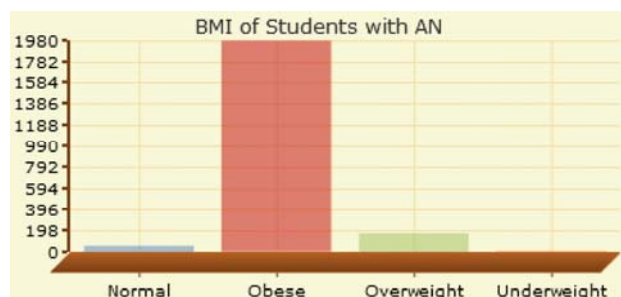
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	103	217	306	457	62	637	508
Pre-Hypertensive	20	77	98	109	17	169	152
Hypertensive	48	146	198	279	49	370	350



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	5	10	17	24	2
Obesity	167	409	534	745	120
Overweight	2	27	54	74	11
Underweight	0	4	3	2	1



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 3

2013-2014

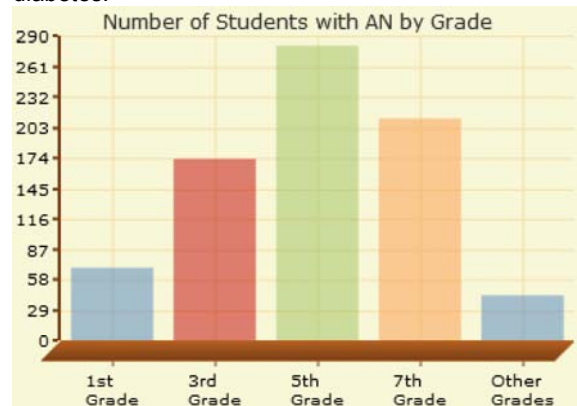
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 13064	Already under care: 15	Referral not issued: 9
Acanthosis Nigricans: 779	Seen by Physician: 119	Referral not returned: 600
		Not Seen by Physician: 2

Acanthosis Nigricans

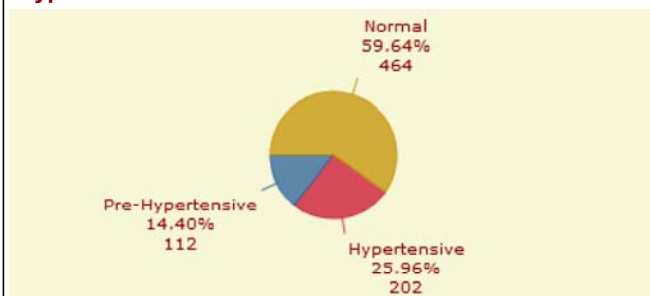
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Blood Pressure

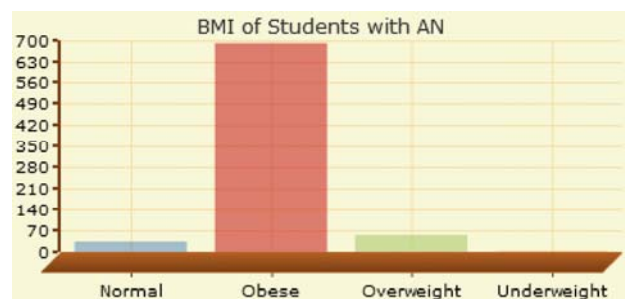
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	44	108	157	131	24	277	187
Pre-Hypertensive	15	23	40	29	5	62	50
Hypertensive	10	42	84	52	14	119	83



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	10	2	8	12	0
Obesity	56	161	248	184	42
Overweight	4	9	25	15	1
Underweight	0	1	0	1	0



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 4

2013-2014

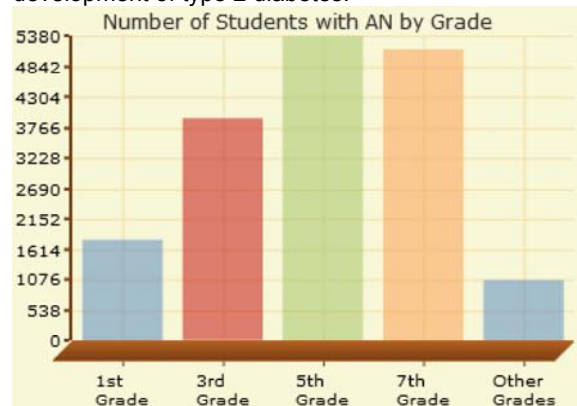
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 277616	Already under care: 213	Referral not issued: 42
Acanthosis Nigricans: 17315	Seen by Physician: 1765	Referral not returned: 13779
		Not Seen by Physician: 182

Acanthosis Nigricans

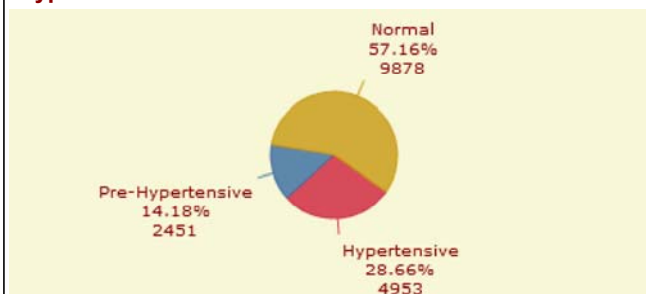
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Blood Pressure

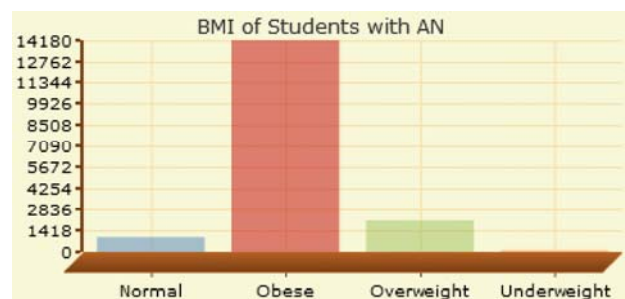
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	1169	2401	3053	2679	576	5442	4436
Pre-Hypertensive	223	520	772	755	181	1372	1079
Hypertensive	391	1007	1539	1711	305	2623	2330



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	141	205	259	299	42
Obesity	1490	3319	4358	4086	923
Overweight	137	392	721	732	88
Underweight	18	24	39	29	13



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

REGION 10

2013-2014

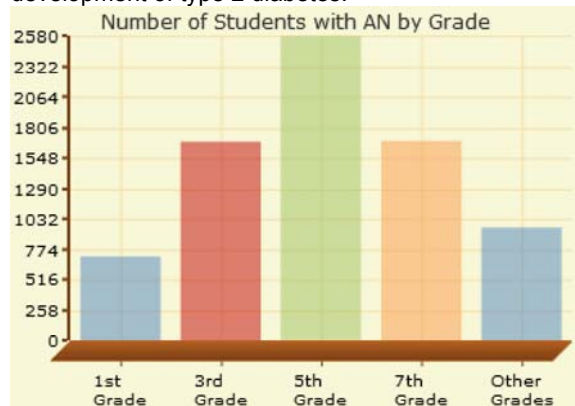
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 176558	Already under care: 69	Referral not issued: 31
Acanthosis Nigricans: 7626	Seen by Physician: 897	Referral not returned: 5293
		Not Seen by Physician: 42

Acanthosis Nigricans

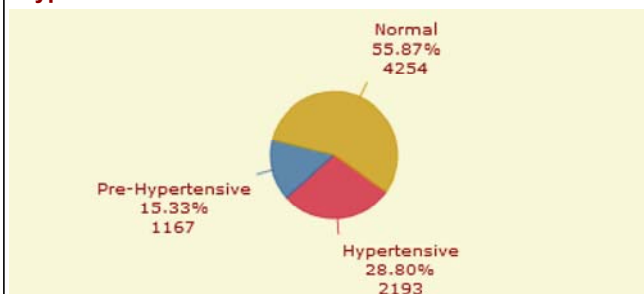
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Blood Pressure

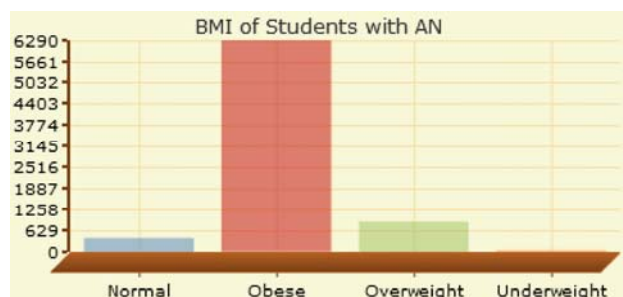
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	478	1025	1440	798	513	2473	1781
Pre-Hypertensive	90	245	429	255	148	639	528
Hypertensive	148	411	702	635	297	1241	952



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	45	73	109	104	73
Obesity	625	1444	2108	1363	746
Overweight	40	151	333	221	135
Underweight	6	17	25	4	4



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

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2013-2014

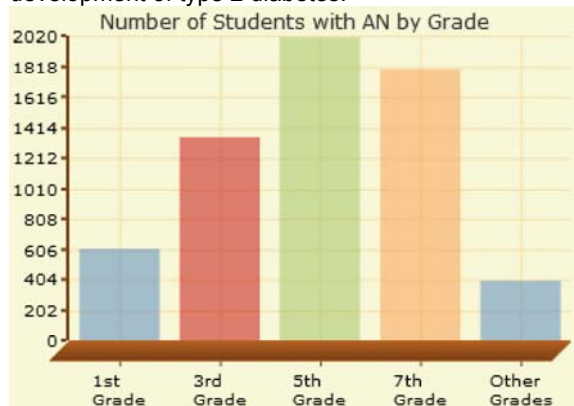
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 165745	Already under care: 47	Referral not issued: 18
Acanthosis Nigricans: 6172	Seen by Physician: 654	Referral not returned: 5023
		Not Seen by Physician: 79

Acanthosis Nigricans

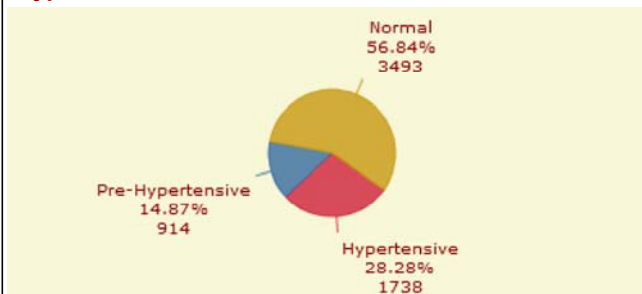
Acanthosis nigricans is a skin condition that is frequently seen on the nape of the neck. It appears as a dark/black, rough, or velvety area on the surface of the skin. The AN marker is important because it most often signals high insulin levels circulating within the body. The AN marker is considered a risk factor in the development of type 2 diabetes.



Blood Pressure

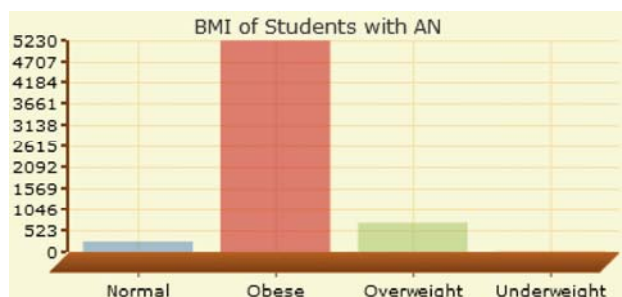
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	383	809	1118	965	218	2053	1440
Pre-Hypertensive	91	171	304	293	55	520	394
Hypertensive	138	371	587	523	119	956	782



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	42	42	76	64	14
Obesity	524	1167	1669	1511	349
Overweight	44	139	262	226	28
Underweight	2	6	3	1	3



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

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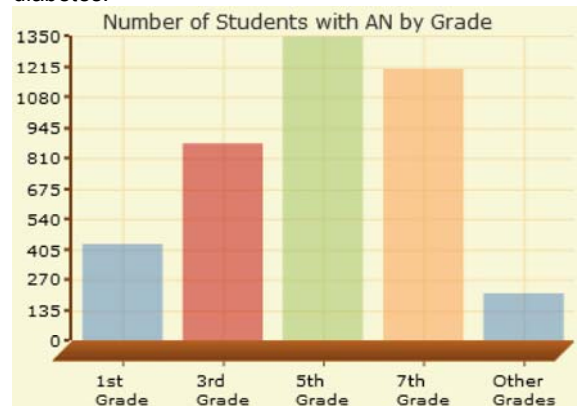
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 102690	Already under care: 57	Referral not issued: 23
Acanthosis Nigricans: 4064	Seen by Physician: 351	Referral not returned: 3358
		Not Seen by Physician: 14

Acanthosis Nigricans

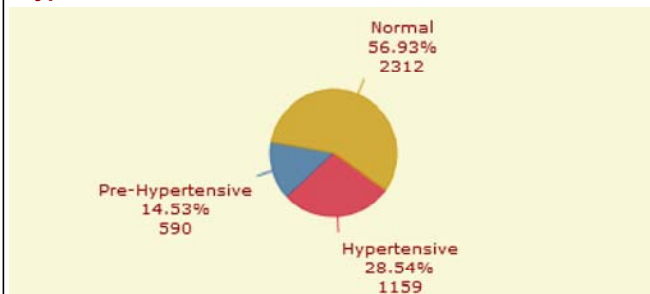
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Blood Pressure

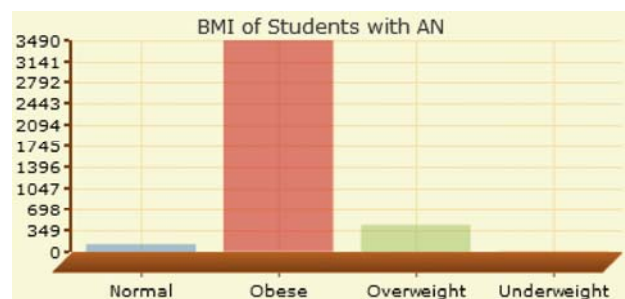
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	277	534	725	657	119	1380	932
Pre-Hypertensive	64	138	202	162	24	333	257
Hypertensive	90	202	417	386	64	662	497



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	15	20	39	50	5
Obesity	396	772	1139	999	182
Overweight	17	80	167	152	20
Underweight	3	2	1	4	1



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

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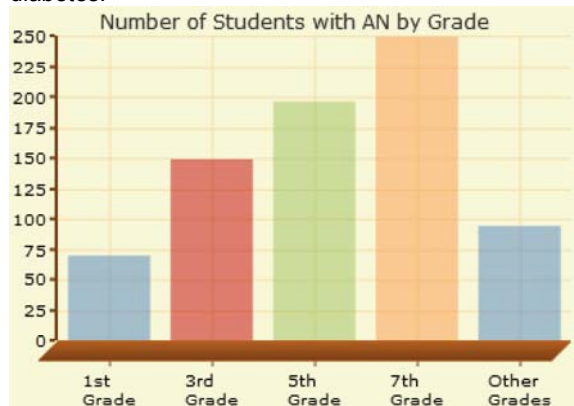
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 12995	Already under care: 36	Referral not issued: 4
Acanthosis Nigricans: 758	Seen by Physician: 80	Referral not returned: 603
		Not Seen by Physician: 5

Acanthosis Nigricans

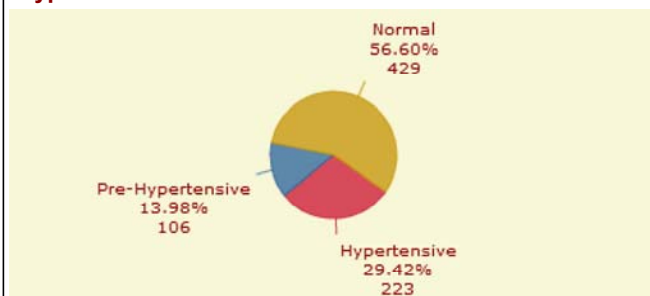
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Blood Pressure

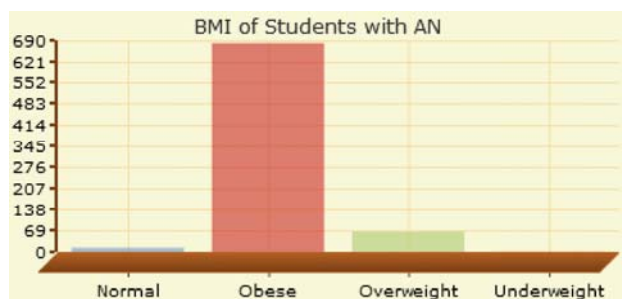
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	43	91	108	129	58	255	174
Pre-Hypertensive	7	23	32	32	12	60	46
Hypertensive	20	35	56	88	24	129	94



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	1	3	3	6	0
Obesity	66	143	168	219	84
Overweight	3	3	24	24	10
Underweight	0	0	1	0	0



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

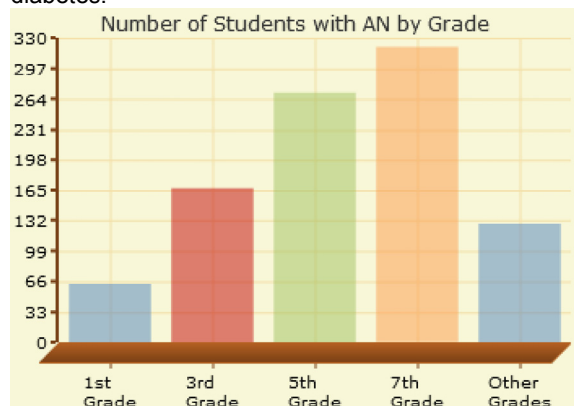
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Assessment Information	Assessment Outcomes	
Assessed: 18924	Already under care: 10	Referral not issued: 7
Acanthosis Nigricans: 949	Seen by Physician: 81	Referral not returned: 773
		Not Seen by Physician: 20

Acanthosis Nigricans

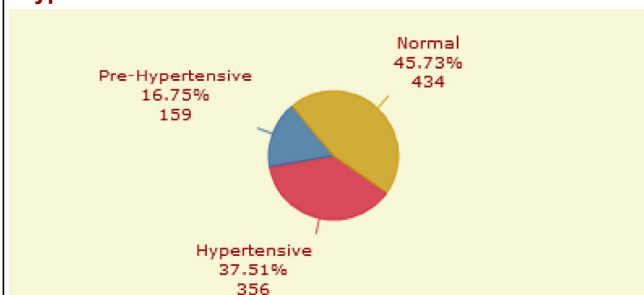
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Blood Pressure

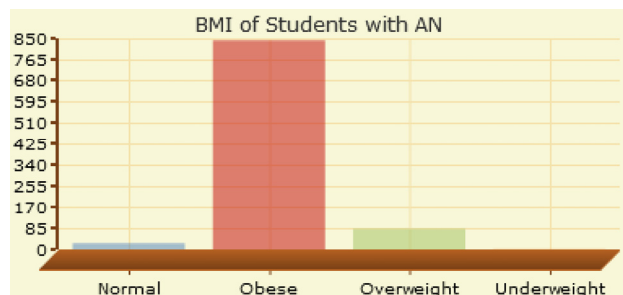
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	38	75	139	129	53	250	184
Pre-Hypertensive	12	30	37	59	21	84	75
Hypertensive	13	62	95	132	54	200	156



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	4	5	8	6	1
Obesity	57	157	227	287	114
Overweight	2	5	35	27	13
Underweight	0	0	1	0	0



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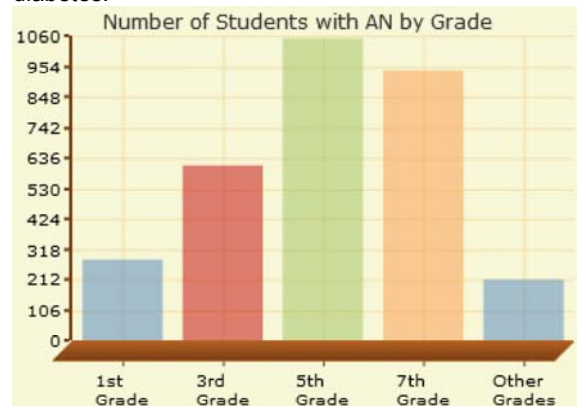
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 46222	Already under care: 60	Referral not issued: 11
Acanthosis Nigricans: 3098	Seen by Physician: 429	Referral not returned: 2340
		Not Seen by Physician: 17

Acanthosis Nigricans

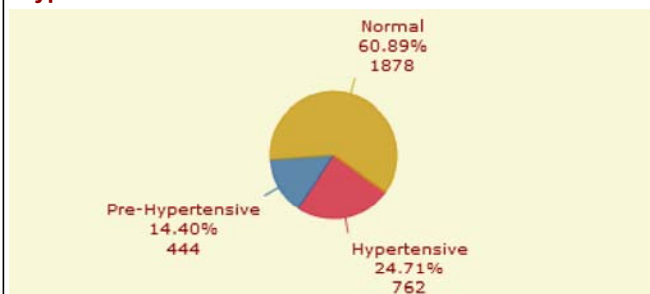
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Blood Pressure

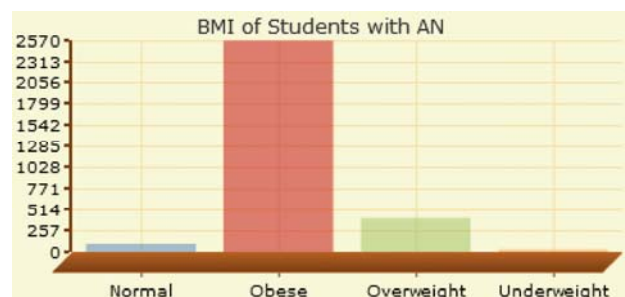
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	183	375	661	520	139	969	909
Pre-Hypertensive	33	80	151	156	24	224	220
Hypertensive	66	155	235	260	46	407	355



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	7	19	32	37	6
Obesity	258	530	843	760	175
Overweight	15	52	167	141	29
Underweight	3	10	10	3	1



Risk Assessment for Type 2 Diabetes in Children Fact Sheet

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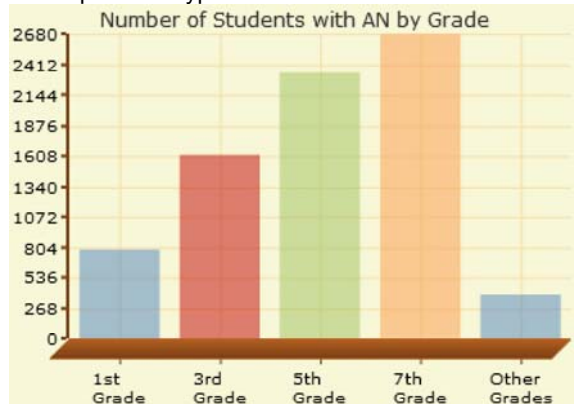
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The following results are for the assessments conducted in your Region:

Assessment Information	Assessment Outcomes	
Assessed: 106876	Already under care: 83	Referral not issued: 10
Acanthosis Nigricans: 7810	Seen by Physician: 778	Referral not returned: 5899
		Not Seen by Physician: 76

Acanthosis Nigricans

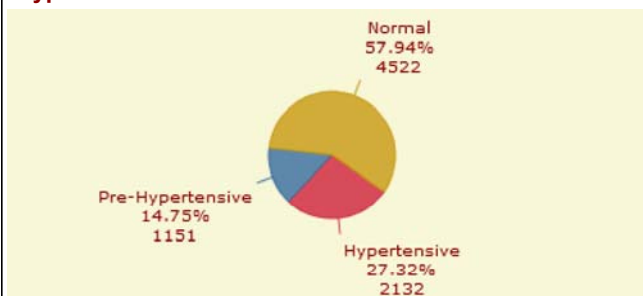
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Blood Pressure

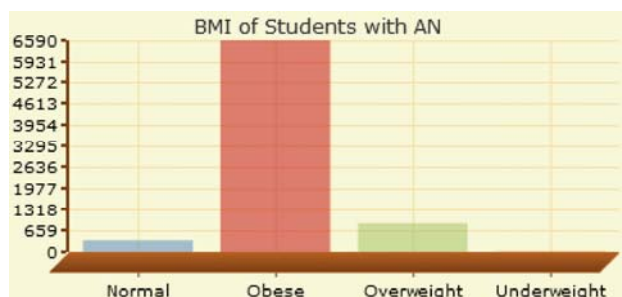
Hypertension has also been associated with insulin resistance and hyperinsulinemia, which is important for children with the AN marker. Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to measure blood pressure in children.

	1st	3rd	5th	7th	Other Grades	Female	Male
Normal	511	1003	1377	1420	211	2608	1914
Pre-Hypertensive	100	216	340	429	66	628	523
Hypertensive	176	400	623	825	108	1172	960



Body Mass Index

A high Body Mass Index (BMI) for age percentile is also considered a risk factor for the development of type 2 diabetes. BMI is calculated using the student's sex, age, height, and weight. The BMI percentiles are determined by the Centers for Disease Control BMI for age percentile growth charts. The percentiles are separated into four categories: Underweight, Normal, Overweight, and Obesity. In the development of type 2 diabetes, special emphasis is placed on the Overweight and Obesity categories.



	1st	3rd	5th	7th	Other Grades
Normal	35	65	96	132	7
Obesity	681	1399	1949	2210	348
Overweight	66	151	290	331	32
Underweight	5	4	8	1	0