2009 Portrait of Adolescent Health in North Carolina

North Carolina metamorphosis project
healthy adolescents. healthy futures.

Adolescence is a time of metamorphosis. Much like in early childhood, adolescents' brains develop at a rapid pace. Their bodies transform from those of children into those of adults. Adolescents' decisions and behaviors affect their health, and patterns of behaviors established during this period may accompany them into adulthood. Experiences adolescents have in their families, schools and communities strongly influence what happens during this time period. Adolescents are guided by the relationships they build with adults, as well as the programs and policies that make needed services and opportunities available. We must invest in supporting adolescent health. A competitive North Carolina is only possible with a healthy, trained workforce and engaged citizenry.

KEY FINDINGS

1. Many adolescents in North Carolina face barriers to healthy development and a pathway to successful adulthood because they lack healthy foundations.
   - One in five adolescents feels alone in his or her life, suggesting the lack of a strong connection with family or other important supportive adults.
   - Many adolescents lack connections to health care. Less than half of adolescents report having a consistent relationship with a medical professional. One-quarter of adolescents ages 18-21 lack health insurance coverage.
   - More than one-third of adolescents do not complete high school within four years, and those who drop-out often lack connections to training or job programs.
2. Adolescents participate in behaviors that can negatively impact their health today and in the future.
   - More than one in three high school students reported consuming alcohol during the past 30 days.
   - Nearly 40 percent of sexually active adolescents did not use a condom during their last sexual encounter. Chlamydia, gonorrhea and HIV rates among adolescents aged 13 to 19 have increased from 2003 to 2007.
3. Many adolescents are making better decisions and are more engaged in their community than four years ago.
   - The smoking rate has declined by 30 percent from 2003 to 2007.
   - Nearly 2 out of 3 adolescents are engaged in extracurricular activities.

A Report by Action for Children North Carolina
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Overview of Adolescent Health in North Carolina

In the past two decades, North Carolina has made enormous public and private investments in infants and young children. As a result, the infant mortality rate has declined by more than 25 percent and nationally acclaimed early childhood programs have improved the development and overall well-being of young children, enhancing their potential to succeed in school.

Adolescents have received much less attention despite the equal importance of health and well-being during the second decade of life. As a result, North Carolina has missed opportunities to help young people stay on track to become healthy, productive adults. Far too many adolescents in North Carolina live in poverty, do not graduate from high school, do not have health insurance and do not get consistent, high quality health care. Compounding these factors is the fact that many adolescents have not been provided the support and information necessary to make healthy, safe, responsible decisions about their behaviors.

This has to change. There are more than 1.4 million North Carolinians between 10 and 20 years old.[i] North Carolina needs healthy, well-educated young people engaged in the life of our state today and prepared for their future roles as workers, community members and leaders. Many young people have made important contributions to the state and their communities. In the past presidential election, voter turnout among 18 to 24 year olds increased by nearly 70 percent, compared to 2004. Adolescents' continued civic engagement and successful participation in the economy as adults will deliver significant returns to the state and therefore merit investments today.

North Carolina can help young people stay on track. For example, the state has had success in reducing motor vehicle deaths and the teen smoking rate through a combined effort of policymaking, public investment and public education. Experts and practitioners from across the state have joined the North Carolina Institute of Medicine's Adolescent Health Task Force to develop an evidence-based roadmap to guide efforts to improve the health and well-being of North Carolinians between 10 and 20 years old over the next decade. Elected officials and policymakers should make the investments we need and implement this roadmap. Supporting young people today is essential to their growth into the healthy, productive and engaged community members of tomorrow.

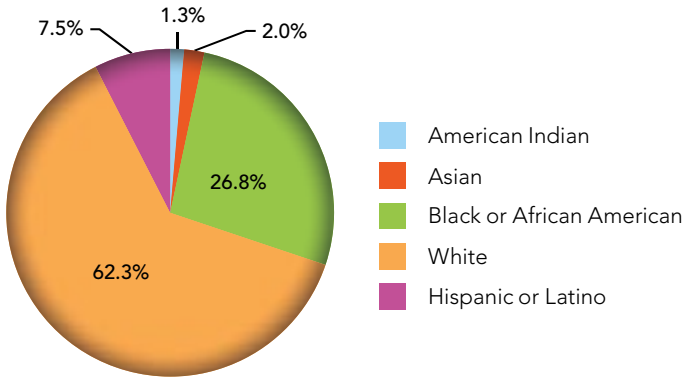
Overview of the Portrait of Adolescent Health

The purpose of this first-ever Portrait of Adolescent Health in North Carolina is to heighten awareness — among policymakers, practitioners, the media and the general public — about the issues and conditions facing adolescents in our state and the opportunities to provide support. Adolescence is defined as the developmental stage during which a series of physical, social, emotional and cognitive tasks associated with the transition from childhood to adulthood are achieved. While the age at which adolescence begins and ends varies by individual and culture, there is general consensus that ages 10 to 20 represent a useful age-based definition.[ii] We have presented data for this specific age group to the extent that available sources make it possible. Due to data limitations, especially with regards to indicators of positive adolescent behaviors and outcomes, this portrait remains incomplete. In time, we hope that expanded data systems will produce a more comprehensive portrait. Our indicators highlight the *foundations* needed for healthy adolescent development, the decisions that adolescents make about *behaviors* and subsequent health *outcomes*.

Adolescents in North Carolina

Adolescents represent a significant proportion of North Carolina's population. More than 1.4 million people between 10 and 20 years of age live in North Carolina. These young people represent nearly one-fifth of the state's total population.

ADOLESCENT POPULATION (10 TO 21 YEARS OLD) BY RACE/ ETHNICITY



Source: Population Reference Bureau, analysis of the 2007 ACS PUMS data and CDC Bridged-Race Population Estimates (Vintage 2007). Calculations based on the ACS total population for 10 to 21 year olds of 1.4 million.

The majority of adolescents are healthy and on track in their lives. However, all adolescents make decisions about behaviors that can have a serious impact on their health, and all benefit from developmentally-tailored strategies that encourage behaviors which promote rather than jeopardize health.

Some adolescents face particular challenges which must be taken into account when developing strategies to promote adolescent health and well-being. For example:

- One in five (18.4 percent) young people 12- to 17-years old had a special health care need in 2005-2006.[iii]
- More than one thousand adolescents were homeless in January 2009.[iv]
- One in five (17.8 percent) young people 10 to 20 years old in N.C. were living in poverty in 2007.[v]

The increased independence of this age group and decline in available community services can also present unique circumstances for adolescents who are transitioning out of foster care, entering the adult criminal system, and dropping out of school.

healthy foundations

Healthy Foundations

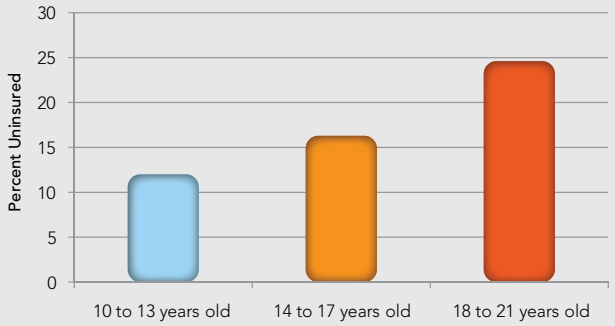
A healthy foundation in adolescence supports positive development and can provide important protection against negative outcomes. Such a foundation is built through strong, connected families, high-quality schools that are well-connected to their communities, access to high quality health care, and opportunities for adolescents to become involved in positive youth development activities. Increasingly, it is clear that these supports lead to better health and life outcomes for young people.[vi]

There are many opportunities to strengthen foundations and improve adolescent health in North Carolina. One-in-five students in both middle and high school reports feeling alone in life. More than one-third of North Carolina's freshmen do not complete high school in four years and nearly 10 percent of 16- to 19-year-olds are not in school or in work. Without a high school diploma, adolescents are at a disadvantage in their working life and may remain disconnected from their communities well into adulthood.[vii]

Improving connections to health care can impact physical health, emotional well-being, and educational outcomes.[viii] Lack of insurance and lack of relationships with primary care clinicians both can lead to adolescents missing needed health care, and poor health outcomes.[ix] Public health insurance has provided many children under the age of 18 with coverage to receive preventive care. And yet, nearly half of adolescents do not have a medical home and the consistent care that such a relationship with a medical professional can provide.

Providing opportunities for adolescents to get involved in their communities and develop leadership skills are additional strategies to support youth development. On the positive side, more than 25 percent of adolescents volunteered in 2007, and nearly two-thirds participated in extracurricular activities. Such opportunities to develop leadership skills and participate in civic life help young people stay on track in their lives, develop a sense of connectedness with their communities, and prepare for adulthood. While successful initiatives exist to provide leadership development and after-school programs, these services are not available across the state to all adolescents.

As young people progress through adolescence they are more likely to be uninsured. In this key period of development, a lack of insurance coverage may mean adolescents do not get the health care they need, have fewer sources of information about the changes they are experiencing, have less support in making healthy decisions, and have less support for learning how to successfully manage chronic health conditions – which can all lead to poorer health outcomes.



Source: Current Population Survey, 2007. Data analyzed and provided by N.C. Institute of Medicine.

ADOLESCENT HEALTH IN NORTH CAROLINA: FOUNDATIONS

Unless otherwise noted, the data reported in this chart reflect findings from the Youth Risk Behavior Survey of 9th to 12th grade students in North Carolina.

CONNECTION TO FAMILY	2003	2007
Ate dinner four or more times with family in the past week	NA	56.2%
Agree or strongly agree that they feel alone in life	16.3%	20.4%
CONNECTION TO HEALTH CARE	**2003**	**2007**
Uninsured (10 to 20 years old)	17.8%	16.7%
Have a medical home (11 to 17 years old)	42.5% (2005)	44.5%
CONNECTION TO SCHOOL	**2003**	**2007**
Participate in extracurricular activities at school	61.6%	62.4%
Not in school, not in work (16 to 19 years old)	10%	9%
Four-year high school completion rate	NA	68.1%
CONNECTION TO COMMUNITY	**2003**	**2007**
Volunteer rate (16 to 18 years old)	23%	27%
State- and federally-funded after school programs	NA	514

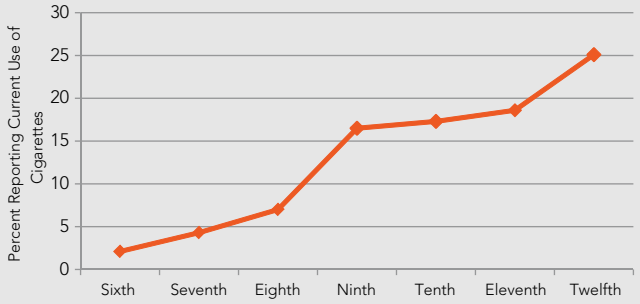
+ healthy behaviors

Healthy Behaviors

Opportunities for young people to make decisions on their own and act on them are increasingly available as they progress from early to late adolescence. These decisions and behaviors can impact young people's relationships with their peers, families and communities. Behaviors can either promote or jeopardize health during adolescence and far into adulthood, which will impact their productivity and ability to contribute to their communities. Evidence points to the important role that information, skills-building, adult support, and policy play in facilitating decisions and behaviors by young people that can maximize healthy outcomes.[x]

One of the developmental tasks of adolescence is to learn to make complex choices about issues and behaviors with which one has had little previous experience. Adolescents who have the information, skills, and adult guidance they need will make better choices, and are more likely to engage in behaviors that promote their health and well-being.[xi] Healthy family, school, and community environments also promote healthy decisions and behaviors.[xii] Research shows that adolescents' brains are still developing many of the essential functions that are required for assessing risk, analyzing costs and benefits of choices and controlling impulsive behavior.[xiii] This emerging evidence suggests tremendous opportunities exist to help adolescents develop decision-making skills and choose healthy behaviors. A number of programs have been proven through rigorous research to decrease a wide range of adolescent risk-taking behaviors, such as dangerous driving, early and unprotected sexual intercourse, and substance abuse.[xiv]

Cigarette use by adolescents increases sharply between eighth and ninth grades and again between eleventh and twelfth grades. Cigarette use early in life can establish a life-long addiction and have implications for cardio-vascular health in adulthood.[xvi]



Source: North Carolina Tobacco Survey, Statewide Results, 2007. N.C. Department of Health and Human Services.

North Carolina has already had some success in providing adolescents with the information and tools to support sound decision-making. Most notably, tobacco use fell by 30 percent from 2003 to 2007. Adolescents were more likely to wear their seatbelt in 2007 than in 2003. Nearly half of adolescents are participating in 60 minutes of physical activity per day for at least five days per week. These examples of success can provide guidance for developing additional strategies to promote adolescent health in North Carolina.

ADOLESCENT HEALTH IN NORTH CAROLINA: BEHAVIORS

Unless otherwise noted, the data reported in this chart reflect findings from the Youth Risk Behavior Survey of 9th to 12th grade students in North Carolina.

SUBSTANCE AND ALCOHOL ABUSE	2003	2007
Smoked cigarettes in the past 30 days	27.3%	19.0%
Used alcohol in the past 30 days	39.4%	37.7%
Used cocaine in their lifetime	8.4%	7.0%
Used methamphetamines in their lifetime	6.6%	4.7%
SEXUAL ACTIVITY	**2003**	**2007**
Ever had sexual intercourse	47.5%	52.1%
Did not use a condom during last sexual intercourse	NA	38.5%
VIOLENCE	**2003**	**2007**
Carried a weapon	19.2%	21.2%
Did not go to school because they felt unsafe at school or on their way to or from school	5.8%	7.0%
Children with a finding of abuse, neglect or in need of services (10 to 17 years old)	NA	8593
DELINQUENCY	**2004**	**2007**
Juvenile Delinquency Rate per 1,000 (6 to 15 years old)	35.32	34.08
PHYSICAL ACTIVITY	**2003**	**2007**
Watched television 3 or more hours per day	NA	35.3%
Did not attend physical education classes daily	69.5%	71%
Participated in physical activity for 60 minutes per day for at least five days a week	NA	44.3%
INJURY PREVENTION	**2003**	**2007**
Rarely or never wore a seat belt	11%	7.9%
Rode with a driver who had been drinking alcohol	23.5%	24.7%

= healthy outcomes

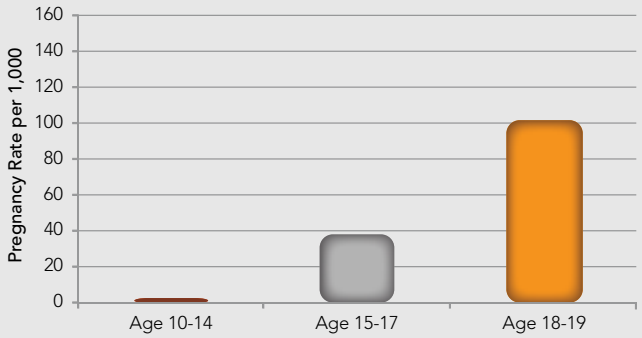
Healthy Outcomes

While the majority of adolescents are considered to be in good health, many adolescents experience significant health problems, get off track in their lives because of health-related issues, and develop risk factors for poor health in adulthood. Healthy outcomes in adolescence can signal a greater possibility of healthy outcomes as adults.

In North Carolina, there have been improvements in health outcomes for adolescents, most notably in the areas of suicide and teen pregnancy. However, the proportions of adolescents who have developed risk factors for early heart attack and stroke by young adulthood are of great concern, because adult death rates from cardiovascular disease in North Carolina are among the highest in the country. These risk factors include obesity, high blood pressure, high cholesterol and diabetes. Additionally, rates of sexually transmitted diseases (STDs) and HIV in the adolescent population have increased between 2003 and 2007.

Multi-pronged science-based approaches that take into consideration policy, family, school, communities and health care interventions are most effective in generating healthy outcomes. For example, there has been a dramatic decline in motor vehicle deaths over a 10 year period that is likely due to safer cars, increased use of seat belts, less drinking and driving, and the training and skill development provided through the graduated driver's license program, a nationally recognized model program in our state. Reductions in adult death from cardiovascular disease in North Carolina will require addressing the risk factors that emerge during adolescence in a similar multi-pronged way. Making physical activity a priority and providing healthy food selections are both needed to address obesity and reduce the risk of cardio-vascular disease in adulthood.

Despite the overall decline in pregnancy, the relatively high rate of adolescent pregnancy for those ages 15-19 is cause for concern. Pregnancy during adolescence can disrupt education, cause economic strain and compromise the healthy development of both mother and child.



Source: N.C. Center for State Health Statistics, 2007 Total North Carolina Resident Pregnancies. Rate calculations by Action for Children North Carolina based on data from N.C. State Demographer for 2007

Transition to Adulthood

Engagement in higher education, the workforce and civic life are a few ways to gauge if young people, ages 18 to 24, are well-positioned as they transition from adolescence to young adulthood. In North Carolina, it is clear that more must be done to ensure that the transition is smooth and successful for more young people. North Carolina's young adults still are less likely to engage in higher education than the national average.[xvii] Slightly more than half of 18- to 24-year-olds are participating in the labor market. Nearly

ADOLESCENT HEALTH IN NORTH CAROLINA: OUTCOMES

Unless otherwise noted, the data reported in this chart reflect findings from the Youth Risk Behavior Survey of 9th to 12th grade students in North Carolina.

PHYSICAL HEALTH	2003	2007
Overweight (12 to 18 years old)	26.5%	29.9%
	2005	**2007**
Ever told had asthma (14 to 17 years old)	16.7%	17.7%
Ever told had borderline or pre-diabetes (14 to 17 years old)	1.7%	1.5%
Total Death Rate per 10,000 (15 to 24 years old)	9.0	8.2
Motor Vehicle Death Rate per 10,000 (15 to 24 years old)	3.5	3.0
SEXUAL HEALTH	**2005**	**2007**
Teen Pregnancy Rate per 1,000 (15 to 17 years old)	36.0	34.8
Chlamydia rate per 100,000 (13 to 19 years old)	1293.3	1321.7
Gonorrhea rate per 100,000 (13 to 19 years old)	501.3	504.3
HIV rate per 100,000 (13 to 19 years old)	8.3	12.0
MENTAL HEALTH	**2005**	**2007**
Felt so sad/hopeless almost everyday for at least 2 weeks during past year that they stopped doing normal activities	30.6%	26.9%
Seriously considered committing suicide within the past 12 months	18.1%	12.5%
Suicide Rate per 10,000 (15 to 24 years old)	1.12	0.88

TRANSITION FROM ADOLESCENCE TO ADULTHOOD (18 TO 24 YEARS OLD) IN NORTH CAROLINA

	2007
Enrolled in or completed college	43.0%
Participating in the labor market	59.8%
	2008
Voted in a presidential election	57.3%
	2007
Uninsured	39.7%
Ever told had high blood pressure	5.5%
If tested, told cholesterol was high	12.6%

forty percent report not having health insurance, which results in substantial barriers to getting health care needed for management of chronic illness, risk factors for adult disease that have been identified during adolescence, and preventive health care. However, it is clear that there is great potential for engaging this group of young adults in community and civic life, as is evidenced by their historic participation in the 2008 presidential election.

Conclusion

North Carolina's adolescents need the attention and investment of policymakers and communities. Their health, education and overall well-being during this period of tremendous change will influence their pathways to adulthood and impact their contributions to the economy and civic life of the state. The focus of investments should be on building the foundations that young people need, such as strong families, access to high-quality education, health insurance and access to high-quality health care, and providing the information, skills, adult guidance, and healthy environments that support positive youth development. Making evidence-based investments, which have been demonstrated through scientific analysis to have impacts, will increase adolescents' sound decision-making and engagement in healthy behaviors that can lead to better outcomes well into adulthood. To ensure North Carolina's continued growth and prosperity, we must prepare the next generation of North Carolina's leaders, workers and community members for healthy and productive futures.

Data Notes and Sources

Connection to Family: Ate dinner with family: N.C. Youth Risk Behavior Survey (YRBS), 2007, QN96; Feel alone in life: N.C. YRBS, 2003 and 2007, QN111. **Connection to Health Care:** Uninsured: Current Population Survey, 2003 and 2007, calculations by N.C. Institute of Medicine; Have a medical home: CHAMP Survey, Do you have one or more persons you think of as the personal doctor or nurse for your child? **Connection to School:** Participate in extracurricular activities: N.C. YRBS 2003 and 2007, QN97.; Not in school, not in work: KIDS Count Data Center analysis of American Community Survey, 2003 and 2007; Four-Year Completion Rate: N.C. Department of Public Instruction, 2006-2007. **Connection to Community:** Volunteer Rates: Tabulation from the Current Population Survey, Annual Volunteer Supplement analyzed by Center for Information & Research on Civic Learning & Engagement. 2009. Youth Volunteering in the States: 2002 to 2007; Afterschool Programs: N.C. Center for Afterschool Programs, Special Data Request, June 3, 2009 of state and federally funded afterschool programs and includes Support our Students, 21st Century Community Learning Centers, Governor's Crime Commission, Temporary Assistance for Needy Families (TANF) and The Collaborative Project Young Scholars Programs (YS). *Note: Data year for SOS and GCC programs is 2008, TANF 2008-2009 data, DPI 2006-2007 data, YS Spring 2008 Data.* **Substance and Alcohol Abuse:** Smoked cigarettes: N.C. Youth Tobacco Youth Survey, 2003 and 2007, Current use of cigarettes on 1 of the past 30 days preceding the survey. Used alcohol, cocaine and methamphetamines: N.C. YRBS, 2003 and 2007, Q 47, Q49, and QN 53. **Sexual Activity:** Ever had sexual intercourse: N.C. YRBS, 2003 and 2007, QN58. Condom use: N.C. YRBS, 2003 and 2007, QN63. **Violence:** Carried a weapon and bullying: N.C. YRBS, 2003 and 2007, Q12 and Q15.; Juvenile Delinquency Rate: N.C. Department of Juvenile Justice and Delinquency Prevention, Annual Report, 2004 and 2007. Abuse, Neglect and In Need of Services: Duncan, D.F., Kum, H.C., Flair, K.A., Stewart, C.J., and Weigensberg, E.C. (2008). *NC Child Welfare Program.* Retrieved [December 2, 2008], from University of North Carolina at Chapel Hill Jordan Institute for Families website. Special Data Request July 2009. **Physical Activity:** Watched television: N.C. YRBS, 2003 and 2007, QN81; Physical education class: N.C. YRBS, 2003 and 2007, Q84. Physical activity: N.C. YRBS, 2003 and 2007, Q80. **Injury Prevention:** Seat belt: N.C. YRBS, 2003 and 2007, Q9. Driver Drinking Alcohol: N.C. YRBS, 2003 and 2007, Q10. **Physical Health:** Overweight: Defined as young people with BMI greater than or equal to the 95th percentile, NC-NPASS data are limited to children seen in North Carolina Public Health Sponsored WIC and Child Health Clinics and some School Based Health Centers. Asthma: North Carolina CHAMP Survey, 2005 and 2007, Has a doctor ever told you (CHILD) has asthma? ; Diabetes: North Carolina CHAMP Survey, 2005 and 2007, Has a doctor ever told you (CHILD) has borderline or pre-diabetes? ; Total Deaths and Motor-Vehicle Death Rate: N.C. Center for Health Statistics, Vital Statistics, Table A: Leading Causes of Death by Age Group, 2003 and 2007. Rate calculations based on population data from N.C. State Demographics. Certified County/ State Population Estimates, "Age Groups-Total." Available online at: http://demog.state.nc.us/. **Sexual Health:** Teen Pregnancy Rate: N.C. DHHS, State Center for Health Statisics, 2003 and 2007, N.C. Resident Pregnancy, Fertility and Abortion Rates for Females Ages 15-17; STD rates: 2007 HIV/STD Surveillance Report, Epidemiology & Special Studies Unit, HIV/STD Prevention & Care Branch of N.C. Department of Health and Human Services accessed at: http://www.epi.state.nc.us/epi/hiv/pdf/std07rpt.pdf; **Mental Health:** Feeling blue: NC YRBS 2003 and 2007, QN 23.; Suicide Rate: N.C. Center for Health Statistics, Vital Statistics, Table A: Leading Causes of Death by Age Group, 2003 and 2007. Rate calculations based on population data from N.C. State Demographics. Certified County/ State Population Estimates, "Age Groups-Total." Available online at: http://demog.state.nc.us/. **Transition to Adulthood:** College and Labor Market Participation: American Community Survey, PUMS Data, 2007. Calculations by Population Reference Bureau; Voting: N.C. State Board of Election, Special Data Request, August 10, 2009. Calculations by Action for Children North Carolina. Uninsured, high blood pressure and cholesterol: N.C. Behavioral Risk Factor Surveillance System, 2007.

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Endnotes

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