स्वास्थ्य एवं
परिवार कल्याण मंत्रालय
MINISTRY OF
HEALTH AND
FAMILY WELFARE
सत्यमेव जयते

NATIONAL HEALTH MISSION
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World Health Organization
India

PMNCH for
Hosted by the World Health Organization

The Economic Case for Investment in the Well-being of Adolescents in India

Summary report

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जगत प्रकाश नड्डा
JAGAT PRAKASH NADDA

सत्यमेव जयते

मंत्री
स्वास्थ्य एवं परिवार कल्याण
व रसायन एवं उर्वरक
भारत सरकार
Minister
Health & Family Welfare
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Government of India

MESSAGE

India has the largest population of adolescents in the world, 253 million strong, and growing. Our adolescents are the backbone of our future, embodying the promise of a vibrant and progressive nation. This pivotal phase of life, marked by significant physical, emotional, and social changes, lays the foundation for a healthy and productive adulthood.

India's commitment to adolescents is unequivocal. We recognize that ensuring their health, education, and empowerment is vital to achieving our national and international development goals, including the Sustainable Development Goals (SDGs). Our government is dedicated to creating an environment where adolescents can thrive, make informed decisions, and contribute meaningfully to society.

The Ministry of Health and Family Welfare has undertaken several initiatives aimed at addressing the unique challenges faced by adolescents. These initiatives encompass a comprehensive approach, focusing on physical health, mental well-being, nutrition, education, and protection from violence and exploitation. Key programmes such as the Rashtriya Kishor Swasthya Karyakram (RKSK) and School Health and Wellness Programme have been instrumental in providing healthcare services tailored to adolescents' needs, promoting healthy behaviours, and ensuring access to crucial information in schools, facilities and community.

Our policies emphasize the importance of collaboration across sectors, involving education, social justice, and community development to create a supportive ecosystem for adolescents. By fostering partnerships with non-governmental organizations, community leaders, and international agencies, we aim to amplify our efforts and reach every adolescent, regardless of their socio-economic background.

Cont.../-

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सत्यमेव जयते

This report makes a strong case for increased, strategic investment in the well-being of adolescents. It is through their dreams and aspirations that we will unlock the full potential of our great nation. Together, we can create an environment where every adolescent has the opportunity to thrive, innovate and lead. Our adolescents are not just the leaders of tomorrow; they are the change-makers of today.

India has and will continue to remain steadfast in its commitment to nurturing adolescents' talents, supporting their ambitions and empowering them to build a brighter, inclusive future for all.

The future of India shines brightly in their hands, and I am confident that with their passion and our support, we will achieve unprecedented heights.

(Jagat Prakash Nadda)

अपूर्व चन्द्रा, भा.प्र.से.
सचिव
APURVA CHANDRA, IAS
Secretary

सत्यमेव जयते

आज़ादी का अमृत महोत्सव

भारत सरकार
स्वास्थ्य एवं परिवार कल्याण विभाग
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
Government of India
Department of Health and Family Welfare
Ministry of Health and Family Welfare

FOREWORD

Almost ten years ago, the Government of India launched Rashtriya Kishor Swasthya Karyakram (RKSK) to reach out to 253 million adolescents - male and female, rural and urban, married and unmarried, in and out-of-school adolescents with special focus on marginalized and under-served groups. Understanding the critical importance of addressing the diverse needs of adolescents—our future leaders we made a pivotal shift from traditional clinic-based services to a more holistic approach. This approach emphasizes promotion and prevention, reaching adolescents where they are. Key components of the programme include community-based interventions, facility-based counselling, social and behaviour change communication and the strengthening of school based interventions.

Since then, the Government of India has made several strides in advancing the well-being of adolescents in the country. The School Health and Wellness Programme under Ayushman Bharat aims to strengthen health promotion and disease prevention interventions for school children using trained teachers. The Scheme for Promotion of Menstrual Hygiene is focused on adolescent girls to increase awareness and promote menstrual hygiene practices. Peer educators conduct participatory sessions on adolescent health issues among their peers. Adolescent Health and Wellness Days (AHWD) are organized in the community to reach out to adolescents, their parents, caregivers and community leaders.

As India continues its commitment and mission to ensure every adolescent is equipped with the support, confidence, and resources to thrive, we are pleased to share 'The Economic Case for Investment in Adolescent Well-being in India.' This report strongly argues for continued and sustained investment in our adolescents, emphasizing on high returns on investment on provision of adolescent health services, scaling up efforts for tuberculosis, myopia, education and employment, increasing coverage of HPV vaccination, prevent child marriage and road traffic accidents.

We hope this report serves as a comprehensive guide for action and inspires partners across the country to continue their efforts and investments in advancing adolescent well-being. Together, we can achieve our collective goals as a nation, fostering a healthier and more empowered future for all young people in India.

Dated 19th July, 2024

(Apurva Chandra)

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Preface

Every adolescent embarks on their journey through life with a unique blend of enthusiasm, curiosity, uncertainty, and confidence. Despite their individual paths, adolescents worldwide confront a range of challenges that will shape their futures. From the persistent threats of climate change and economic instability to the sudden disruptions of pandemics and rapid technological advancements, the road ahead is filled with uncertainties that deeply affect their well-being. As advocates of the well-being of adolescents, it is our collective responsibility to support adolescents in all their diversity, providing them with the investment, opportunities, and care they need to thrive and lead meaningful lives.

This report arrives at a pivotal moment. India is currently experiencing rapid economic development and undergoing several transitions. India stands at a unique juncture with the largest adolescent population in the world. This young cohort is an invaluable asset, and investing in their health and well-being will play a critical role in achieving the country's economic growth and development goals. The country has witnessed notable achievements in advancing the health & well-being of adolescents and is building upon these with a series of initiatives designed to sustain and accelerate these gains. This report makes a compelling case for the need to invest further in adolescents and their well-being as doing so advances development in multiple ways.

As we look ahead, just six years away from the deadline to achieve the Sustainable Development Goals (SDGs), the 2030 agenda of SDGs will not be realized without investment in adolescent health and well-being. Investing in adolescents' well-being is not just a moral imperative; it is a strategic move to build resilient communities, foster sustainable development, and mitigate the high costs of inaction.

This report is a tool for ensuring enhanced and sustained financing for adolescents, providing a valuable framework for mapping out future actions and strategies. It will ensure that our collective efforts are both effective and impactful and India is able to reap the benefits of its demographic dividend. The report also sets out to strengthen the case for a holistic, multi sectoral programme of action to harness India's biggest assets: its young population.

We envision and are working towards a world where every adolescent has the opportunity to realize their full potential, contribute meaningfully to their communities, and drive positive global change. Under leadership of the Government of India, we remain steadfast in our commitment to accelerating and sustaining investments in adolescent health and well-being. Through collective action and unwavering commitment, we must strive to create a world where adolescents are empowered to shape their destinies and pave the way for a more equitable and sustainable future for all.

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Acronyms

BCR	Benefit-cost ratio
CBSE	Central Board of Secondary Education
CCT	Conditional cash transfer
DALY	Disability-adjusted life year
DMHP	District Mental Health Programme
GBD	Global Burden of Disease
GBV	Gender-based violence
GDP	Gross domestic product
HIC	High-income country
HPV	Human papillomavirus
IAHS	India Adolescent Health Strategy
ICT	Information and communications technology
IHME	Institute for Health Metrics and Evaluation
IARC	International Agency for Research on Cancer
IPV	Intimate partner violence
LIC	Low-income country
LMIC	Lower middle-income country
MIC	Middle-income country
MoE	Ministry of Education
MoHFW	Ministry of Health and Family Welfare
NEP	National Education Policy
NCF	National Curriculum Framework
NCD	Noncommunicable disease
NCRB	National Crime Records Bureau
NGO	Nongovernmental organization
NMHP	National Mental Health Programme
NPV	Net present value
ODL	Online Distance Learning
OECD	Organization for Economic Cooperation and Development
OHT	OneHealth Tool
PATHS	Promoting Alternative Thinking Strategies
RMNCH	Reproductive, maternal, newborn and child health
ROI	Return on investment
SEL	Social and emotional learning
SDG	Sustainable Development Goal
SHWP	School Health and Wellness Programme
SRH	Sexual and reproductive health
STW	School-to-work transition
TB	Tuberculosis
UDAYA	Understanding Development of Adolescents and Young Adults
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VIA	Visual inspection with acetic acid
VSL	Value of a statistical life
WHO	World Health Organization

Executive summary

Key messages

This report contains a number of key messages:

- India has made good progress in improving the well-being of the country's 253 million adolescents (persons aged 10–19 years) in recent decades. This has been due to strong investment by the Government in many cutting-edge programmes and their effective implementation.
- Even so, much remains to be done, in India as in other countries across the world. In a country as large and diverse as India, important challenges exist for today's adolescents in many areas. These include scaling up and improving access to health services, enhancing learning outcomes in schools, preparing adolescents for employment, strengthening mental health programmes, and reducing violence and injury, especially against girls and young women.
- For this reason, and because today's adolescents are tomorrow's adults, a further expansion of investment in leading-edge programmes for adolescents, across many domains, is critical for India's future.
- *The economic case for investment in the well-being of adolescents in India*, includes India-specific estimates of the benefit-cost ratio (BCR) (the ratio of the estimated future benefits to the cost of the interventions) for the expansion of seven important programmes to promote the well-being of the country's adolescents over coming years (Table 1). Wherever available, these estimates have used India-specific estimates of the costs and benefits of the programmes.
- It is important to note that these modelling exercises calculate the future benefits of the interventions relative to a projected base case specified on technical grounds. These calculations are not relative to a detailed projection of expected outcomes from the full range of programmes that national and state governments have implemented or are currently implementing. Table 1 shows that while the costs of the interventions to individuals, the Government of India and others of the interventions that have been modelled are substantial, the returns to these investments, relative to the base case, are likely to be very high. Six programmes are estimated to have a BCR between US$ 4.6 and US$ 19.9 per US dollar invested, with the BCR for treatment of tuberculosis being much higher. This very high figure for tuberculosis is consistent with other estimates in the global literature. BCRs as high as these strongly endorse any investment programme.
- Furthermore, the models suggest that making these future investments, some of which are already planned within existing national programmes, would boost the Indian economy approximately by an average of approximately 10.1% of annual GDP. These gains can be attributed to the pivotal role successive cohorts of adolescents will play in India's economic and social future[1].
- It is important to note that the cost of these interventions would be shared across sectors and stakeholders, including (but not limited to) various Ministries within the government, civil society, the private sector and the beneficiaries themselves. The costs are a projection from modelling with uncertainty around many of the assumptions. They will be modified as further data become available.
- There are many important programmes for which estimates of BCRs cannot be made,

[1] Wherever the empirical data were available for India, these have been used in the models used to calculate the return on investments. Where this was not possible, regional values from south Asia have been used, and in the case where no relevant studies were found in south Asia, averages were used from other countries.

mainly because of data limitations and limited published research. These include, but are not limited to, interventions to prevent suicide, crimes against children, interpersonal violence (including intimate partner violence and gender-based violence), bullying and cybercrimes (especially cyberbullying). For example, there is also growing evidence, both from India and globally that initiatives to prevent and treat common mental disorders (depression and anxiety) can be highly effective and cost-effective.

- Further investment in adolescents and their well-being will have large economic benefits with an excellent return on the investment. However, although these economic benefits are the main focus of this report, these investments will also result in important social benefits, including reducing inequality in the distribution of well-being across regions and income groups in India.
- Finally, investment in the well-being of adolescents is particularly important at this time, given the significant demographic and epidemiological transitions that India is undergoing currently and will undergo over the coming decades, with the increasing importance of noncommunicable diseases, mental health and both intentional and unintentional injuries.

***Table 1.** Results of benefit-cost modelling for seven programmes to promote aspects of adolescent well-being in India*

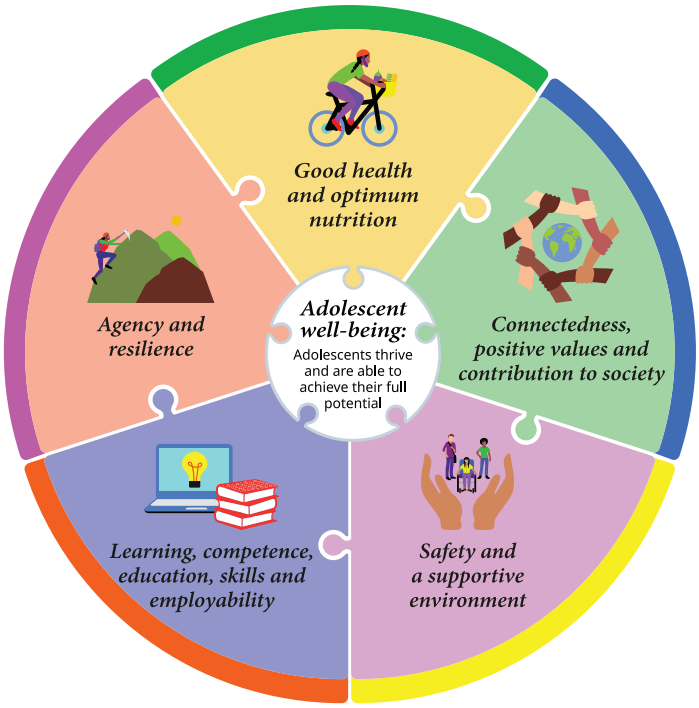
	Economic and social benefit, $M	Cost, $M	BCR economic & social
Interventions implemented to 2035			
Adolescent health services	25 856	4,370	5.9
HPV vaccination	18 395	1 104	16.7
TB treatment	3,761	53	71.4
Screening and treatment of myopia	66 623	4 304	15.5
Interventions implemented to 2050			
Education and employment	11 470 150	795 828	14.4
Child marriage reduction	1 135 363	57 074	19.9
Road traffic accidents prevention	40 714	8 944	4.6

Note: See text below for discussion of these results. HPV = Human papillomavirus; TB = Tuberculosis.
Source: Estimates from modelling.

Introduction

The Sustainable Development Goals (SDGs) will not be realized across the world unless adolescent well-being is improved. The well-being of adolescents (10–19 years) has been defined as having the ability to thrive and be able to achieve their full potential, across five domains:

Figure 1. ***Five domains of adolescent well-being****



* Ross DA, Hinton R, Melles-Brewer M, Engel D, Zeck W, Fagan L, et al. Adolescent well-being: a definition and conceptual framework. J Adolesc Health. 2020;67(4):472-6. doi:10.1016/j.jadohealth.2020.06.042.

In India, the well-being of adolescents has improved dramatically over recent decades, across many of the dimensions of well-being. For example, between 2000 and 2019, the adolescent mortality rate fell by more than half and the adolescent fertility rate declined by 83%[2]. Increases in the proportion of young people completing secondary school have been equally impressive, more than doubling from 22% in 2005 to just over 50% in 2020[3]. In 2021-22 total students enrolled in school education from primary to higher secondary stood at 255.7 million as compared to 253.8 million enrolments in 2020-21, registering an increase of 1.936 million enrolments[4]. Similarly, the prevalence of girls getting married before age 18 (child marriage) has declined by over half between 2006 and today[5].

Over recent decades, the Government of India has passed several laws and developed a range of policies and programmes to improve the well-being of adolescents. These initiatives have been supported by a wide range of activities within community groups and other elements of civil society.

[2] All-cause mortality rate for adolescents aged 10-19 years: India [website]. Geneva: World Health Organization; 2024 (https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/indicator-explorer-new/MCA/all-cause-mortality-rate-for-adolescents-aged-10-19-years, accessed 12 July 2024)
[3] Databank: world development indicators [website]. Washington DC: World Bank; 2023 (https://databank.worldbank.org/source/world-development-indicators, accessed 20 February 2024).
[4] UNIFIED DISTRICT INFORMATION SYSTEM FOR EDUCATION PLUS (UDISE+) 2020-21 Government of India Ministry of Education Department of School Education and Literacy [Internet]. Available from: https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/UDISE%2B2020_21_Booklet.pdf
[5] Ending child marriage and adolescent empowerment [website]. New Delhi: United Nations Children's Fund India; 2024 (https://www.unicef.org/india/what-we-do/end-child-marriage accessed 1 June 2024).

Despite impressive improvements in the examples given above, there is still room for further progress. For example, India's target of eliminating child marriage by 2030 in line with the Sustainable Development Goals (SDGs) will require accelerated efforts[6]. Other critical areas include scaling up and improving access to health services, enhancing learning outcomes in schools, preparing adolescents for employment, strengthening mental health programmes, and reducing violence and injury, especially against girls and young women.

Approach and methods

Approach used

This report builds on recent global work conducted by the Victoria Institute for Strategic Economic Studies (VISES) at Victoria University in Australia in collaboration with the Partnership for Maternal, Newborn and Child Health (PMNCH), World Health Organization (WHO), United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). This work was summarized in a global report Adolescents in a changing world: the case for urgent investment, which was published in May 2024[7].

To build on this work for India, a multi-stakeholder consultation was organized, with the first meeting held on 30 April 2024, in New Delhi, India. This meeting was attended by 116 partners across a range of organizations and institutions (government officials, youth networks, NGOs, academics, the private sector and UN organizations), with the objective of informing the development of this report. Separate break-out groups were set up to discuss health, education and employment, and connectedness, violence, agency and resilience. Participants provided information on data sources, existing policies, interventions and programmes to address these issues. Follow-up meetings were held online. Feedback was sought on an initial draft report. In adapting the methods and models of the global study to India, and to supplement the advice of the expert participants, the authors of this report have undertaken extensive reviews of the Indian literature, including through searches of formal databases such as PubMed and Web of Knowledge, and Google Scholar, to:

- map and appraise current laws, programmes, policies and interventions that promote adolescent well-being. These programmes related to health and education generally and more particularly to mental health, violence (gender-based violence, crimes against children, cybercrime), and agency and resilience; and
- document interventions that are being implemented in India related to education, child marriage and road accidents.

Attention has also been given to identifying national data sources to be included in the models and other analyses.

The following issues are important in interpreting the BCR results. In all cases, a base case (an interpretation of unchanged policy) is established and then a series of interventions are applied to that base case, with the benefits of the interventions calculated as the value of the difference in outcomes between the two cases. For the health services-related interventions (adolescent health services, HPV vaccination, TB treatment and screening

[6] End child marriage: a profile of progress in India. New York: United Nations Children's Fund; 2023. (https://data.unicef.org/wp-content/uploads/2023/05/Ending_Child_Marriage-profile_of_progress_in_India_2023.pdf, accessed 1 July 2024)
[7] Adolescents in a changing world: the case for urgent investment. Geneva: World Health Organization; 2024. Licence: CC BY-NC-SA 3.0 IGO. (https://iris.who.int/handle/10665/376910, accessed 1 July 2024)

and treatment of myopia) the period of implementation of the interventions within the models is from 2024 to 2035, whereas the period for the education and employment, child marriage reduction and road traffic accidents prevention interventions is 2024 to 2050. Secondly, because the outcomes of interest had been changing rapidly over recent years, the base case for child marriage reduction and for road traffic accidents prevention interventions was modelled based on recent trends, whereas for the other interventions the base case was modelled based on current estimates. These differences in approach were due to technical modelling reasons, such as model or data availability or lags in the impact of the interventions. However, in all cases, the benefits were calculated across a longer period, normally the projected working life of the individuals involved.

The definition of the base case also raises important issues, and here two broad methods are used. In five of the seven models, we establish the base case by holding the relevant treatment or policy rates constant over the intervention period. In child marriage and road accidents, where particularly rapid change is taking place, we establish the base case by modelling the trend in outcomes (the number of marriages and road accident deaths or injuries).

As mentioned above, it is important to note that these technical specifications of the base case are not equivalent to detailed projections of the likely outcomes of current Indian programmes. Nevertheless, versions of most of the programmes modelled are being applied in India, so that the BCRs should be a good proxy for those that can be expected from an enhancement of investment in these programmes designed to promote adolescent well-being. Some significant part of the modelled benefits may be already being captured by ongoing Indian programmes.

The seven programmatic areas where it was possible to calculate ROIs for India and the resulting BCRs, are shown in Table 1. Four of these programmes are exclusively or primarily delivered by the health sector. These are a broad package of adolescent health services: human papillomavirus vaccination; tuberculosis control and treatment; and screening and treatment of myopia. Although economic returns on investment in the well-being of adolescents are the focus of this report, these investments will also result in important social benefits, including reducing inequality in the distribution of well-being across regions and income groups in India. Furthermore, investment in the well-being of adolescents is particularly important at this time, given the significant demographic and epidemiological transitions that India is undergoing currently and will undergo over the coming decades, with the increasing importance of noncommunicable diseases, mental health and both intentional and unintentional injuries.

Main findings on BCRs

Health services

The ‘adolescent health services’ programme modelled relates to the expansion of adolescents’ access to several specific health service interventions across sectors chosen based on their relevance to adolescents and their importance in addressing the adolescent burden of disease in India. The interventions included selected maternal, newborn and reproductive health, child health, malaria, HIV/AIDS, nutrition, noncommunicable diseases, mental health, neurological and substance use disorders, and alcohol use/dependence interventions. The costs and benefits were modelled within the OneHealthTool[8].

[8] Simms KT, Steinberg J, Caruana M, Smith MA, Lew JB, Soerjomataram I, et al. Impact of scaled up human papillomavirus vaccination and cervical screening

The human papillomavirus (HPV) vaccination intervention included in the model follows the World Health Organization cervical cancer elimination strategy. It assumes girls-only vaccination at nine years old with a catch-up for girls aged 10–14 years, and twice-lifetime screening for cervical cancer at ages 35 and 45 years with cancer treatment scale-up. Vaccination was assumed to scale up to 90% coverage. The cervical screening component of the intervention assumes screening at ages 35 and 45 years with scale-up to 70% coverage by 2030 and 90% by 2045. In addition, it is assumed that 50% of women who are diagnosed with invasive cervical cancer would have received appropriate surgery, radiotherapy and chemotherapy in 2023, which will increase to 90% by 2030. The Policy1-Cervix model was used to calculate the BCR[9].

Table 2. List of modelled education interventions

Intervention	Area of impact	Sub-category
Building new schools in underserved areas	Time in school	School input
	Student learning	School input
Meals/nutrition	Time in school	School input
	Student learning	School input
Merit-based scholarships	Time in school	Demand for education
	Student learning	Demand for education
Female Friendly schools (Water, Sanitation and Hygiene)	Time in school	School input
	Student learning	School input
Deworming/malaria	Time in school	School input
Remedial teaching/teach at the right level	Time in school	Pedagogy
	Student learning	Pedagogy
ICT	Student learning	Pedagogy
Improved pedagogy	Student learning	Pedagogy
Combined: CCT and teacher incentives	Time in school	Demand for education and governance
	Student learning	Demand for education and governance
PATHS	Student learning	SEL

Notes: ICT is information communication technology; CCT is conditional cash transfers; PATHS is Promoting Alternative Thinking Strategies; SEL is Social and Economic Learning.

The tuberculosis intervention modelled for the BCR calculation is the scale-up of the National Tuberculosis Elimination Programme along the lines proposed within the current National Strategic Plan for TB Elimination 2017–25. Interventions include preventive treatment, first-line, multidrug-resistant and extensively drug-resistant treatment.

The myopia intervention that was evaluated is modelled on the scale-up of the National Programme for Control of Blindness and Visual Impairment. It includes screening and the provision of spectacles to adolescents with myopia.

and the potential for global elimination of cervical cancer in 181 countries, 2020-99: a modelling study. Lancet Oncol. 2019;20(3):394-407. doi:10.1016/s1470-2045(18)30836-2

[9] Canfell K, Kim JJ, Brisson M, Keane A, Simms KT, Caruana M, et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. Lancet. 2020;395(10224):591-603. doi:10.1016/s0140-6736(20)30157-4.

Education and training

Two linked models are used in the education and training component in this report – an education model and an employment model. The first is a cohort model of educational attainment that follows students by age, grade and gender over time. It has a base case, in which key parameters are held steady at their opening values, and an intervention case. The interventions that were modelled are directed at improving retention in school until final year completion, improving the quality of the learning that adolescents receive at school, and at strengthening life and employment skills. The education interventions modelled are listed in Table 2, and the impact and cost parameters for each of them are drawn from the international literature and advice from in-country stakeholders.

The education model is one of learning and progression within school and takes enrolments into secondary schools as given. It is evident from Table 2 that many interventions influence both time in schooling (reducing repetition and dropout) and the quality of student learning. In terms of training, the interventions used are vocational training, trade certification and a national programme focused on providing students with 21st century transferable skills. The interventions modelled are similar in principle and share many of the Government's objectives outlined in the National Education Policy (NEP). The cost of the interventions consists of the direct cost of the interventions, such as pedagogical improvements, and the cost of educating the additional number of students attending through to the final year of secondary school due to reduced dropout increasing the number of students in school. The same standard population projection is used for both base and intervention cases.

The education and training interventions will have substantial effects on employment. The employment model studies the impact of secondary school completions and improved quality of learning on productivity in post-school employment. Four main factors are modelled:

- the individual productivity effect of years of schooling, using India-specific estimates of the returns related to each additional year of school;
- the productivity value of better-quality learning;
- the impact of secondary school completions on the type and level of employment; and
- the impact of skills training on productivity.

The models suggest that investing in these interventions will generate a substantial increase in adolescent secondary school completions (about 855 million over the period to 2050), an appreciable lift in school quality and a doubling of adolescent cohort productivity by mid-century. As shown in Table 1 these interventions are estimated to generate a high BCR of 14.4.

Child marriage

The child marriage interventions that were modelled are listed in Table 3. The model accounts for the direct effects on the child marriage rate, as well as indirect effects related to increased enrolment and retention in education and hence in employment and productivity. Data from four national sources were used: the Unified District Information System for Education (UDISE)(2018-2020); the National Achievement Survey (2019-2020); the Periodic Labour Force Survey (2018-2021); and the National Sample Survey.

Table 3. Interventions included in the child marriage models

Type of intervention	Intervention
Direct child marriage interventions	Life skills Conditional economic incentives Community mobilization
Indirect child marriage interventions	Schools in rural/remote areas Transfer payments to girls to stay in school Female friendly school infrastructure Pedagogical training for teachers

Road traffic accidents

India has a large number of road fatalities. This partly reflects the country's large population, but also the fact that India has one of the highest rates of road fatalities globally. Adolescents are mostly affected, with traffic injuries among the top five causes of death of adolescents in India.[10] Road Accidents in India 2022 Report shows that there was a 22.7% rise in fatal road accidents for adolescents under 18 between 2021-2022[11]. In this report, we adopt an existing road accidents model to road traffic accidents involving adolescents in India, to study the likely impact of a range of interventions. The interventions modelled are consistent with the international literature and with the provisions of the Government of India's New Motor Vehicle Amendment Act 2019 and the National Road Safety Policy. They include eight specific interventions:

- speed enforcement;
- alcohol/drinking and driving enforcement;
- seat belt enforcement;
- motorcycle helmet enforcement;
- improved infrastructure;
- graduated licensing schemes;
- safer cars; and
- public awareness campaigns.

The data used in the models primarily came from the database of the Global Burden of Disease Collaborative Network due to lack of national data disaggregated for the 10–19-year age group[12].

As for the other interventions that have been modelled, the road accident model uses a base case and an intervention case in which the interventions listed above are implemented. The model for interventions to prevent road traffic injuries has estimated a base case from the Indian experience over the past decade, by detailed category, and projected that trend out to 2050. Given the many factors affecting road accidents (such as improving vehicles and increased user experience with roads given the increase in the number of vehicles and of roads), the rate and impact of road traffic accidents is projected to fall significantly even in the presence of an unchanged policy. Road accidents affect all age groups within the community and as a result, the impact of the interventions affect all age groups. There is thus a difficult decision as to what share of the costs of the intervention should be ascribed to the 10–19 years age group. The report apportions costs in relation to the share of adolescent deaths in total road accident deaths.

[10] Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2021 (GBD 2021) [website]. Seattle, United States: Institute for Health Metrics and Evaluation (IHME); 2024 (https://www.healthdata.org/research-analysis/gbd, accessed 1 July 2024).
[11] Road accidents in India 2022. Ministry of Road Transport and Highways, Government of India; 2022 (https://morth.nic.in/sites/default/files/RA_2022_30_Oct.pdf, accessed 1 July 2024)
[12] Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2021 (GBD 2021) [website]. Seattle, United States: Institute for Health Metrics and Evaluation (IHME); 2024 (https://www.healthdata.org/research-analysis/gbd, accessed 1 July 2024).

Given these two facts – that the impact of the interventions is measured against a sharply declining trend and that the adolescent share of costs is based on their share of total fatalities – the BCR at 4.6 is substantial (Table 1).

Findings for interventions without BCRs

However, these seven programmes where it was possible to model the BCRs, though very important, are not a comprehensive set of interventions that will be important to promote the well-being of adolescents in India. The full report will briefly summarize the scale the evidence for the importance of programmes designed to prevent suicide, crimes against children, interpersonal violence (including intimate partner violence and gender-based violence), bullying and cybercrimes (especially cyberbullying), and to prevent and treat common mental disorders (depression and anxiety) (see Table 4). For each of these programmes, the main report briefly summarizes the scale of the problem among adolescents in India as well as the current programmes that are in place to tackle the problem. While formal investment metrics cannot be provided due to lack of empirical data, there is strong evidence that interventions in many of these areas can be effective and produce strong economic and social benefits.

Table 4. List of the selected additional intervention programmes that will be discussed in the report for which insufficient empirical data were available to model the return on investment

Programme area
Suicide prevention
Prevention of crimes against children
Prevention of interpersonal violence (including intimate partner violence and gender-based violence)
Prevention of bullying
Prevention of cybercrimes (especially cyberbullying)
Prevention and treatment of common mental disorders (depression and anxiety)

Conclusion

This report highlights the substantial improvements in adolescent well-being in India over recent decades, showcasing the Government of India's impressive array of policies and programmes designed to promote adolescent well-being. Despite these achievements, there are still opportunities for further progress. The report underscores the economic benefits of investing in adolescent well-being, demonstrating that seven key programmes in areas such as adolescent health, education, child marriage prevention, and road safety are likely to provide impressive returns on investment, ranging from US$ 4.6 to US $ 71.4 for every one dollar invested.

Furthermore, the models suggest that making these future investments, some of which are already planned within existing national programmes, would boost the Indian economy by an average of approximately 10.1% of annual GDP i.e., an investment of US$ 33 billion per annum across the various sectors by the government, private sector, civil society, communities and families themselves will yield a return of US$476 billion per annum. These gains can be attributed to the pivotal role successive cohorts of adolescents will play in India's economic and social future.

The report also stresses that, although empirical data are only available to calculate estimates of the BCR for seven important intervention programmes, many more interventions will also be needed to promote adolescent well-being.

The current report provides strong, objective evidence that continuing and expanding investment in existing, proven interventions to promote the well-being of adolescents across multiple sectors makes excellent economic sense and should provide India with excellent returns on investment.