For a healthier nation
The work of WHO in Bhutan 2017
For a healthier nation

The work of WHO in Bhutan 2017
Foreword

Bhutan's pursuit of happiness is indelibly linked with its people’s health and how well that beats. It is redolent of the nation’s pulse. For WHO Bhutan, it is a privilege to be a part of a health system that is so people and service oriented.

In our daily pursuit of making Bhutanese lives healthier and happier, this publication is an opportunity for WHO Bhutan to reflect on the achievements and challenges of the year that was, so it helps draw up opportunities that lie ahead.

With utmost pride and humility, we are happy to share that 2017 was a fulfilling year. With keen cooperation of the Ministry of Health, we have done well in achieving our shared mandates.

Bhutan has been recognised for its commendable efforts in eliminating measles ahead of WHO’s South-East Asia Region (SEAR) target. For now, having emerged a victor from eliminating indigenous measles, the only challenge remains in countering the imported ones. For this, catch up campaigns are underway as a part of supplementary immunisation activity (SIA).

The nationwide advocacy campaign led by Her Majesty Gyaluyum Sangay Choden Wangchuck has contributed significantly to creating awareness on health and social issues. The campaign, which lasted almost a year, covered among others, prevention of sexually transmitted infections (STIs), maternal and child health, non-communicable diseases and adolescent health issues.

Launching antimicrobial resistance action plan, streamlining systems and safety protocol for blood units and drafting national salt reduction strategy were some of the initiatives undertaken.

WHO continued to provide technical assistance in building human resource capacities of health workers, while preparing Bhutanese health system for emergencies in the event of a major natural disaster. Medical emergency supplies were provided to five strategic hospitals.

Noncommunicable diseases continue to be a thorn on the path of the nation’s aspiration to become a healthier, happier society. It is the cause for over half the deaths the country records. Interventions, particularly through introduction of package of essential noncommunicable disease interventions (PEN) protocol is underway. Health workers are being trained to assess patients for major risk factors.

These initiatives and more define our efforts in strengthening Bhutan’s healthcare system.

We have come far, but there is more distance to cover. As we re-capture the events of 2017, we draw lessons as well as inspiration to launch into the future with a deeper sense of purpose, which in this society, is clear.

Besides serving as a document to activities WHO has been a part of with the health ministry, it is with much hope, which this nation strongly embodies in the world today, that this publication will contribute to better understanding of our role in Bhutan.

We wish you happy reading!

Dr Rui Paulo de Jesus
WHO Representative a.i
deviation from conventional reports documenting annual activities, this publication, encapsulating WHO Bhutan’s work towards strengthening Bhutan’s health care system in 2017, is presented in a style of a coffee table book. Defined by crisp texts and complementing photographs within the modish design, the narratives rise from the ground to be intricately woven with official information and enriched by interviews.

The contents of the publication are categorised under six sections, in keeping with the six categories of WHO programs. It begins with a section on communicable disease, which highlights one of health sector’s biggest achievements in 2017. WHO recognised Bhutan as one of the countries, along with Maldives, for successfully eliminating indigenous measles.

Second section discusses installation of open air gyms and review of PEN interventions put in place to combat noncommunicable diseases.

The third section delves into efforts made to equip health workers responsible for child birth and family planning with knowledge and skills required to match progressing standards and modern technology.

The fourth section presents the various steps taken during the year to strengthen health system for better coverage. Of many, a review of Bhutan’s health system and meetings with stakeholders on various aspects pertaining to the health system were carried out.

Section five explores activities related to health security and emergency preparedness and response. Actions taken to combat antimicrobial resistance and trainings on hospital and health waste managements are some of the aspects covered.

Looking into corporate aspects, the last section comprises views of the health secretary on WHO’s support and a personal account of a WHO scholarship recipient in 2017.

The publication closes with a glimpse of 2018 activities and the journey thereon.
Contents

Communicable diseases

Understand hepatitis 8
Experiencing measles 10
Sustaining measles elimination 12
Towards malaria elimination 15
Decline in Dengue cases 16
Targeting rabies and scrub typhus 19

Noncommunicable diseases 22

Less salt, more health gain 24
Fit in the open 27
Bringing PEN protocols up to date 30
Nourishment plans for a healthy nation 32
A better equipped RCDC 36

Family, gender and life course 38

Skin-to-skin newborn care 41
Updating family planning standards 42
A subject on adolescent health 44
High level advocacy 47
Shining light on autism 48

Health systems 50

Cost of keeping Bhutanese healthy 53
Reviewing health system 54
Online patient information on trial 57
Discussing healthcare 58
Better research for better services 59

Health security and emergency preparedness 60

Rational use of antimicrobial agents 62
Health and climate change 65
Addressing water and sanitation issues 66
Promoting a healthy waste care 68
Natural filters for monastic schools 71
Preparing for disasters 72
Safe blood transfusion 75

Corporate links 76

For better public health 78
An eventful year 80
Working with partners 81
Looking forward 83
Communicable diseases
Early intervention: A nine-month-old child receives measles shot
Understanding hepatitis

For a comprehensive understanding of the prevalence of hepatitis, a nationwide sero-survey kicked off in April 2017.

The initiative came at a time when the country was witnessing increasing incidence of hepatitis B and C, aggravated by increasing alcohol liver diseases. By way of understanding the burden, the survey was expected to determine appropriate interventions.

To this, a measles and rubella sero-survey was also combined to substantiate existence of immunity gap that would subsequently help arrive at right target group for vaccination efforts. It was also a part of the endeavour to achieve and sustain elimination of measles and rubella.

The survey, carried out by the National HIV, AIDS and sexually transmitted infections (STIs) control program, in close consultation with and technical support from WHO, identified three age groups from more than 800 households in 13 districts.

Among other benefits, the survey was expected to identify those infected with hepatitis B and C viruses to be referred for care. Understanding the burden and learning the associated factors would also enable adoption of right options for prevention and treatment.
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<tr>
<th>Age Group</th>
<th>Blood Samples Collected</th>
<th>Questionnaires Filled Out</th>
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<tr>
<td>1-4 years</td>
<td>172</td>
<td></td>
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<td>5-17 years</td>
<td>387</td>
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</tr>
<tr>
<td>Below 20 years</td>
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Royal Centre for Disease Control: A staff tests a sample for hepatitis at Serbithang, Thimphu
COMMUNICABLE DISEASES

Experiencing measles

It was about two weeks after she returned from her village in Pasakha in southern Bhutan that Sonam’s daughter started feeling unwell. The baby, a year old, had fever, runny nose and dry cough. Sonam assumed it was the flu that was lingering in the neighbourhood at the time she contracted.

“But before I could do anything else, her face was covered with rashes and she kept crying,” Sonam, who lives in Paro, said. Soon, Sonam started showing similar symptoms.

They visited the Basic Health Unit in the locality and subsequently the district hospital. Following several blood tests and medical interrogations, it was confirmed both the mother and the daughter had contracted measles.

Sonam recalls the treatment being vigorous and they recovered fast. She said health officials visited her house for monitoring and follow-ups.

“That was the first time I learnt that measles could be very contagious although I am quite sure we were infected while visiting my village,” the mother, in her early 20s, said.

Note: Fictitious name has been used to protect patient’s identity.
Incidence: Paro was one of the districts to record measles in 2017.
Catch up: A supplementary immunisation activity was carried out
Measles vaccination program was first introduced in Bhutan in 1979. A high point for the health sector in 2017 was its recognition as one of the first two countries to eliminate measles in the WHO South-East Asia Region (SEAR) before the regional target of 2020.

Bhutan had not reported any case of indigenous measles since 2012, a definition of elimination that marked the achievement.

However, a few cases were reported in recent years, which, on investigation, confirmed that the cases were imported.

Accordingly, based on recommendations of WHO and National Committee of Immunisation Practices, a supplementary immunisation activity (SIA) was carried out to enhance immunity among people and maintain measles free status.

A catch up campaign was initiated, with focus on pockets where immunisation coverage was low, areas that reported measles outbreak and border areas.

The SIA ensured vaccination of population between nine months and 40 years with a single dose, irrespective of previous vaccination status. This was expected to prevent measles transmission in future, especially in the event of importations.

Meanwhile, health officials were also trained on catch up immunisation campaign guidelines, while different media platforms were used to communicate with public on the initiative.
Bhutan achieved the Millennium Development Goal of halting and reversing the spread of malaria well before the target year of 2015. It is now committed to eliminating indigenous malaria by 2018 and obtaining a WHO certification by 2020.

To help accelerate progress towards malaria elimination in the country, a refresher training for malaria microscopists using WHO’s malaria microscopy standard operating system was conducted in February. It was organised by health ministry’s vector borne control program, with technical support from WHO.

WHO also supported development of insecticide monitoring plan and review of the malaria program.

To acknowledge the achievements in malaria elimination, Nanglam dungkhag under Pemagatshel, was presented a malaria free certificate on April 25, World Malaria Day. Nanglam had not reported a single malaria case in the past three years. Senior malaria technicians who had dedicated over three decades of service to the program were presented certificates of recognition.

World Malaria Day was observed in four high-risk districts of Samtse, Samdrupjongkhar, Pemagatshel and Sarpang.

Health workers were commended for their continued efforts on surveillance, quality interventions and timely case notification. The public and local leaders gathered at the different venues were also provided awareness on preventive measures and importance of early detection and treatment. A campaign to eliminate mosquito breeding in water sources like pond was also carried out.

<table>
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<th>Year</th>
<th>Malaria cases</th>
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<td>1994</td>
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<td>2017</td>
<td>62</td>
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Data: Health Information System

COMMMUNICABLE DISEASES

Towards malaria elimination
In practice: Farmers in Samtse learn to identify mosquito breeding areas as part of training.
Dengue: WHO provided test kits during outbreak in southern Bhutan
Decline in Dengue cases

The number of dengue infection cases in the country has significantly dropped since its first occurrence in 2004, but determined efforts are still on to further shrink the prevalence of this vector borne disease.

From around 2,000 cases recorded in 2004 in the sweltering border town of Phuentsholing alone, the number of dengue cases has dropped to about 150, a cumulative record from the four affected towns of Phuentsholing, Samdrupjongkhar, Samtse and Sar pang in 2017. Between these two years were slight variations of cases recorded with health facilities in the four districts.

In containing the outbreak and to ensure no fatalities occurred in 2017, the health ministry, with support from WHO closely followed and monitored the situation in these districts along the foothills.

Besides bringing in a consultant from India to train Bhutanese medical doctors, nurses, malaria laboratory technicians and health assistants from these four districts on clinical management of dengue, WHO also supported in the conduct of door-to-door surveillance in affected areas.

It provided dengue test kits, insecticide such as difluenzuron that helps control mosquito larvae playing host to the virus and natural pyrethrum, another insecticide believed to attack the nervous systems of the female mosquito, inhibiting it from biting.

<table>
<thead>
<tr>
<th>2,000</th>
<th>Number of dengue cases in 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>783</td>
<td>Number of dengue cases in 2017 (no fatality)</td>
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Targeting rabies and scrub typhus

Rabies and scrub typhus have been identified as priority zoonotic diseases for Bhutan. Both diseases, which are preventable in nature, have financial implications on the country’s health system costing the government millions of ngultrums (Bhutanese currency).

Although Bhutan lies in the scrub typhus endemic zone, the disease has largely gone undetected or unreported. It was first diagnosed in 2009, the year which saw several cases of undifferentiated fevers reported from Gedu hospital in Chukha to the referral hospital in the capital.

Several sporadic cases were reported in 2012 and 2014. Today, cases are reported from almost all parts of the country.

Rabies is endemic to the southern parts of the country. Over 5,000 dog bites are reported each year and incurs a public health expenditure of Nu 5.6M (USD 82,500). This figure is expected to increase with increasing number of free-roaming dogs in the country.

To target these two diseases, which are significant public health burden, a comprehensive guideline for priority zoonotic disease was found necessary and was developed with support from WHO. The guideline, for successful management of the diseases, looks at prevention, treatment and control of the priority zoonotic diseases.

WHO also supported development of communication materials for scrub typhus and rabies disseminated through television and radio for public education and sensitisation.

Meanwhile, Bhutan targets to eliminate rabies by 2020, much before the global target of 2030, using step-wise approach to rabies elimination.
Biting health expenditure: The country’s free-roaming dogs contribute to growing public health expenses.
Noncommunicable diseases
For a healthier nation

A farmer ploughs field the traditional way

Need to move: Health officials led by the minister and other volunteers do aerobics at the Thimphu clock tower to send the message
The use of salt in Bhutanese diet, be it tea or dishes, is indispensable. In the past it was a major trade commodity imported from India and Tibet. The savory tooth today has become a public health burden, with Bhutanese consuming about nine grams of salt a day, as indicated by STEPS survey on noncommunicable disease risk factor, 2014. This is double the amount recommended by WHO. Excess consumption of salt is proven to contribute to high blood pressure and increase risk of heart diseases and stroke which can lead to disability or death. These are preventable diseases and medical conditions that have financial bearings on the country’s health system. Reducing salt intake is one of the most cost-effective measures to improve population health outcomes.

With support and technical assistance from WHO, the lifestyle related disease program, involving stakeholders from different agencies, developed an initial draft and road map for National Salt Reduction Strategy. The strategy was developed to design actions and measures to drive food producers and processors to reformulate products available in the market. It would also regulate import of food products with high level of salt or sodium and develop health communication materials for public awareness. Defining mechanisms of coordination and monitoring of salt consumption trends in the country would be within the strategy. Bhutan aims to create a social, economic and legal environment to support reduction of salt intake by 15 percent by 2020.
Mobile check-up: A health official screens a senior citizen for NCD in a tent.
The work of WHO in Bhutan 2017

For a healthier nation
For a healthier nation

All washed up by 5am, the day’s first water in its purest offered, 54-year-old Rada hums prayers, seated behind a film of incense smoke emerging from the base of his main altar.

At the near-end of the daily ritual that takes about an hour, Rada holds up the curtain and peeks out the window to see if the first light of winter has hit the floor yet. The soul bit feeling purified, the teacher, who shows painting at the Zorig Chusum institute of Kawajangsa in Thimphu quickly jumps into his track suit, grabs his walking stick and hastens out into the cold grips of wintry morning chill.

It’s a good warm up from where he lives, about 15 minutes walk towards the Sangaygang base, where, on a dusty patch of space beside the road, an open air gym has been put up with support from WHO in 2015.

An arthritis patient, Rada is one of the most faithful to the open air gym, to which he returns almost everyday following a brisk walk to a certain point up the Sangaygang road.

“Had it not been for dusts and freezing temperatures around this time of the year, such a facility is helpful,” he said. Walking, he said, was good exercise, but as an arthritic patient he had to exercise his joints as well.

NONCOMMUNICABLE DISEASES

Fit in the open

A

Out and about: Rada, an arthritic, is a regular at the open air gym at Sangaygang base
The various machines in the area, he agreed, targeted both his upper and lower body, including the core. "Not to mention cardiovascular and body-weight strength exercises," Rada said.

The cross-training machines, parallel bars, sit up benches and pull up bars, a few using the open air gym located at different places in the capital city, 138 there are (for other districts see box), have said were easy to use, working according to intuition and labels showing muscle target area.

Open air gyms were initiated a year after a nationwide survey of 2014 that showed trends of increasing health risks to a growing number of Bhutanese. It was a national couch potato problem, visiting in the form of diabetes and hypertension, attributed mainly to unhealthy diet and sedentary lifestyle.

Findings of the survey categorised almost 40 percent of the Bhutanese as being overweight, or obese and close to 50 percent as lacking physical activity.

The state, through the ministry and unfailing support of WHO, took it on itself to invest in machines and facilities fixed on open spaces that were free and easy to use for the public.

Rada, who ends his morning exercise by going over all the machines at the open air gym said the routine has helped him maintain a normal sugar level and blood pressure.

"I will continue with this regimen to hit the doctor-recommended 65kg body weight," he said, before making for the gentle descent homeward.

WHO has provided, till now, 420 units of open air gym equipment to all 20 Dzongkhags. Equipment for urban municipalities were provided separately, in units, determined by their population sizes – 138 for Thimphu, 52 for Phuentsholing, 41 for Čelephu, and 31 for Samdrupjongkhar – at a total cost of Nu 16M. In 2017, 17 units of additional open air gym equipment were supplied and distributed to monastic institutions.
Studded with fortresses, temples and monasteries perched on hilltops Bhutan has always been a pilgrimage site, mainly for its residents besides being a cultural draw for visitors to the country.

Blessed by saints in ancient times, laden with narratives rich, later kept beating by pilgrims devout, Bhutanese from all walks of life across the country make it a point to visit monasteries and temples within their locality on auspicious occasions and weekends. It is almost a way of life today, a tradition, like the rich Bhutanese cultural heritage, passed on from one generation to the next.

Suitable to the convenience of Bhutanese of all ages, monasteries and temples in Bhutan are located at distances that take anywhere from a few hours to a few days.

For both locals and visitors, Taktsang monastery in Paro, blessed by a Buddhist saint, Guru Padmasambhava, in the eighth century is one of the most frequented sites in Bhutan.
A team of experts sat together to revise and add more relevance to WHO-recommended package of essential noncommunicable disease interventions (PEN) protocols for Basic Health Units and hospitals (BHUs) in the country in September 2017.

The need was felt following a clinical audit conducted the previous year to determine quality of service, identify practice gaps and establish a continuous monitoring and improvement of PEN services in Bhutan.

In pursuit of combatting noncommunicable diseases (NCDs), Bhutan embraced PEN interventions, which encouraged early detection, strengthened prevention and increased access to related services.

Becoming the first country in WHO’s South-East Asia Region to implement PEN nationwide in 2012, after a pilot project in two districts, the intervention helped in detecting and preventing a range of NCDs.

Health workers were trained using PEN protocol for BHUs and PEN interventions for hospitals. But challenges persisted. Among others, gaps in recording and reporting, lack of documentation on cancer and chronic obstructive pulmonary diseases (COPD) in hospitals and BHUs, and frequent transfer of staff trained in PEN were some of them.

This called for a need for clinical audit, which suggested review and revision of PEN protocols. Over the five days workshop, organised with WHO’s support, the team comprising medical specialist, dentist, oncologist, nutritionist and lecturers carried out the task.

Subsequently, a training of trainers was also held on the revised protocol based on WHO/SEARO manual.
For a healthier nation

PEN: A clinical audit identified the need for a protocol relevant to WHO-recommended one

Bhutan was the first country in the South-East Asia Region to implement PEN nationwide in 2012”
That it was almost of a privilege to be able to afford “good nourishment”, which when they were actually able to afford today, were being denied by the threats of modern-day diseases. That is usually the line Bhutanese of the previous generation throw at their fortunate present-day descendants.

It might probably have been so, especially in the backdrop of the developments of the time, which had only begun to unfold and the nourishment they refer to being lavish servings of rice, butter, cheese and meat with generous salt and sugar seasonings.

Today, the Bhutanese health system finds itself dealing with two equally undesirable conditions of malnutrition and overweight. While the former prevents children from reaching their full mental and physical development potentials, the latter brings a host of risks of noncommunicable diseases.

National Nutrition Survey of 2015 showed how chronic malnutrition and anemia were among children under five, pregnant woman, adolescent girls and women of reproductive ages. A National Food and Nutrition Security Strategy was subsequently developed.

The strategy drawn up with WHO’s help to meet its standards, attempts to control issues of both under-nutrition and over-nutrition, with particular focus on reducing micronutrient deficiencies and improving nutrition status among vulnerable groups identified by the study.

Although the share of childhood stunting and wasting is on the decrease, due largely to the commitment of the government to address malnutrition, it ought to remain determined to its efforts in ensuring progress.

Therefore, the strategy, it is believed will complement the health ministry’s commitment for “1,000 Golden Days” to increase investments and efforts on maternal and child nutrition, with special focus on newborn survival and adolescent girls’ nutrition status. 1000 Golden Days refers to the critical time in the development of a baby from the beginning of pregnancy until the child’s 2nd birthday.
Malnutrition and anemia: National Nutrition Survey 2015 identified under 5 children and adolescent girls as being more vulnerable
Processed food contain high levels of sodium which is one of the main causes of rising noncommunicable diseases in the country today. WHO recommends subsiding fruits and vegetables to counter growing tastes for junk food.
A better equipped RCDC

Enabling it to work towards its vision of becoming a centre that excel in health and disease prevention and control via critical science, Royal Centre for Disease Control (RCDC) in Thimphu received a set of laboratory equipment in September 2017.

The WHO furnished laboratory equipment included incubator CO2, centrifuge refrigerator and autoclave, among others.

Besides enhancing performance in the everyday operations, the equipment was expected to facilitate in driving accurate result while also serving as a backup during breakdowns.
RCDC lab: A technologist takes note of samples stored in the centrifuge refrigerator.
Family, gender and life course
For a healthier nation

Nomads: A family from Sakteng, a community in the country's far north-east
Building neonatal care capacity

Bhutan’s neonatal mortality rate is 21 per 1,000 live births, which is 70 percent of under-five mortality rate. Major causes are preterm birth, hypothermia, intra-partum complications and sepsis which are all preventable.

In 2017, a training of trainers workshop supported by UNICEF and WHO saw 17 neonatal staff trained in early essential newborn care (EENC) and kangaroo mother care (KMC). Three regional trainings were conducted providing hands-on training to over 120 health care staff from all 20 districts in the country. WHO also provided mannequins for the trainings.

EENC and KMC are part of Bhutan Every Newborn Action Plan (2016-2023), which was launched on November 17 in Thimphu.
In the maternity ward of Jigme Dorji Wangchuk National Referral Hospital, where Dechen was recovering from c-section delivery, she noticed a mother with a baby wrapped around her chest. Curious, she asked about it, and was informed that the infant was born premature and she was practicing something called kangaroo mother care (KMC).

Kangaroo mother care is initiated, with guidance from neonatal staff, in pre-term and low-birth weight deliveries, and involved skin-to-skin contact between the infant and mother, father or caregiver. It provides warmth, introduces mother’s bacteria to the newborn, which builds immunity and also aids in initiating breastfeeding.

Skin-to-skin contact care is not only limited to pre-term and low birth weight deliveries but can be applied to all newborns. As part of the early essential newborn care (EENC), skin-to-skin care is also initiated for all newborns at the national referral hospital.

Both EENC and KMC are low resource, evidence-based, high impact interventions in addressing neonatal morbidity and mortality rate.

Back home, having learnt about the benefits, Dechen and her husband takes turn to give skin-to-skin care to their month-old daughter.
Contraception methods, infertility and reversible procedures, medical termination of pregnancy and family planning for diverse groups were some of the topics covered while training health officials on the revised family planning standard in 2017.

The more than 120 healthcare providers dealing with family planning in hospitals and Basic Health Units were also equipped with skills to prepare them for better services and counselling.

The training was provided after the existing national family planning standard, was revised and updated based on latest WHO recommendations.

Amid changing approach and technology in contraception, a need was felt to revisit the family planning practices and standards in the country.
Family planning: Health officials were brought up to speed on the revised WHO-recommended standard.
Why study adolescence and issues related to their health? Why have adolescent health issues introduced in the non-formal education (NFE) curriculum?

According to WHO, this phase represents a crucial juncture in a life of a person corresponding to a period between 10 and 19 years. In Bhutan, going by the last housing and population census records, adolescents and youth constitute about three-fifth of the country’s total population. A majority of them reside in the rural areas.

Many families in rural areas consist of farmers who attend NFE classes to be able to read and write basic Dzongkha, the official language. Inclusion of subjects such as adolescent health in the curriculum helps them better understand and prepare for the growing demands from adolescents in their families and communities.

By introducing this in the NFE curriculum, which the ministry designed in collaboration and WHO, rural parents and adults are expected to be able to provide guidance and oversight during this period of, what sociologists call, a “heightened risk-taking”. These risky behaviors are evident today and include unprotected sex with its related threat of sexually transmitted infections (STIs), HIV and teenage pregnancy, poor dietary habits, use of illicit drugs, alcohol and tobacco. The NFE curriculum touches on these issues for its learners. It is aimed at promoting health, practice of self-care and above all, preventing damage in this phase of human development as adolescents seek autonomy and independence from family to experiment with new behaviors and experiences.
Adolescent health: A curriculum was developed and introduced in 2017 for NFE.
The work of WHO in Bhutan 2017
For a healthier nation
Leading a high-level advocacy tour, Her Majesty Gyalyum Sangay Choden Wangchuck, visited all 20 districts advocating healthy lifestyle and disease prevention to over 30,000 Bhutanese.

Her Majesty was instrumental in accelerating advocacy efforts in areas of substance abuse, teenage pregnancy, reproductive health, suicide prevention, sexually transmitted infection (STI) prevention, maternal and child health issues and domestic violence.

The advocacy session was followed by counseling and health screening for noncommunicable diseases, STIs and HIV. In attendance were students from various institutes and colleges, armed force members and their families, local leaders, members of the religious bodies, farmers and business operators, community based support system members (CBSS) and multi sectoral task force (MSTF) members.

The MSTF was institutionalised and will be carrying on the advocacy programs at various levels annually.

With support from WHO and partners the high-level advocacy tour was coordinated by the health ministry, education ministry and RENEW (Respect, Educate, Nurture, and Empower Women).
despite affecting an estimated one in 160 people globally, autism spectrum disorder (ASD) is often overlooked and misunderstood.

Highlighted at the international conference on autism and neurodevelopmental disorders (NDD) in Thimphu in April 2017, experts attributed it to lack of awareness on ASD and ways to manage it. This was prevalent as much among health systems and workers as among the public.

Given ASD’s impact at various levels, the conference delved on the theme of “developing effective and sustainable multisectorial programs for individuals, families and communities living with ASD and other neurodevelopmental disorders.”

Among others, the conference served as a platform for policy makers to engage with all stakeholders, besides soliciting their commitment for implementation of international resolutions on ASD and NDDs. The conference also deliberated on training opportunities and capacity building for people with disabilities.

With around 350 international and national participants attending, the conference ended with a renewed commitment towards ensuring that persons with ASD and NDDs are understood and supported at all levels, at home and beyond.

Hosted by the health ministries of Bhutan and Bangladesh, the conference was held with technical support from WHO, Shuchona Foundation and Ability Bhutan Society.
Lit blue: To mark the World Autism Awareness Day at the memorial chorten
Health systems
Expanding reach: The country today has more than 300 Basic Health Units including over 500 outreach clinics that cater to the rural population.
CURRENT HEALTH EXPENDITURES

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<th>2015-16</th>
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<td>Nu 4.9 billion</td>
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For a healthier nation
The work of WHO in Bhutan 2017
In the financial years 2014-15 and 2015-16, the total current health expenditures for Bhutan were Nu 4.6 billion and Nu 4.9 billion.

These were the findings of the National Health Accounts (NHA) studies, carried out annually since 2009.

The study is a systematic description of financial flows related to consumption of health care goods and services from expenditure perspective. It is described under 13 dimensions covering consumer provision and financing interfaces, supported by detailed methodological documentation.

A pressing need for reliable and comparable statistics on Bhutan’s health expenditure was felt, which led to development of the National Health Accounts in 2011, studying the fiscal year 2009-10.

The health ministry conducts the study with technical and financial support from WHO.

The most recent studies (2014-15 and 2015-16) indicated that the Royal Government of Bhutan was the principal financier of the health system in Bhutan, accounting for about 70 percent of the expenditure. Donor contribution was about five percent and household contribution, 20 percent.

The NHA findings also validate Bhutan’s commitment to maintaining free access to basic health services as prescribed in its Constitution.
In the backdrop of Bhutan’s graduation to lower middle income country, causing some donor supports to withdraw, it is felt necessary to explore other financing sources for the country’s health care services.

This becomes all the more imperative in view of escalating health care expenditure, particularly for vaccines, medicines and latest technologies, besides the prevention initiatives.

This is one of the challenges that remains for the country, highlighted in Ministry of Health’s first of a compilation called the Kingdom of Bhutan Health System Review.

The publication that fits into the international template titled Health Systems in Transition (HiT) encapsulates all aspects of country’s health sector.

Produced with support of WHO, the book launched in June 2017 touches on topics varying from the history and evolution of country’s health care to understanding human power behind health system and financing health services.

Topics like major reforms that have occurred in the health sector so far, service delivery and referral arrangements are also covered.

A team comprising mostly civil servants collated the chapters with support of contributors. The chapters were finalised in collaboration with two international editors.

The enriching details and findings of the reviews of the health system are intended to serve as ready reference for policy making and more so, while initiating the 12th Five Year Plan activities for the sector.

Even otherwise, for those aspiring to know the Bhutanese health system better, this could be one publication worth having.
Knowing one’s health system: A book encapsulating some salient features of the Bhutanese health system
E-patient information: Drukgyel BHU was identified to pilot the system in February, 2017
A health assistant at Drukgyel BHU at the north-end of Paro prints out a piece of paper, neatly cuts it to resemble a name tag with all details of the visiting patient and gives instructions before handing it over.

“Stick your passport-size photo here,” health assistant Dharmalal Sanyasi instructs the patient, pointing at the outline of an empty box on the paper. He then directs the patient, 47-year-old Kencho Dorji, to a shop about 9km away in Paro town, where he could have it laminated. Kencho will join hundreds of other odd patients who entered the unit’s electronic information database.

Kencho, a trader from the country’s northern mountains of Soe, some nine hours away on foot, walks doubtfully out and turns as he reaches the door. “What about the yellow prescription paper?” he blurts, carefully securing medicines he was given for the recent inflammation he experienced in his stomach, in the inner pouch.

For about the hundredth time, Dharmalal explained how the piece of paper the patient was handed served better purpose than did the traditional A4-size prescription paper.

The health unit was identified to pilot the electronic-patient information system (ePIS) in February, a process that replaces the conventional practice of maintaining lofty registers to pen down every patient’s details along with prescriptions.

For health workers, Dharmalal said the advantage was the ease with which they could generate information and data on patients along with categories of diseases. He said it saved them the mundane task of compiling them manually each week, month, or year.

“For patients, their referrals to bigger hospitals within the country is more convenient,” he said. “They can receive immediate treatment based on information we send of the patient from here, including the initial medical care provided.”

However, Dharmalal said the new platform would be more efficient if trainings in computer literacy were provided to health workers and internet connectivity was stepped up.

“The smallest technical glitch on the computer makes us nervous and we revert to the register book,” he said.

Before taking the entire health system around the country on board the new platform, the ministry intends to spend Nu 1.5 million and WHO an additional USD 200,000 to build the technical capacities of health personnel who will provide the services. Coming to reliability of internet connectivity, well that’s another story.
The fourth biennial health conference saw 250 health workers comprising professionals and administrators engaged in various programs and policy-making held between September 14 and 16 in Thimphu.

The WHO supported congregation that fomented discussions on challenges and achievements in implementing sectorial plans and programs resulted in some 26 recommendations. They were aimed at improving the health system, at levels of both policy-making and service delivery.
A tab on disease trends and their risk factors, public health activities and interventions, health care use and costs can help improve the national health care services and system.

Given such high value of a health research to a society, the 34th session of the South-East Asia – Advisory Committee on Health Research (SEA-ACHR) held in December 2015 at New Delhi recommended for capacity development of health research in member states of South-East Asia Region (SEAR).

The Ministry of Health in Bhutan sought WHO’s help in drafting a National Health Research Policy that complied with ACHR recommendations. Bhutan was among three small nations, Maldives and Timor Leste being the other two, that were required to strengthen research infrastructure.

Research Policy and Cooperation unit of WHO-SEARO constituted an expert group to draft such a policy for Bhutan in April 2016. WHO country office also supported in-country workshops on research methodology, data entry and questionnaire development for various research tools for potential health researchers.
Health security and emergency preparedness
For a healthier nation

In emergency: A mock drill carried out among health staff at the national referral hospital.
To combat antimicrobial resistance (AMR) in Bhutan, several initiatives were launched in the past, but coordination among sectors and programs were inadequate and unsystematic resulting in weak implementation.

The National Action Plan on AMR, 2018-2022, was launched on November 17. It is expected to facilitate effective implementation of policies and plans through a multi-sectoral and multi-disciplinary collaboration under ‘One Health’ approach.

The action plan is applicable to all sectors related to human, animal health and agricultural practices dealing with antimicrobials.

With focus on antibiotics, antimicrobial stewardships are in place in the referral hospitals of Thimphu, Gelephu and Mongar.

Sale of antibiotics from private pharmacies is regulated and makes for only a small fraction of the total use.

Public awareness, through mass communication materials like audio and video clips were broadcast through local radio stations and television channels. The world antibiotics awareness week was observed from November 13-19 with Ministry of Health spearheading the advocacy and awareness activities in the capital city. The theme was ‘seek advice from a qualified healthcare professional before taking antibiotics’.

37.1% of prescriptions contained antibiotics, of which 14 percent were higher generation antibiotics.

55.9% of prescriptions containing higher generation antibiotics were prescribed inappropriately.

20% of E. coli was resistant to ceftriaxone and 52 percent resistant to ciprofloxacin in Bhutan during 2010-2011.

Data: WHO global report on antibiotic resistance surveillance
Antimicrobial resistance results in reduced efficacy of antibacterial, anti-parasitic, anti-viral and anti-fungal drugs making treatment of patients difficult, costly or even impossible. In vulnerable patients, it results in prolonged illness or mortality. The magnitude of the problem is worldwide.
Climate hazards: Climate change is a threat to Bhutan’s many glaciers causing them to melt at a rate that can trigger GLOF.
Diarrheal diseases and acute respiratory infections are among top ten diseases in the country, all of which are sensitive to climate change.

Bhutan’s extensive forest cover, over 70 percent, acts as a huge carbon sink but its fragile mountainous ecosystem makes it vulnerable to climate hazards like glacial lake outburst flood, landslides and flood.

Responding to the need for measures to decrease the country’s vulnerability to climate change, WHO supported the health ministry the Health National Action Plan (HNAP).

The HNAP identifies key priority areas in health and other sectors that have direct impact on health. It will enable Bhutan to assess its vulnerabilities, mainstream climate change risks, and identify medium and long-term adaptation needs.

The plan will also provide health perspective for the National Adaptation Plan (NAP) process established under the Cancun Adaptation Framework.
WHO supported works and human settlement ministry develop national hygiene and sanitation policy and the water, sanitation and hygiene (WASH) baseline data for Sustainable Development Goals (SDG) 2030.

The policy will address significant opportunities to professionalise WASH service delivery and reach universal coverage. This is expected to reduce incidence of diseases, improve health and wellbeing of the Bhutanese by means of safe and sustainable sanitation infrastructure, services and practices.

It will also focus on addressing sanitation, hygiene, solid and liquid waste management in keeping with national goals and SDGs.

WHO fund was used for conducting consultative regional workshops at Gelephu and Trashigang. The ministry of works and human settlement organised the workshops.

Issues such as sewerage management, kitchen waste, open defecation and urination, lack of public toilets, poor public drainage systems and poor solid waste management and lack of awareness were identified during the workshop.

Water, sanitation and hygiene are critical in the prevention and care for all of the 17 neglected tropical diseases (NTDs) scheduled for intensified control or elimination by 2020.
Proper hand-washing: Children in schools across the country are reminded of its importance.
Hospital support staff deal with medical equipment a majority of the time and are, therefore, also most wanting of awareness and trainings on their safe disposal as much as it is about their safe use.

In general, need was felt for creation of awareness about health hazards related to health-care waste and training on proper waste management.

For that reason, in 2017, the health ministry prioritised training of its support staff from three referral hospitals of Gelephu, Mongar and Thimphu. It also included support staff from hospitals of Phuentsholing and Samtse.

To that effect, WHO’s support came mainly in fielding consultants to carry out trainings, exploring possible study tours and mainly procuring waste autoclave for the model healthcare waste management in Phuentsholing hospital.

In a training carried out around mid-year in Phuentsholing, the ministry initiated a program on sensitisation of some 130 staff on waste management, importance of waste segregation at source, storage and transportation, including proper disposal of medical waste.

Apart from that, the identified staff was given demonstrations on use of discarded medical equipment like patient transportation trolleys and intravenous fluid stands. They were shown how some of them could be improvised to still serve as trolleys to move materials, or become wheeled bin rests.

Likewise, they were also introduced to syringe shedder made out of a grind mill on which they were also taught to operate.

Number of staff trained in medical waste management and segregation

130
Teeming with traders from within and bordering Indian town of Jaigaon, travellers from other parts of the country and migrant workers, the sultry little town of Phuentsholing was identified for health workers on urban health and waste management training.

It was towards the end of that same year of 2017 that the health ministry, in coordination with WASH from WHO SEARO, India, organised training for implementers of waste from health facilities and four thromde’s of Phuentsholing, Samdrupjongkhar, Samtse and Sarpong.
Bio sand filter: A simple household water treatment device to provide safe drinking water for nuns at Wolakha nunnery in Punakha
Natural filters for monastic schools

After years of agony, two monastic institutions in Punakha and Wangdue finally received clean and safe drinking water in 2017.

The water they sourced was processed through bio sand filter, a new concept applied for community water treatment. It was being piloted in monastic schools for the first time, although bio sand filter was implemented in a few schools in the past.

Until then, Wolakha nunnery in Punakha, with 105 nuns and staff and Bajo Lhakhang in Wangduephodrang with 35 monks and staff were making do with water flowing from open stream. Laboratory tests revealed the water they consumed were highly contaminated.

About 100 nuns suffering from diarrheal diseases was also reported in the previous years. It was found the water pollution worsened during monsoon.

The concept uses sand and gravel inside the filter to remove iron, turbidity and manganese from drinking water, while biological layer of microorganisms formed at the sand surface contributes to water treatment.

With WHO support and in partnership with the district health and engineering sector, a filter each for the two institutions was constructed in July 2017.
Preparing for disasters

In the wake of the severe earthquake in Nepal in 2015 that claimed more than 9,000 lives, injured more than twice that figure and devastated structures, tremors were sent that jolted neighbouring countries into alertness.

Bhutan itself sits on a highly seismic zone. Also, floods triggered by glacial outbursts, are a constant concern. That necessitates preparedness on the part of the Bhutanese health system should a natural calamity strike.

Medical Camp Kits (MCK) have proven effective during times of health emergencies and disasters within the region. The health ministry deemed it vital to have these positioned at strategic locations across the country. It would ensure uninterrupted medical services to people in the event of an emergency. WHO not only provided such kits, five of them, to the ministry, but helped train over 100 Bhutanese from various sectors on installation of the camps and effective use of kits during emergencies. Representatives of the armed forces, Desuups, local government and volunteers were among the trained.

The kits have been provided to hospitals in Thimphu, Gelephu, Mongar, Trashigang and Trashiyangtse.

The health Rapid Response Team (RRT), whose trainings and capacities were limited to pandemics and disease outbreak had to be enhanced. They had to be as prepared and trained to respond to disasters and emergencies for which a standard operating procedure (SOP) was developed following a two-day rigorous consultation among 45 health representatives and RRT members from the nation’s 20 districts.
For a healthier nation

Number of health staff trained on installation of camps and effective use of emergency kits

Staying prepared: More than 100 people were trained in putting up and operating medical camp kits in Mongar
The work of WHO in Bhutan 2017
For a healthier nation

In process: An anemic patient receives blood transfusion
Safe blood transfusion

As she enters the room, a nurse, who greets her, shows her to a chair. Kesang is diagnosed with anemia and has been sent to the blood transfusion unit of JDWRH hospital.

After being seated, Kesang is bombarded with scores of questions. From her last blood transfusion, if she had any, to allergies she has, to whether she is pregnant and the medication she is under, Kesang has to answer all.

When the papers are cleared, and before starting the procedure, the nurse checks the blood bag for leakage, cross-checks dates, the patient identity number and blood group. Even before that, the nurse helps Kesang understand processes involved in blood transfusion.

After ensuring her vitals read good, the process begins. Throughout, the nurse checks on her at intervals. When the blood bag is drained completely, Kesang is asked to rest for at least half an hour to be monitored for adverse reactions.

“The whole thing was dealt with great detail and professionalism, I felt reassured,” Kesang, who had inhibitions earlier, having heard of people contracting infections through blood transfusion, said.

The nurses in the unit were being guided by the standard operating procedures (SOPs) developed for professional clinical practice that ensured safety at all levels.

With WHO’s support, nurses were first trained to develop the SOP and following a finalisation meeting in January 2017, the guidelines were printed and distributed to all regional blood centres.

Note: The patient’s name has been changed to protect privacy

With WHO’s support, a manual on “blood donor recruitment, motivation, and education and retention strategies” was developed in 2017.

To do so, a team, comprising officials from Blood Banks in JDWRNH, Thimphu; GCRRH, Gelephu; MERRH, Mongar; Phuentsholing Hospital and Ministry of Health was first sent to attend a 5-day workshop on the theme in Bangkok in January.

On their return, the team developed a draft manual, which was later finalised in consultation with relevant organisations.
Corporate links
At the delegate level: Prime Minister Dasho Tshering Tobgay with the Regional Director of WHO South-East Asia Region Dr Poonam Khetrapal Singh
For a healthier nation
The work of WHO in Bhutan 2017

Sonam Wangda shares his experience as one of the WHO Fellowship recipients in 2017. He is studying Masters of Public Health (Epidemiology and Biostatistics) at Curtin University, Perth, Western Australia.

Following my six years stint with health ministry during which I dealt with various programs, I realised the crucial role health played at different levels and environments. One would also hear a great deal about epidemiology of various diseases.

Thus, I harboured a great interest in understanding public health better.
and wished to pursue further studies in this field. The WHO scholarship I was fortunate to receive has been timely and would go a long way in fulfilling my aspirations.

The knowledge and skills gained through this Masters program will boost my confidence and understanding in carrying out my responsibilities effectively. The network of friends and experts from different countries I establish through this program will also come in handy in terms of information and resource sharing.

Being proficient in public health areas such as health promotion, health and environmental change, nutrition, epidemiology and biostatistics, and health policy and management will help in effectively planning, implementing and evaluating public health programs. This is especially useful for a country like ours with limited resources against free health care.

Preventive programs carried out after effective research and evaluation can significantly improve quality of lives of the Bhutanese people and also save millions of fund spent for curative services.

Therefore, to realise the goals of the health ministry, the role of public health professionals, especially with a Masters Degree, will be imperative.
An eventful year

The health secretary takes a moment to reflect on WHO’s contributions to the country’s health sector in 2017

One of the major highlights for WHO’s collaboration with Bhutan’s health sector in 2017 was the high-level advocacy tour, which saw Her Majesty Gyalyum Sangay Choden Wangchuck visit all 20 districts, advocating on priority public health and social issues.

The high level advocacy tour also saw the institutionalisation of multi-sectoral task force (MSTF) with government support to ensure sustainability of the task force. The MSTF will carry out advocacy works on an annual basis at various levels, including the grassroots.

The other highlight was the health ministry developing the health impact assessment guideline. This is in line with Gross National Happiness (GNH) principles and helps with the assessment of any development activities, be it hydropower or industries and its likely impact on health. This is not to impede economic development, but a caution so mitigation measure and advices can be provided in the beginning of a project.

Bhutan was recognised as one of the two countries for eliminating measles in the South-East Asia Region ahead of the regional target 2020 during the 70th WHO regional committee meeting in Maldives last year. To sustain this achievement, WHO has supported supplementary immunisation activities among mobile and population at risk.

WHO’s support so far has been instrumental in enhancing human resource capacity, technical support in all areas of health system strengthening, interventions to reduce communicable and non-communicable diseases. It has also helped to strengthen evidence for decision making and improve and promote health through life course among others.

One significant support was made to the emergency department, which received five medical camp kits, enhancing the preparedness and response capacity of health ministry for disasters, be it earthquake or disease outbreaks.

We look forward to continue our collaboration with WHO and seek their support, technical and financial support in advancing the health outcomes.
WHO’s collaboration with UNICEF and UNPFA in 2017 were in areas of maternal and neonatal, reproductive and child and adolescent health.

Three significant partnership were the high-level advocacy tour, supplementary immunisation activity (SIA) for rubella and measles and training of health care staff in Early Essential Newborn Care (EENC) and Kangaroo Mother Care (KMC).

A high-level advocacy tour, led by Her Majesty Gyalyum Sangay Choden Wangchuck covered all 20 districts creating awareness and advocating healthy lifestyle and disease prevention to over 30,000 people.

The organisations also partnered in supporting health ministry carry out supplementary immunisation activity (SIA) for rubella and measles. SIA was carried out across the country targeting high-risk population, increase vaccination coverage and to provide second opportunity to children and adults who were not vaccinated.

Health care staff were trained in EENC and KMC, which are low resource, evidence-based, high impact interventions in addressing neonatal morbidity and mortality rate.

Twelve staff were trained as trainers and three regional trainings were conducted to train 120 staff from all 20 districts. A second wave of training is in the pipeline.

The collaboration between the UN organisations is part of the UN development assistance framework (UNDAF) Bhutan One Programme (2014-2018). It aims to ensure focused, coordinated and effective support for national and Millennium Development Goals (MDGs) and Agenda 2030.

Twenty UN agencies, funds and programs are signatories to One Program.
Handing-taking: Health secretary Dr Ugen Dophu receives medical camp kits from acting WHO representative Dr Rui Paulo de Jesus
Looking forward

Bhutan is next in line for elimination of malaria, with the goal of reaching zero indigenous cases as early as 2018. Working towards this goal, a series of activities are planned to receive WHO malaria free certification by 2020.

To sustain measles elimination status, focus is on developing post elimination strategy and action plan, which will strengthen surveillance, laboratory and human resources capacity to ensure no one is left unvaccinated.

Having introduced treat all policy for HIV program, Bhutan is geared towards achieving the prevention of mother to child transmission of HIV, hepatitis and syphilis. Efforts are underway to strengthen surveillance and ensure identified populations are under treatment.

Bhutan is also aiming to getting verified for elimination of kalaazar in the near future.

To continue reducing burden of morbidity and mortality caused by noncommunicable diseases, Bhutan is developing national health promotion and behavioral change communication strategy.

The country is also committed to ‘leaving no one behind’ in the spirit of achieving Sustainable Development Goals (SDGs). The health system in Bhutan is working to reducing preventable maternal and child deaths, end the epidemics of communicable and noncommunicable disease, strengthen health systems capacity and achieve Universal Health Coverage (UHC).

Since Bhutan is vulnerable to natural disasters, strengthening the emergency preparedness, surveillance and response services will be one of the priority areas for WHO in coming years.
The work of WHO in Bhutan 2017

For a healthier nation

[1946]
World Health Organization established

[1978]
Bhutan participated in the International Conference on Primary Healthcare in Alma Ata

[1978]
Bhutan signed the Alma Ata Declaration

[1979]
Formally adopted the Alma Ata Declaration of ‘Health for All’

[1982]
Bhutan formally joined WHO on March 8

[1982-83]
Biennium began with two programs and budget outlay of USD 250,000

[1983]
Basic agreement between WHO and Royal Government of Bhutan concluded. Country office established in Thimphu

[1992]
Royal Decree on sanitation and a latrine for each household
[1995] Royal Decree on population planning

[1997] Achieved leprosy elimination phase

[1998] Bhutan Health Trust Fund was launched on 12 May. It was one of the major reforms to sustain perpetual free healthcare delivery.

[2000] The Royal Charter of Bhutan Health Trust Fund

[2003] The Medicines Act of the Kingdom of Bhutan was endorsed and enacted on 5 August

[2007] University of Medical Sciences Act of Bhutan

[2010] Tobacco Control Act of Bhutan

[2012] Elimination of measles

[2017] Multiple priority public health program areas with a budget of over USD 3 million a year
Bhutan team

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2. Dr Rui Paulo de Jesus
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15. Mr Tashi Minjur