# Nepal eHealth Strategy Implementation Roadmap

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|---|---|
| *Vision* | e-Health facilitates the delivery of equitable and high-quality health care services to enable all Nepali citizens to enjoy productive and quality lives |
| *Mission* | e-Health interventions strengthen Nepal's health systems by improving the use tools, information and evidence in planning, managing and supporting public health and clinical interventions and service delivery. |
| *Overall Goal* | The goal of the National e-Health Strategy is to harness the potential of ICT technologies to improve health services, health governance and management |

## 1. Population

| Outcomes & Strategic Interventions | Key Activities | Timeline | | | | | Output Indicators | Means of Verification | Responsible Entities | Resources required (000 NRs) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| **Outcome 1:** *Facilitate promotion of healthy life styles, protection from diseases, reducing risk behaviors* | | | | | | | | | | |
| Governance and | *Intervention 1.1: Collaboration with Community e- Centres (CeC) to deliver health messages and information to the communities* | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| foundation | **1.1.1**Develop inventory of CeCsby functioning situation | X | | | | | Inventory of functional CeCsdeveloped | Inventory report of CeCs | IT ,MoHP | 500 |
| | **1.1.2**Develop the guideline, protocol and terms and conditionsfor CeCs to deliver public health messages | X | X | X | | | % of CeCs oriented | Capacity building report | IT-MoHP ,NHEICC | 1000 |
| | **1.1.3** Review Meetings bi-annually | X | X | X | X | | % of meetings conducted against target | Meeting minutes | IT-MoHP | 1000 |
| *Intervention 1.2: Collaboration with related stakeholders to increase internet, mobile and mass media network coverage* | | | | | | | | | | |
| | **1.2.1** Advocacy for internet and mobile coverage in all | X | X | | | | Number of advocacy | Meeting minutes | IT-MoHP | 250 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | health facilities | | | | | | meetings | | | |
| | **1.2.2** Internet service installation in all HFs | X | X | | | | % of HFs with internet services | HF profile, NHFS | MD | 160000 |
| | **1.2.3** Incorporate internet service and LAN in HF construction and operation related guideline | X | | | | | HF construction guideline revised | Revised HF construction guideline | IT-MoHP | 500 |
| | **1.2.4** Advocacy to provincial and 753 local governments for AWPB with eHealth activities | X | X | | | | No. of meetings conducted | Meeting minute | HCD/PPM, IT-MoHP | 1400 |
| | **1.2.5** Collaboration and coordination meeting with Internet Service Providers (ISPs) | X | X | | | | No. of meetings conducted | Meeting minute | IT-MoHP | 100 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| Change and adoption (HR and capacity, architecture, programme management, and standards and interoperability) | *Intervention 1.3: Increase public awareness regarding availability of eHealth solutions and services to promote its use* | | | | | | | | | |
| | **1.3.1** Develop online training module and Orient all CeCs through health unit of local levels to deliver public health messages | X | X | X | | | % of CECs oriented | online training module ,Training report | IT-MoHP | 1500 |
| | **1.3.2**Establish and operate digital display/wifi based client terminal like mobile display in all HFs through local levels | X | X | X | X | x | No. of display boards established, No of wifi based display established | HF profile, NHFS, inventory of all kinds of displays | IT-MoHP, NHEICC/ MoSD | 225000 |
| | **1.3.3** Mass media promotion | X | X | X | X | X | No. of | Event report | IT-MoHP, | 2000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | campaigns using TV, Radio and Social media | | | | | | events | | NHEICC | |
| | **1.3.4** Develop online orientation module and Orient FCHVs on e-Health products and use | | X | X | X | | %. of FCHVsoriented | Orientation Report | IT-MoHP, Nursing Div./Local levels | 26000 |
| | **1.3.5** Advocacy meetings with member of parliament at provincial levels | X | X | X | X | | No. of meetings | Meeting minute | IT-MoHP,NHEICC/HCD | 500 |
| Intervention 1.4:  Encourage ICT service providers for delivering promotional and preventive messages | | | | | | | | | | |
| | **1.4.1** Interaction meetings with ISPs for Corporate Social Responsibility (CSR) | X | X | X | | | No. of meetings conducted | Meeting minutes | MoHP | 200 |
| | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| Solutions (services and applications) | **Intervention 1.5: Develop and deliver mobile, web and social media based health message and information applications** | | | | | | | | | |
| | **1.5.1** Form an e-Messages Approval Team at all levels and operationalize | X | X | X | X | X | Team formation | Team formation document | NHEICC | 1000 |
| | **1.5.2** Review, Revisit and develop multi-linguistic health messages | | X | X | X | X | Number of messages approved | Health message list | NHEICC/ MoSD | 800 |
| | **1.5.3** Form co-ordination committees at all levels for social media promotion and regulation for health message delivery | X | X | | | | Number of co-ordination committees at all levels | Committee formation report | IT-MoHP, NHEICC/ MoSD | 800 |
| | **Intervention 1.6:  Develop a national web-portal to avail all information through one point of access** | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | **1.6.1** Develop message repository(message bank) in theMoHP server | X | X | | | | Repository server established | Physical server, repository capacity | IT-MoHP | 1300 |
| | **1.6.2** Develop GIS based information portal with unified coded and geo-referenced HFs list for interoperability | X | X | | | | % of HFs with geo-referenced HFs | HF registry | IT-MoHP /MoSD | 2000 |
| | **1.6.3** Develop national and provincialhealth web portal | X | X | | | | Web portal developed | Health Web Portal verification report | IT-MoHP, DoIT, MoSD, Health Coordination Div | 2000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | *Intervention 1.7: Operate health hotlines to improve awareness and knowledge of the population in contemporary health issues (toll-free)* | | | | | | | | | |
| | **1.7.1** Assign a team of health workers for health hotline and media response at federal and provincial levels | | X | X | | | Number of Response Team formed | Response report document | MoHP/MoSD | 200 |
| | **1.7.2** Develop a grievance redress portal and mechanism at national and provincial levels | X | X | | | | % of queries responded and grievances redressed | Query and grievance register | MoHP/MoSD | 300 |
| **Outcome 2:** *Deliver risk alerts and response for disease outbreaks and public health emergencies* | | | | | | | | | | |
| Governance and | *Intervention 2.1: Develop and implement standard protocol/guidelines and standards for delivering risk alerts* | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| foundation | **2.1.1** Develop guideline and protocol for emergency health message and alert delivery in public using IT media | | X | | | | Guideline developed for health message delivery in emergency and alerts | Guideline | IT-MoHP, EDCD | 600 |
| | **2.1.2** Develop an outbreak and health emergency corner in health web portal with all the guidelines and protocols | | X | | | | Outbreak and health emergency corner | Health emergency web report | IT-MoHP | 500 |
| | **2.1.3** Develop set of alert messages by category of emergencies | | X | | | | No. of message developed | Message list | EDCD/N HEICC | 800 |
| | **2.1.4** Develop auto delivery mechanism using SMS, social media and other IT tools  by geography and risk type | | X | | | | Coverage of in-risk population | Message delivery report | IT-MoHP, EDCD/N HEICC/H EOC | 1000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | 2.1.5 Integrate health alert system with disaster alert system of GoN | | X | | | | Co-ordination mechanism established | Assessment report | MoHA/IT-MoHP/HEDMU | 500 |
| | 2.1.6 Develop health vulnerability maps and post on the web | X | X | | | | Vulnerability Mapsdeveloped | Atlas of vulnerability mapping | IT-MoHP/HEDMU/ICIMOD | 1500 |
| | 2.1.7 Integrate RRT reportand health emergency surveillance systems to health emergency portal | X | X | | | | No. of reports collected | Dashboard | IT-MoHP, /EDCD/MoHA | 700 |
| Change and | Intervention 2.2: Strengthen capacity to identify and develop risk alerts and response | | | | | | | | | |

# 1. Population

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| adoption (HR and capacity in architecture, programme management, and standards and interoperability) | **2.2.1** Design and Build module to improve capacity of health staffs to identify risk and use risk alerts in the communities; using eHealth tools | | X | X | | | Module and Training to health staffs completed as targeted. | Risk alert and response team functional at different levels | IT-MoHP, EDCD | 7000 |
| | **2.1.2** Design and Build IT module including online portal and mobile app to improve capacity RRT and EWARS data managers in analysis and e-reporting | | X | X | | | IT module and Training to health data managers completed as scheduled | Functional team at RRT and EWARS | IT-MoHP, EDCD | 2500 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| Solutions (services and applications) | *Intervention 2.3: Develop, implement and strengthen real-time surveillance and disease modelling based on the data from different sources – HMIS, EWARS, DSS etc.* | | | | | | | | | |
| | **2.3.1** Establish IHR compliant screening and information centres in border entry points and maintain database | | X | X | | | Screeningdata available | Entry point database | IT-MoHP, /EDCD | 2000 |
| | **2.3.2** Mobile based application development for RRT, EWARS and referral management | | X | | | | Application developed | Mobile application | IT-MoHP, EDCD | |
| | **2.3.3** Integrate routine health information systems to identify and sense public health emergencies | | X | X | | | Notification of emergency conditions and risk alerts | HMIS dashboard | MD/PPM/ EDCD | 1000 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | | | | | | | | | | |
| *Intervention 2.4: Establish and strengthen risk alert and response system in case of public health outbreaks and emergencies* |
| | **2.4.1** Develop health problem threshold alarm mechanism in surveillance system and auto alert to local levels | | X | | | | Number of diseases enrolled | Alert reports | PPMD/E DCD/MD | 500 |
| | **2.4.2** Assessment for e-tool based Integrated Disease Surveillance System | | X | | | | Assessment report prepared | Assessment report | MoHP | 1000 |
| | **2.4.3** Develop and test IDSS based alert and response system | | | X | X | | Alert system developed | IDSS system | EDCD/MD/MoHP | 1500 |

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| **Mission** | e-Health interventions strengthen Nepal's health systems by improving the use tools, information and evidence in planning, managing and supporting public health and clinical interventions and service delivery. |
| Overall Goal | The goal of the National e-Health Strategy is to harness the potential of ICT technologies to improve health services, health governance and management |

## 2. Clients (Healthservice seeker)

| Outcomes & Strategic Interventions | Key Activities | Timescale | | | | | Output Indicators | Means of Verification | Responsible Entities | Resources required |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |

**Outcome 3:** Improved availability and access of general and specialized healthcare services
Availability(HR, Infrastructure,Logistics), access(geographical,Financial, Socio-cultural), Quality of Service

| Gover | *Intervention 3.1: Institutionalize and strengthen National Tele-health technical unit to oversee and guide the Tele-health activities* |
|---|---|

| nance and founda tion | Activity | | | | | | Indicator | Means | Responsible | Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| | **3.1.1** Develop regulatory provisions for telehealth services at different levels (including authenticity of services, professional security and client safety, user fees etc.) | X | X | | | | Laws and guidelines are available | MoHP Admin | IT-MoHP /PPM | 500 |
| | **3.1.2** Develop telehealth guideline and Standard Operating Procedures (SOPs) | X | X | | | | Guideline and SoPs available | MoHPAdmi n | IT-MoHP | 600 |
| | **3.1.3** Certification arrangement for telehealth centres | | X | X | | | Number of certified tele-health centres | Tele-health centre profile | IT-MoHP | 500 |
| | **3.1.4** Incorporate telehealth services in minimum service standards of secondary and tertiary hospitals | X | X | | | | Provision of tele-health services in MSS | MSS | IT-MoHP | 500 |
| | **3.1.5** Develop Health Facility Registry Guideline and SoPs including service site mapping and referral chain for tele-health | X | X | | | | HF registry guideline and SoPs available | HF registry guideline | IT-MoHP /PPM | 600 |
| *Intervention 3.2: Institutionalize and strengthen Tele-Health centers* | | | | | | | | | | |
| | **3.2.1**Need assessment and feasibility study of Tele-health services and ICT infrastructure in all health facilities | X | X | X | X | X | List of HFs feasible for tele-health | Feasibility report | IT-MoHP | 500 |
| | **3.2.2** Design, Develop and Establish Tele-health unit in MoHP and provinces including support group and co-ordination mechanism with line agencies | X | X | | | | Tele-health unit operational in MoHP | Tele-health focal point | QSRD | 1000 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **3.2.3** Design, Develop and Establish Telehealth services in feasible health service outlets (infrastructure, logistics, HR, grievance handling, health insurance, central database), approx. 2000 HFs | | X | X | X | X | Number of tele-health centres | Tele-health report | QSRD/MoSD | 40000 |
| **3.2.4** Design, Develop and Establish ehealth unit and telehealth learning centres at provincial levels(HR, logistics, infrastructure) | | X | X | | | Number of units functional | Annual report | QSRD/MoSD | 5000 |
| *Intervention 3.3: Establish reliable network connectivity in all telehealth centres* | | | | | | | | | |
| **3.3.1**Formation of multi-stakeholder facilitation group for telehealth centre operation and development at centre and provincial levels | X | X | | | | Number of co-ordination groups formed | Meeting minutes | QSRD/MoSD | 800 |
| **3.3.2** Contractual agreement and MoU with ISPs for regular services | | X | X | X | X | Agreement for internet services | Tele-health report | QSRD/MoSD | 140 |
| Chang e and adopti on (HR and capaci ty in archite | *Intervention 3.4: Develop and implement user friendly telemedicine consultation mechanism and platform* | | | | | | | | |
| | **3.4.1** Appoint and develop software module and program to capacitate focal points in all telehealth centers in partnership model | | X | X | | | Number of focal points | Tele-health report | IT-MoHP /MoSD | 15000 |
| | **3.4.2** Incorporate directory of telehealth centres in HF registry | X | X | | | | Number of tele-health centres in HF registry | HF registry database | IT-MoHP /PPM | 800 |

| cture, progra mme manag ement, and standa rds and interop erabilit y) | 3.4.3 Design, Develop awareness module to aware people, health clients and health workers on promoting use of telehealth services | | X | X | X | | Number of awareness events | Tele-health report | IT-MoHP /NHEICC/M oSD | 2100 |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Intervention 3.5: Strengthen capacity of the health workers to use Tele-Health services and applications** | | | | | | | | | |
| | 3.5.1 Develop curriculum for Public Service Examination, Continuous Medical Education (CME)and in-service trainings on telehealth services and implement | X | X | | | | Tele-health content developed | PSC, CME and in-service training package | NHTC | 500 |
| | 3.5.2 e-learning platform design and development for telehealth services and certification | | X | | | | e-learning platform available for HWs | Tele-health report | NHTC/ IT-MoHP | 1500 |
| | 3.5.3 Program development for HW exchange and experience sharing with knowledge management repository module | | X | X | X | X | Number of HWs visit organized | Tele-health report | NHTC, IT-MoHP /MoSD | 20000 |
| | **Intervention 3.6: Community awareness regarding the availability of TeleHealth services (including hello health)** | | | | | | | | | |
| | 3.6.1 Design, develop system to establish and strengthen hello-health toll free services for counselling and information at all levels | X | X | X | | | Number of local levels with toll free services | Tele-health report | IT-MoHP /MoSD | 15000 |
| | 3.6.2 Public awareness and information for telehealth services through public displays including wifi displays in HFs | | X | X | X | X | % of HFs and local levels with tele-health contained | Tele-health report | IT-MoHP /MoSD | 1000 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | public displays | | |
| | 3.6.3 Promote social media for public awareness on telehealth and hello health service availability and use | X | X | X | | Number ofpromotion events | Tele-health report | NHEICC/M oSD/ IT-MoHP | 2800 |
| Solutio ns (servic es and applic ations) | **Intervention 3.7: Strengthen telemedicine and mHealth services to link specialized medical experts with community health workers and volunteers** | | | | | | | | |
| | 3.7.1 Design and Develop roster repository of specialized medical and public health experts on telemedicine and mHealth | X | X | X | | Number of health professional trained | Tele-health report | IT-MoHP /NHTC/NM C/NHPC | 2500 |
| | 3.7.2 Mobile and web App development linking to health facility and expert profile inter-operable to HF and HR Registry | | X | X | | Number of apps by services | eHealth solutions registry | IT-MoHP /MoSD | 2000 |
| | **Intervention 3.8: Develop ICT-enabled platforms to help chronic and long-term patients to help them (information what they should do, how and when)** | | | | | | | | |
| | 3.8.1 Design and Develop health care package/module including IEC, BCC, health messages for selected chronic diseases and life-style improvement | | X | | | Number of diseases and conditions in the messages | Health messages list for chronic diseases, module | QSRD/NH EICC | 2500 |
| | 3.8.2 Integrate chronic disease health package/module to country eHealth portal for public use | | X | X | | Number of diseases enrolled | List of health package messages for chronic | NHEICC/ IT-MoHP | 600 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.8.3 Interactive web and mobile app development for health care including support to chronic patients | | X | X | | | Number of diseases in app | App registry | IT-MoHP /NHEICC | 1000 |

**Outcome 4: Increased compliance/adherence and satisfaction toward health services whilst Increasing individual responsibilities for personal health**

| Governance and foundation | *Intervention 4.1: Support drive towards CRVS and development of client identifiers for use by health services* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4.1.1 Legal and procedural and technical arrangement for inter-operability among CRVS, HF registry, HW Registry, NID and RHISfor shared use | X | X | X | | | Unified codes developed for health | Health information inter-operability framework | IT-MoHP /HCD/PPMMoHP | 2000 |
| | 4.1.2 Design, develop an d Strengthen death registration linking to CRVS and RHIS | X | X | X | | | Proportion of deaths registered with cause of deaths ascertained | CRVS database, death registry | PPM/MoSD/MoFAGA, IT-MoHP | 20000 |
| | 4.1.3 Foster health sector co-ordination for and Department of civil registration for regulation, co-ordination and data sharing. | X | X | X | | | Proportion of births and deaths timely and completely registered | CRVS database | PPM/MoSD/MoFAGA | 1000 |

| Change and adoption (HR and capacity in architecture, programme | *Intervention 4.2: Train and orient health workers to use the related applications and software on health services* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4.2.1 Design, develop module and train health workers on data sharing mechanism and | X | X | X | | | HWs trained on eHealth | NHTC annual report | NHTC, IT-MoHP | 3500 |

| management, and standards and interoperability) | eHealth products serving the clients | | | | | | products | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **4.2.2** Set institutional mechanism at all levels for integrated data management linking to CRVS, Verbal autopsy and medical certification, HMIS, HF registry and social security information | X | X | X | | | % of governance mechanism at all levels having integration of systems | eHealth report | PPM/QSRD | 2100 |
| | **4.2.3** Design, develop module and mechanism to promote and orient health workers to aware people for using web platforms, telehealth and apps developed or authenticated by health system | X | X | X | X | X | % of HWs oriented | Training report | QSRD/PPM | 3500 |
| Solutions (services and applications) | *Intervention4.3: Develop, implement and expand patient tracking systems – web and mobile based (HIV/AIDS, TB, MDR TB, ANC/PNC/Delivery, Immunization, Chronic and long-term treatment required cases etc.)* | | | | | | | | | |
| | **4.3.1** Design and Develop health promotion package/module, integrate to country health portal | X | X | X | | | Number of health promotion packages in portal | Health web portal | IT-MoHP , NHEICC | 2000 |
| | **4.3.2** Design and develop and/or promote mobile apps for NCD prevention and health promotion including traditional medicine | X | X | X | | | Number of apps developed by diseases | App registry | IT-MoHP | 2500 |

| Activity | | | | | | Indicator | Means of verification | Responsible | Budget |
|---|---|---|---|---|---|---|---|---|---|
| **4.3.3** Design and Develop set of health messages (sms, email and other media) for periodic circulations (reminders, follow-up) for continuum of care and deliver | X | X | X | | X | X | Number of messages delivered by services | Health message database | NHEICC/ IT-MoHP | 30000 |
| **4.3.4** Design and Develop trackers for selected health services and integrate to HMIS | X | X | X | | | | Number of trackers | App registry | PPM/QSRD | 5000 |

*Intervention 4.4: Develop mechanism to send appointment reminder messages*

| Activity | | | | | | Indicator | Means of verification | Responsible | Budget |
|---|---|---|---|---|---|---|---|---|---|
| **4.4.1** Design and Develop and deploy reminder messages for high priority public health programs and morbidities | | X | X | | | | Number of messages developed | Message list | IT-MoHP /NHEICC | 2500 |
| **4.4.2** Design and Develop Arrangement for selected health services protocols access through mobile apps for knowledge on continuum of care and follow ups | | X | X | | | | Number of protocols in public domain by diseases | Health web portal | QSRD | 1600 |
| **4.4.3** Design and Develop and deploy electronic health recording (EHR) system in HMIS and link with auto reminder for follow ups | X | X | X | | | | Number of reminders sent to clients | HMIS database | MD/PPMD/ QSRD | 10000 |

*Intervention 4.5: Use digital personal health records*

| Activity | | | | | | Indicator | Means of verification | Responsibility | Budget |
|---|---|---|---|---|---|---|---|---|---|
| **4.5.1** Design and Conduct an assessment on infrastructure, HR and other requirements in the hospitals for digital personnel health records management | X | X | | | | Assessment report | MoHP portal | IT-MoHP /PPMD | 1000 |
| **4.5.2** Develop hospital information system for personnel health records management and sharing | | | X | X | | Number of hospitals with EMR | HMIS database | QSRD/MD/ PPMD | 100000 |
| **4.5.3** System development for sharing health information to insurance | | | X | X | | Number of clients shared the data | Health Insurance System database | MD/PPMD, IT-MoHP | 5000 |
| **4.5.4** Develop information sharing mechanism (HF registry, HR registry, EHR, Ambulance registry etc) for referral and emergency management | | | X | X | | Number of cases referred using the mechanism | HMIS | MD/QSRD | 10000 |

# Nepal eHealth Strategy Implementation Roadmap

## 3.Health workers (Service providers)

| Outcomes & Strategic Interventions | Key Activities | Timescale | | | | | Output Indicators | Means of Verification | Responsible Entities | Resources required (NRs 000) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| **Outcome 5:** | **Improved enabling environment and capacity for delivery of safe and effective health services** | | | | | | | | | |
| Governance and foundation | *Intervention5.1: Strengthen the eHealth policy and supporting environment* | | | | | | | | | |
| | **5.1.1**Policy, regulation, and protocol development on eHealth implementation for health workers | X | X | | | | Procedural documents are available for HWs | Regulatory documents | QSRD/PPMD | 500 |
| | **5.1.2**eGovernance implementation is put in office procedures at all levels | X | X | | | | Office procedure is available with eGovernance priority | Office procedures at all levels | Admin. MoHP | 800 |
| | **5.1.3** Develop transition plan for paperless office and service delivery at all levels | | X | | | | Process and actions for paperless office available | Transition plan | Admin/QSRD/MoSD | 500 |
| | **5.1.4** Make provision of posts for IT in the health system | | X | X | X | | Posts for IT provisioned | Number of posts created | Admin/IT-MoHP/MoSD | 2500 |

## 3.Health workers (Service providers)

| Outcomes & Strategic Interventions | Key Activities | Timescale | | | | | Output Indicators | Means of Verification | Responsible Entities | Resources required (NRs 000) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | *Intervention5.2: Improve availability and utilization of standard ICT logistics (equipment) in the health facilities* | | | | | | | | | |
| | 5.2.1 Advocacy for provisioning concessions and exemptions in IT equipment and services for health | | | X | X | | Low price ICT and modern equipment available to the health workers | Approved list for concession and exemptions | MoHP/HCD | 100 |
| | 5.2.2 Equip all health facilities with electricity, computer, display board, internet and other logistics related to e-health initiatives | x | x | x | | | % of facilities with computer and internet | Inventory database, NHFS | QSRD/PPMD/MD/MoSD | 100000 |
| | 5.2.3 Develop electronic inventory of logistics (equipment, infrastructure and other assets) at all levels | x | x | x | | | % of facilities electronic inventory of logistics | Inventory database, NHFS | QSRD/PPMD/MD/MoSD | 3500 |
| | *Intervention 5.3: Define national standard for eHealth information storage and use based on international standards* | | | | | | | | | |
| | 5.3.1 *Definenational standard for eHealth information storage, use and sharing* | | x | x | | | Protocols and guidelines in public domain | e-Library | IT-MoHP | 1500 |
| | 5.3.2 Operate all servers at GIDC | x | x | X | | | Servers hosted at | GIDC server | IT- | 1000 |

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## 3.Health workers (Service providers)

| Outcomes & Strategic Interventions | Key Activities | Timescale 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | Output Indicators | Means of Verification | Responsible Entities | Resources required (NRs 000) |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Government Integrated Data Center) | | | | | | GIDC | | MoHP | |
| | *Intervention 5.4: Identify appropriate referral network and establish linkages* | | | | | | | | | |
| | **5.4.1**Develop/revisitreferral guideline for all services incorporating eHealth infrastructure, tools and techniques (HF registry, ambulance registry, HMIS, HR registry, GIS based maps and utilities) | | x | x | | | ICT enabled referral guideline available to HWs | eGuideline for referral system | QSRD | 3000 |
| | **5.4.2**Guideline and protocol development for web based applications and mobile apps for referral | | | X | X | | Guideline and protocol for referral apps | Referral portal in MoHP web | QSRD | 1500 |
| | **5.4.3**Develop guideline for GPS equipped ambulance operation and central command system | | | X | X | | Guideline and protocol for referral apps | Referral portal in MoHP web | QSRD | 500 |
| | **5.4.4** Incorporate IT based referral and emergency management in minimum service standard (MSS) of health services | | | X | X | | Coverage of ICT based fools and referral in MSS | MSS Booklet | QSRD | 600 |
| Change and adoption (HR | *Intervention 5.5: Improve knowledge and skills of health workers (including health volunteers) on eHealth* | | | | | | | | | |
| | **5.5.1** Design, Develop and deploy capacity | X | X | | | | Training/learning | Packages in | IT- | 30000 |

3

## 3. Health workers (Service providers)

| Outcomes & Strategic Interventions | Key Activities | Timescale | | | | | Output Indicators | Means of Verification | Responsible Entities | Resources required (NRs 000) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| and capacity in architecture, programme management, and standards and interoperability) | building to HWs on eHealth tools and techniques (study curriculum, in-service training, iLearn, CPD, CME etc) | | | | | | packages available | eLearning site | MoHP, NHTC | |
| | 5.5.2 Establish remote mentoring system for key health services connecting experts and develop mobile/web app training for capacity development | | | | X | X | Central remote mentoring system established | Platform for mentoring in MoHP web | QSRD/ MoSD | 5000 |
| | 5.5.3 Establish e-library, eLearning and webinar facilities at all levels | | X | X | X | | e-library established and regularly updated | eHealth report | Admin/ PPMD/ QSRD | 5000 |
| | 5.5.4 Conduct seminars, exchange visits, symposium, honoring program and other promotional events for HWs for eHealth | | X | X | X | X | Number of exposure events for eHealth | eHealth report | NHEICC /NHTC/ QSRD | 5000 |
| | **Intervention 5.5: Promote health workers to use ICT solutions and applications** | | | | | | | | | |
| | 5.5.1 Revise Job Description of HWs incorporating eHealth | | X | X | | | Revised job description of HWs | JD of HWs | NHTC/A dminD MoHP/ QSRD | 1000 |

## 3.Health workers (Service providers)

| Outcomes & Strategic Interventions | Key Activities | Timescale | | | | | Output Indicators | Means of Verification | Responsible Entities | Resources required (NRs 000) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | **5.5.2** Use of ICT enabled training resources in all the trainings and orientations for health workers | | X | X | X | X | Revised training packages and methods | eHealth enabled and contained training packages | IT-MoHP, NHTC | 5000 |
| | **5.5.3** Enable access of health workers to eHealth resources and professional development resources | | X | X | X | X | eHealth products and resources available in public | Visitors to resources | QSRD/NHTC/NHEICC | 2000 |
| | **5.5.4** Honor and felicitate health workers for using ICT tools to improve efficiency and effectiveness | | | X | X | X | Performance standard set for honoring health workers | Number of health workers honored | NHTC/QSRD/AdminD | 3000 |
| *Intervention 5.6: Include eHealth content in the course curriculum of different level health courses* | | | | | | | | | | |
| | **5.6.1** Revise health worker's curriculums to incorporate eHealth including public health, MBBS, Nursing, HA | | | X | X | X | Revised curriculum for health | Hws courses | IT-MoHP ,NHTC | 2000 |
| | **5.6.2** Initiate health informatics course in Nepal in collaboration with universities and training centers | | X | X | X | | Health informatics education initiated | Number of students enrolled | QSRD/PPMD/AdminD | 3000 |

## 3.Health workers (Service providers)

| Outcomes & Strategic Interventions | Key Activities | Timescale | | | | | Output Indicators | Means of Verification | Responsible Entities | Resources required (NRs 000) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076/77 | 2077/78 | 2078/79 | 2079/80 | 2080/81 | | | | |
| | **5.6.3** Develop ICT based training packagesand make available with roaster of resource persons minimizing oral lectures | | X | X | X | | Training packages with ICT based lectures and demos | Health portal | NHTC/Q SRD | 2500 |
| Solutions (services and applications) | *Intervention 5.7: Digitalize national medical standard and clinical protocol and make available to the health workers* | | | | | | | | | |
| | **5.7.1** Update and digitize national medical standard and clinical protocols | | X | X | X | | Medical standards and protocols digitizedand posted | Health portal | QSRD | 3000 |
| | **5.7.2** Update and digitize all health service guidelines, regulations and service delivery methods | | X | X | X | | Documents updated and made available in public | Number of documents digitally available | QSRD | 5000 |

# Nepal eHealth Strategy Implementation Roadmap

## 4. Public Health Managers and Policy Makers

| Outcomes & Strategic Interventions | Key Activities | Timeline | | | | | Output Indicators | MoV | Responsible Entities | Resources required (NRs 000) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2076 / 77 | 2077 / 78 | 2078 / 79 | 2079 / 80 | 2080 / 81 | | | | |
| Outcome 6: Enhanced access to data and information for effective planning, management, governance and evidence-based decision making | | | | | | | | | | |
| Governance and foundation | *Intervention6.1: Strengthen governance mechanisms for implementing interoperable eHealth solutions within an OpenHIE architectural framework* | | | | | | | | | |
| | **6.1.1** Operation of the Steering Committee (SC) and TWG for eHealth at MoHP | x | | | | | Steering Committee (SC) for eHealth re-profiled | Meeting minutes | QSRD | 1500 |
| | **6.1.2** Strengthen M and E at federal and provincial level for ehelath monitoring and evaluation | X | X | | | | M and E framework developed | M and E framework | PPMD | 500 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **6.1.3** Establish multi-disciplinary Research and Development (R and D) mechanism under IT-MoHP to evaluate eHealth solutions, standardization and co-ordination | X | x | X | X | X | R and D team formed | Number of products evaluated | IT-MoHP | 2000 |
| **6.1.4** Conduct annual convergence meetings with key stakeholders | | x | x | x | x | Annual convergence meetings | Meeting reports | QSRD/HCD | 4000 |
| **6.1.5** Form eHealth TWG at provincial levels and assign focal points for coordinating federal and local levels | | X | X | X | X | eHealth TWGs at provinces | Number of TWGs | QSRD/HCD | 2800 |
| **6.1.6** Promote automated office process for paperless works (file tracking,eAttendance, grievance management, digital signature etc), | | X | X | X | X | eGovernance conceptualized | eGovernance report | IT-MoHP | 4000 |
| *Intervention6.2: Establish interoperability layer for health information systems by adopting open HIE* | | | | | | | | | |
| **6.2.1** Design, Develop and Deploy the health enterprise architecture (EA) | | X | | | | EA report available | EA report | IT-MoHP | 1500 |
| **6.2.2** Review, adopt, implement relevant open standards | | | X | x | x | Review report | Number of standards adopted | IT-MoHP | 1500 |

| Activity | 1 | 2 | 3 | 4 | 5 | Output | Indicator | Responsible | Budget |
|---|---|---|---|---|---|---|---|---|---|
| **6.2.3** Develop and communicate specification and standard for health information system and eHealth/mHealth tools | X | X | | | | Specification and standard rollout | Specification/standards booklet | IT-MoHP | 2000 |
| **6.2.4** Develop registries as required by Open HIE Framework (HR, CR, TR, HF, Inventory registry etc) | X | X | X | | | Registries developed | Registry database | IT-MoHP | 20000 |
| **6.2.5** Develop code banks for inter-operability (HR, Logistics, HF, Geography etc) and make public | X | X | X | X | | Code compilation in publicdomain | Code book | IT-MoHP,HCD | 2500 |
| *Intervention 6.3: Develop and enforce minimum standard for data reporting from both state and non-state actors* | | | | | | | | | |
| **6.3.1** Design, Develop and Establish data sharing arrangements among registries and information systems | | | x | x | x | Registries are inter-operable | Data sharing guideline | IT-MoHP | 500 |
| **6.3.2** Develop the Nepal Health Data Dictionary | | X | | | | First version of Nepal Health Data Dictionary | Nepal Health Data Dictionary | IT-MoHP/HCD | 1000 |
| **6.3.3** Develop standards, guidelines and SoP for central data management system for EHR and sharing of data | X | X | | | | EHR data sharing facilitated | Data sharing guideline | IT-MoHP /QSRD/MD | 1500 |
| *Intervention6.4: Establish national health data bank and ensure security of data establishing multiple backups in different locations* | | | | | | | | | |

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| | | | | | | | Indicator | Means of verification | Responsible | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | **6.4.1** Establish provincial and national health data bank in coordination with GIDC | X | x | | | | Data bank establish and functional | eHealth report | QSRD | 500 |
| | **6.4.2** Develop policies and advocacy for data sharing, use, data security and privacy | X | x | | | | Policy and regulation developed | Data sharing guideline | IT-MoHP/MD/HCD | 1500 |
| *Change and adoption (HR and capacity in architecture, programme management, and standards and interoperability)* | *Intervention6.5: Capacity enhancement of managers and policy makers in the area of eHealth policy and strategic management – long and short term courses in collaboration with academia* | | | | | | | | | |
| | **6.5.1** Convene high level inter-sectoral meetings for eHealth promotion and sensitization to policy and decision makers | | x | x | x | x | Inter-sectoral meetings held | Meeting minutes | HCD | 1200 |
| | **6.5.2** Develop sensitization and innovation promotion campaigns for policy makers at local levels | | | X | X | X | Local level leaders are sensitized on eHealth use | eHealth report | HCD /QSRD/MoSD | 3500 |
| | *Intervention6.6:  Promote the use of the existing information systems for decision making, monitoring and planning* | | | | | | | | | |
| | **6.6.1**Ensure mechanism for data use by policy makers and feed into annual and periodic planning process | | X | X | X | X | Policy makers are aware of the health situation and reflected in policy and planning | Meeting minutes | PPMD | 400 |
| *Solutions (services and applications)* | *Intervention6.7: Ensure quality health information from different sources available to the programme managers (user friendly dashboards) – inbuilt data validation and triangulation mechanism* | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|
| **6.7.1** Design user specific application/ format for sharing information (eg report, brief, dashboardetc) | | X | X | X | | Information sharing platform developed | Number of visitor | PPMD/MD | 500 |
| **6.7.2**Mechanism set for analyzing information from different sources, quality assurance, synthesize and triangulate | | x | x | x | x | Data analysis group formed | Analytica l report | PPMD | 1000 |
| _**Intervention6.8:  Strengthening of existing health information systems – electronic record system, e-reporting (web and mobile) and e-monitoring systems, including supply chain monitoring and management system**_ | | | | | | | | | |
| **6.8.1** Develop IT based continuous performance monitoring system for provinces, local levels and health programs and operationalize | X | X | X | X | X | Performance monitoring system developed | Performa nce monitorin g report | PPMD | 500 |
| _**Intervention 8.9: Introduce office automation at state and non-state health institutions as a gradual transition towards paperless office**_ | | | | | | | | | |
| **6.8.2**Develop eGovernance plan and operationalize | | | X | X | | Solutions are available and used for eGovernance | e-Governa nce plan | IT-MoHP | 1500 |

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