प्रदेश लोक सेवा आयोग,

बागमती प्रदेश

स्वास्थ्य सेवा, हेल्थ इन्स्पेक्सन समूह, सातौं तह, जनस्वास्थ्य अधिकृत पदको खुला प्रतियोगितात्मक लिखित परीक्षा

(२०८१/०२/०५)

पत्रः द्वितीय
विषयः हेल्थ इन्स्पेक्सन सम्बन्धी

पूर्णाङ्कः १००
समयः ३ घण्टा

निम्न प्रश्नहरूको उत्तर Section अनुसार छुट्टाछुट्टै उत्तरपुस्तिकामा लेख्नु पर्नेछ, अन्यथा उत्तरपुस्तिका रह हुनेछ।

Section A [50 Marks]

1. Critically analyze the status of human resources management in health care delivery system of Nepal, with reference to brain drain in health sector. [10]

Answer:

Introduction

Human Resources for Health (HRH) management is the most critical and complex "building block" of Nepal's health system. It involves the planning, production, deployment, and retention of a competent health workforce. The current status of HRH management in Nepal is marked by a fundamental paradox: while Nepal produces a significant number of health professionals, its public health system (especially in rural areas) faces a chronic and severe shortage. This dysfunction is intrinsically linked to the growing phenomenon of "brain drain."

Critical Analysis of HRH Management Status

The status of HRH management can be critically analyzed through its core functions:

1. **HRH Planning and Production:**
    - **Status:** Planning is fragmented and often reactive. There is a significant mismatch between the *production* of health workers (which is dominated by the private sector) and the *needs* of the public health system.
    - **Critique:** We overproduce medical-officer-level doctors and nurses who are oriented towards urban, curative care, while underproducing public health specialists, mid-

level providers willing to serve rurally, and specialized technicians (e.g., anesthetists, radiologists).

2. **Deployment and Distribution (The "Samayojan" Issue):**

    - **Status:** This is the system's greatest failure. **Maldistribution** is the norm, with a high concentration of staff in Bagmati Province (especially Kathmandu) and other urban centers, while provinces like Karnali and Sudurpaschim face critical vacancies.

    - **Critique:** The post-federalism **staff adjustment (Samayojan)** process was deeply flawed. It failed to equitably distribute staff, created conflicts in the chain of command (federal staff in local facilities), and left many rural posts vacant. The deployment system lacks a robust mechanism to enforce rural service.

3. **Performance Management:**

    - **Status:** Performance appraisal in the public sector (the *Karya Sampadan Mulyankan*) is largely a bureaucratic ritual.

    - **Critique:** It is not linked to actual performance, quality of care, or patient satisfaction. This fails to motivate high-performers or hold low-performers accountable.

4. **Retention and Motivation:**

    - **Status:** Motivation and retention systems are extremely weak. Remote area incentives are inadequate to compensate for poor living conditions, lack of security, and limited opportunities for career growth.

    - **Critique:** The system offers no clear career path for a health worker who stays in a remote post. Promotions are based on time and seniority, not on performance or service in "difficult" areas. This directly fuels the desire to leave.

Reference to Brain Drain in the Health Sector

"Brain Drain" (the migration of highly skilled health professionals to high-income countries) is not a separate problem; it is a *symptom* of the systemic failures in HRH management.

- **Drivers of Brain Drain (Push Factors):**

    1. **Systemic Dysfunction:** Young graduates (doctors, nurses) see a system with limited public sector vacancies , a flawed and non-transparent deployment process, and low pay. They face a choice between working in an under-resourced, demotivating rural post or leaving.

    2. **Lack of Career Path:** A doctor completing an MD degree sees no clear, dignified post-specialization career in the public system. They are often forced to take short-term, insecure contracts.

3. **Poor Working Conditions:** This includes a lack of basic equipment, excessive workload (due to staff shortages), political interference, and (increasingly) a lack of security and violence against health workers.

- **Pull Factors:** High salaries, better quality of life, professional development opportunities, and structured career paths in countries like the USA, UK, and Australia.

- **Impact:** The brain drain creates a vicious cycle. The most skilled and ambitious professionals leave, which further weakens the health system, increases the workload on those who remain, and makes the system even less attractive, pushing more people to leave. This has left Nepal critically short of specialists (e.g., in anesthesia, radiology, pathology) needed to run provincial hospitals.

Conclusion

Nepal's HRH management is in crisis. It is failing at its core functions: it doesn't plan correctly, deploys inequitably, and fails to motivate or retain its workforce. The "brain drain" is the logical and tragic outcome of this broken system. To solve it, Nepal requires a radical overhaul, not just minor policy adjustments. This includes mandatory, well-incentivized rural service for all graduates, a performance-based career path, and a massive improvement in the working conditions and security of health workers.

2. Define community organization and describe the principles of community organization? [10]

Answer:

Introduction

Community Organization (CO) is a core process in public health and social work through which a community is empowered to identify its common needs or problems, mobilize its own resources, and develop and implement strategies to address them.

It is not about *doing things for* a community; it is a **process-oriented** approach that facilitates and empowers the community to *do things for itself*. The goal is to build community capacity, self-reliance, and the democratic structures for collective action, thereby making the community an active partner in its own development.

Example: Instead of a PHO "giving" a health education lecture on sanitation (a top-down approach), a CO approach would involve facilitating community meetings where residents *themselves* identify open defecation as a problem, form a committee, and create their *own* plan to build toilets.

Principles of Community Organization

The principles of CO are the guiding values that ensure the process is empowering, sustainable, and ethical.

1. **"Felt Needs" (Starting Where the People Are):**

    - **Description:** The process must begin with the problems that the community *itself* perceives as important (their "felt needs"), not the problems that an external agency or health worker "assumes" are important.

    - **Importance:** This ensures relevance and creates immediate "buy-in" and motivation for participation. If people are worried about their water supply, they will not be engaged in a nutrition program.

2. **Community Participation and Self-Reliance:**

    - **Description:** The community members must be active partners in every step: assessment, planning, implementation, and evaluation. The process should emphasize the community's *own* resources (human, social, financial) first.

    - **Importance:** This builds a sense of "aafnai" (ownership) and ensures the project is not dependent on the external organizer, making it sustainable.

3. **Empowerment and Capacity Building:**

    - **Description:** The ultimate goal is not just to solve one problem (e.g., build a health post), but to leave the community with the skills, confidence, and leadership to solve *future* problems on its own.

    - **Importance:** This is the "teaching them to fish" principle. The process builds social capital, leadership, and problem-solving skills that last long after the initial project is complete.

4. **Identifying and Developing Local Leadership:**

    - **Description:** The external organizer's role is to identify, nurture, and train *indigenous* leaders from within the community. The organizer is a *facilitator* (catalyst), not the *leader*.

    - **Importance:** Local leaders are trusted, understand the context, and remain after the organizer leaves, ensuring the sustainability of the community's efforts.

5. **Social Justice and Equity (Inclusion):**

    - **Description:** The CO process must actively seek to involve the most marginalized, poor, and often-voiceless members of the community (e.g., women, Dalits, persons with disabilities).

    - **Importance:** If not deliberately inclusive, CO risks being dominated by local elites, which can reinforce existing inequities. The goal is to ensure that solutions benefit *all* members.

6. **Pacing and Flexibility:**

- **Description:** The process must move at the community's own pace. Rushing to meet an external deadline can undermine participation and learning. The organizer must be flexible and adapt to the community's timeline and changing dynamics.

- **Importance:** Building trust and capacity takes time. A rushed process is rarely sustainable.

7. **Holistic or Integrated Approach:**

   - **Description:** Recognizing that a community's "felt needs" are often complex and interconnected. A health problem (like malnutrition) may be linked to agriculture (poor crops) or education (low awareness).

   - **Importance:** The organizer must be willing to facilitate solutions that may go beyond their own sector (health) by linking the community to other agencies (e.g., agriculture extension office).

Conclusion

Community Organization is the foundational process for "bottom-up" public health. By adhering to these principles, a health professional moves from being a "provider" of services to a "facilitator" of community-led, sustainable change.

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3. What are health rights and how does the constitution of Nepal define them? Assess the challenges in ensuring citizens' access to basic health services, highlighting the collaborative responsibilities among Federal, Provincial and Local Levels. [10]

Answer:

Part 1: Health Rights and Their Constitutional Definition (4 Marks)

Introduction

Health rights are the application of human rights principles to the domain of health. The "Right to Health" is an inclusive right, recognized internationally as a fundamental human right. It is not a right to *be healthy*, but rather a right to an *attainable standard of health* and a right to a system of health protection that provides equality of opportunity for people to enjoy the highest attainable level of health.

Constitutional Definition: Article 35 of the Constitution of Nepal

The Constitution of Nepal (2015) provides one of the world's most progressive definitions of health as a fundamental right. **Article 35: Right relating to Health** states:

1. **Right to Basic Health Services:** "Every citizen shall have the right to **free basic health services** from the State, and no one shall be deprived of **emergency health services**."

- This is the cornerstone, legally obligating the state to provide a defined package of services for free.

2. **Right to Information:** "Every person shall have the right to be informed about his or her medical treatment."
    - This ensures the principle of informed consent and patient autonomy.
3. **Right to Equal Access:** "Every citizen shall have the right to **equal access** to health services."
    - This is the non-discrimination and equity clause.
4. **Right to Safe Water and Sanitation:** "Every citizen shall have the right of access to **clean drinking water and sanitation**."
    - This explicitly links health to its core environmental determinants.

These constitutional rights are further operationalized by the **Public Health Service Act (PHSA), 2075**, which defines the Basic Health Service (BHS) package and assigns responsibilities to the three tiers of government for its delivery.

Part 2: Challenges and Collaborative Responsibilities (6 Marks)

Introduction

Despite this robust legal framework, ensuring universal access to basic health services remains a formidable challenge. In the federal system, this responsibility is shared, and the primary challenges lie at the interface of collaboration between the three tiers of government.

Major Challenges in Ensuring Access

1. **HRH Maldistribution and Management:** The single greatest challenge.
    - **Challenge:** Basic health services cannot be delivered without health workers. There is a critical shortage of staff in rural/remote local levels and an over-concentration in urban areas.
    - **Coordination Failure:** There is a persistent conflict over HRH management. The **Federal** government controls permanent staff adjustment, the **Provincial** level manages its own staff and Health Offices, and the **Local** level struggles to hire and retain contract staff. This lack of a unified HRH system creates massive gaps.
2. **Inadequate and Inefficient Financing:**

- **Challenge:** While basic services are "free," the system is chronically underfunded. Local governments, responsible for delivery, have insufficient budgets to cover medicines, equipment, and infrastructure maintenance.

- **Coordination Failure:** Local governments are heavily dependent on **conditional grants** from the federal level, which often arrive late. There is poor coordination between the **Federal** ministry (which sets the BHS package) and the local levels (who must pay for it).

3. **Fragmented Supply Chain and Logistics:**

    - **Challenge:** "Free basic services" are meaningless if the health post is "out of stock" of essential medicines.

    - **Coordination Failure:** The logistics system is fragmented. The **Federal** level procures central goods, the **Provincial** level (via its medical store) manages provincial logistics, and **Local** governments are now also responsible for their own procurement. This new system, as per the Public Procurement Act, is complex for local staff, leading to procurement delays and drug shortages .

4. **Weak Monitoring, Supervision, and Quality Assurance:**

    - **Challenge:** There is no effective, uniform system to ensure the *quality* of basic health services being delivered across 753 local governments.

    - **Coordination Failure:** The **Local** government is the "provider" but often lacks the technical capacity to monitor itself. The **Provincial** Health Office (at the district) is *supposed* to provide this technical support and supportive supervision, but it is often understaffed and its role is contested by local leaders, leading to an accountability vacuum.

Collaborative Responsibilities (The Solution)

To overcome these challenges, clear collaboration is essential:

- **Federal Level:** Must focus on **stewardship**. This includes equitable national financing (needs-based grants), robust HRH policy (e.g., a mandatory rural service "bond"), and setting clear quality-of-care standards.

- **Provincial Level:** Must be the **technical hub**. Its role is to run specialized hospitals, manage the provincial logistics, and, most importantly, provide high-quality **technical support, training, and supportive supervision** to local governments (via the Health Offices).

- **Local Level:** Must be the **accountable implementer**. Its role is to own and manage basic health service delivery, ensure health facilities are functional, manage local staff effectively, and use local data for planning.

Conclusion

Nepal's constitution grants a powerful right to health, but its realization is blocked by implementation failures rooted in poor coordination. Access to basic health services can only be ensured when the three tiers of government stop "conflicting" over authority (especially HRH) and start "collaborating" based on their defined roles—with the federal level funding, the provincial level supporting, and the local level delivering.

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4. What are the Reproductive Health Issues in Nepal? Describe the major interventions implemented by government of Nepal to improve it? [4+6]

Answer:

Part 1: Reproductive Health (RH) Issues in Nepal (4 Marks)

Introduction

Reproductive Health (RH) is a state of complete physical, mental, and social well-being in all matters relating to the reproductive system. Nepal has made significant progress in RH (e.g., in reducing MMR), but continues to face a wide range of persistent and emerging issues.

Major Reproductive Health Issues

1. **High Maternal and Neonatal Mortality/Morbidity:** Despite progress, the Maternal Mortality Ratio (MMR) and Neonatal Mortality Rate (NMR) are still high, especially in rural areas. Key direct causes include post-partum hemorrhage (PPH), eclampsia, and infection. Indirect causes include poor access to Emergency Obstetric Care (EmONC).

2. **High Unmet Need for Family Planning (FP):** A significant percentage of women of reproductive age want to delay or stop childbearing but are not using any form of contraception. This is particularly high among adolescents and marginalized groups.

3. **Adolescent Pregnancy and Child Marriage:** Child marriage, though illegal, remains prevalent. This leads to a high rate of adolescent pregnancy, which carries severe health risks for both mother and child (e.g., low birth weight, obstetric fistula, high mortality).

4. **Unsafe Abortion and Complications:** Although abortion is legal (since 2002), a large number of abortions are still performed by untrained providers or in unsafe conditions. This leads to high rates of complications, infection, and mortality. Lack of awareness and stigma are major barriers to accessing safe abortion services.

5. **Reproductive Tract Infections (RTIs) and STIs/HIV:** RTIs and Sexually Transmitted Infections (STIs) are a "silent epidemic," often un-diagnosed and un-treated, especially among women, due to a lack of services and stigma.

6. **Uterine Prolapse (Pelvic Organ Prolapse):** This is a major morbidity issue, particularly among women in rural areas who have had many children at a young age and perform heavy manual labor.

7. **Gender-Based Violence (GBV):** GBV, including domestic violence and sexual violence, is a major public health issue with profound impacts on women's reproductive and mental health.

Part 2: Major Government Interventions to Improve RH (6 Marks)

Introduction

The Government of Nepal, through the Family Welfare Division (FWD) and now sub-national governments, implements a comprehensive set of interventions to address these RH issues, as outlined in the **Safe Motherhood and Newborn Health (SMNH) Roadmap 2030**.

Major Interventions

1. **Safe Motherhood Program (Aama Surakshya Karyakram):**
    - **Intervention:** This is a world-renowned blended **demand- and supply-side** financing scheme.
    - **Components:**
        - **Demand:** Provides a **transport incentive** for women to deliver at a health facility and cash incentives for completing 4/6/8 ANC visits.
        - **Supply:** Provides free services for institutional delivery, including C-sections, and reimburses the health facility for each delivery.
    - **Impact:** This has been the single most effective intervention in dramatically increasing the institutional delivery rate.
2. **Expansion of Skilled Birth Attendants (SBA) and EmONC:**
    - **Intervention:** A massive, ongoing effort to **train and deploy Skilled Birth Attendants (SBAs)** (nurses, ANMs) to ensure every birth is managed by a skilled professional.
    - **Components:** Establishing and upgrading **Basic Emergency Obstetric and Newborn Care (BEmONC)** sites at the PHCC level and **Comprehensive (CEmONC)** sites at the hospital level to manage complications.
3. **National Family Planning (FP) Program:**
    - **Intervention:** Aims to ensure access to a full range of contraceptives.
    - **Components:**

- Free distribution of short-acting methods (pills, condoms) through all health facilities and FCHVs.
- Provision of long-acting reversible methods (LARC), like IUDs and Implants, and permanent methods at PHCCs and hospitals.
- Running awareness campaigns and special outreach clinics.

4. **Comprehensive Abortion Services (CAS) Program:**
    - **Intervention:** To reduce deaths from unsafe abortion, the government provides safe abortion services (medical and surgical) free of cost at listed/certified sites.
    - **Components:** Training providers in safe abortion procedures and post-abortion care, and running awareness campaigns to destigmatize the service.
5. **Adolescent Health and Development Program:**
    - **Intervention:** Recognizes the unique needs of adolescents.
    - **Components:** Establishing **Adolescent-Friendly Services (AFS)** corners at health facilities to provide non-judgmental counseling, FP services, and health information to young people.
6. **Prevention and Management of Uterine Prolapse and GBV:**
    - **Intervention:** Running screening camps for uterine prolapse in rural areas and providing free surgical treatment at designated hospitals.
    - **Components:** Establishing **One-Stop Crisis Management (OCMC)** centers at hospitals to provide integrated health, legal, and psychosocial support to survivors of GBV.

Conclusion

Nepal's RH interventions are comprehensive, targeting the entire continuum of care. The success of the Aama Surakshya Karyakram is a global model. However, the key to improving these interventions further lies in tackling the deep-rooted **equity gaps** and **social/cultural barriers** (like stigma and GBV) that still prevent many women and adolescents from accessing these available services.

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5. Describe the problems, challenges and opportunities as stated by National Health Policy, 2076 (2019) and list out its guiding principles? [2.5+2.5+2.5+2.5]

Answer:

Introduction

The **National Health Policy (NHP), 2076 (2019)** is the apex policy document for Nepal's health sector. It was formulated to align the health system with the new federal structure, the Sustainable Development Goals (SDGs), and the constitutional "right to health." It provides a comprehensive analysis of the health sector's context, including its problems, challenges, and opportunities.

Problems (Current Weaknesses/Issues) (2.5 Marks)

The NHP 2076 identifies several key *existing problems* within the health system:

- **Inequitable Access and Quality:** A persistent gap in health service access and quality between urban/rural, rich/poor, and different geographical regions.
- **Weak Health System:** Inefficiencies in the health system, including weak governance, poor health information systems, and a lack of quality assurance mechanisms.
- **Ineffective HRH Management:** The problem of HRH maldistribution, low motivation, and a mismatch between production and national needs.
- **High Out-of-Pocket (OOP) Expenditure:** High OOP costs for health services, which push families into poverty.
- **Low Citizen Participation:** Limited effective participation of communities and local bodies in health system management and oversight.

Challenges (Future Obstacles/Threats) (2.5 Marks)

The policy outlines several *challenges* that must be overcome to achieve its vision:

- **Implementing Federalism:** The complex challenge of **fully operationalizing and coordinating** the health roles and responsibilities of the 753 local, 7 provincial, and one federal government.
- **Managing the "Triple Burden" of Disease:**
    1. **Communicable Diseases:** The unfinished agenda of communicable diseases (e.g., TB, HIV, vector-borne diseases).
    2. **MCH & Nutrition:** Persistent high rates of maternal/child mortality and malnutrition.
    3. **Non-Communicable Diseases (NCDs):** The rapidly rising epidemic of NCDs (e.g., diabetes, hypertension, cancer), which requires a new, chronic-care model.
- **Achieving SDGs and UHC:** The immense challenge of mobilizing the required resources, technology, and political will to achieve the ambitious targets of the SDGs and Universal Health Coverage (UHC).

- **Addressing Social Determinants:** The difficulty of addressing the root causes of poor health that lie *outside* the health sector (e.g., poverty, pollution, education).
- **Ensuring Financial Sustainability:** Securing sufficient and sustainable domestic financing for the health sector, including the Social Health Insurance program.

Opportunities (Existing Strengths/Enablers) (2.5 Marks)

The policy also identifies key *opportunities* to build upon:

- **Political Commitment and Constitutional Right:** The powerful **constitutional guarantee** of health as a fundamental right (Article 35), which provides a strong political and legal mandate for reform.
- **Federal Structure:** The opportunity for **decentralized, "bottom-up" planning** and local accountability, with 753 local governments empowered to manage their own basic health services.
- **Expansion of Health Infrastructure:** The existing, widespread network of primary health care facilities and FCHVs, which provides a strong foundation to build upon.
- **Technological Advancement:** The growing availability of new technologies (e.g., mobile health, telemedicine, digital information systems) that can help "leapfrog" geographical barriers.
- **Public Demand and Awareness:** A more educated and aware public that is increasingly demanding quality health services, creating social and political pressure for improvement.

Guiding Principles (Core Values) (2.5 Marks)

The NHP 2076 is guided by the following core principles:

1. **Ensuring Health as a Fundamental Right:** All policies and programs will be guided by the constitutional mandate.
2. **Gender Equality and Social Inclusion (GESI):** Ensuring equitable access and participation for women, Dalits, Janajatis, Madhesis, the poor, and people with disabilities.
3. **Evidence-Based Policy and Decision Making:** Using high-quality data, research, and information for planning and management.
4. **"Health in All Policies" Approach:** Acknowledging the multi-sectoral nature of health and ensuring all government policies (e.g., environment, transport, agriculture) contribute to positive health outcomes.

5. **Quality of Care:** A commitment to improving the quality of health services at all levels.
6. **Professionalism and Ethics:** Upholding high ethical standards and professional conduct.
7. **Public-Private Partnership (PPP):** Mobilizing and regulating the private and non-profit sectors to complement public health goals.
8. **Bottom-up, Participatory Planning:** Emphasizing the role of local governments and communities in planning.

Section B [50 Marks]

1. What is the status of National Immunization Program (NIP) in Nepal? How has the immunization program been managed at the Local Level? [5+5]

Answer:

Part 1: Status of the National Immunization Program (NIP) in Nepal (5 Marks)

Introduction

The National Immunization Program (NIP) is one of Nepal's most successful and high-priority public health programs. Its status is strong, with a long history of achieving high, equitable coverage and introducing new life-saving vaccines. It is considered a cornerstone of Nepal's success in reducing child mortality and achieving its health-related Millennium Development Goals (MDGs).

Current Status and Achievements

1. **High, Sustained Coverage:** For decades, Nepal has maintained high national coverage for routine vaccines. For example, DPT-HepB-Hib3 (Penta-3) and PCV3 coverage are consistently above 90%. This high coverage led to Nepal being declared "Polio-Free" in 2014 and achieving Measles elimination status (though outbreaks recur).
2. **Comprehensive Immunization Schedule:** The program provides **13 antigens** (against 13 diseases) free of cost to all children, a schedule that is comparable to many developed nations. This includes BCG, DPT-HepB-Hib (Penta), OPV, IPV, PCV, Rotavirus, MR, and Japanese Encephalitis (JE).
3. **Introduction of New Vaccines:** The program has been highly dynamic in adopting new, cost-effective vaccines based on WHO recommendations. Recent introductions include:
    - **Pneumococcal Conjugate Vaccine (PCV):** To protect against pneumonia.
    - **Rotavirus Vaccine:** To protect against diarrheal disease.

- **Inactivated Polio Vaccine (IPV):** As part of the polio endgame strategy.
- **Human Papillomavirus (HPV) vaccine:** Currently in the pilot/introduction phase to prevent cervical cancer.

4. **Strong Cold Chain and Logistics:** The program is supported by a robust, multi-level cold chain system (federal, provincial, district, and local) to ensure vaccines are kept at the correct temperature (vaccine potency) from the central store down to the health post.

5. **Robust Service Delivery Network:**

    - **Routine Immunization:** Provided at all Health Posts and BHSCs.
    - **Outreach Clinics (ORCs):** The program's key strategy for equity, where health workers travel to designated spots in remote communities every month to provide immunization and other PHC services.

Challenges:

Despite its success, the NIP faces challenges with "zero-dose" children (those who haven't received a single vaccine), urban immunization gaps, and recurrent measles-rubella (MR) outbreaks, which indicate immunity gaps in certain communities.

Part 2: Management of the Immunization Program at the Local Level (5 Marks)

Introduction

Following federalism, the **Local Government (Palika)** is now the primary entity responsible for the *implementation and management* of the immunization program, with the federal and provincial levels providing technical support, policy, and vaccines.

Management Functions at the Local Level

1. **Micro-planning and Target Setting:**

    - This is the most critical management function. The health section of the Palika, in coordination with all its health facilities, conducts an annual **immunization micro-planning** workshop.
    - They "head count" and list all pregnant women and children under one in every ward to determine the *exact* target population for the year. This forms the basis for planning sessions, vaccine needs, and logistics.

2. **Service Delivery Management:**

    - The Palika ensures that **routine immunization sessions** are conducted at all its health posts.

- Crucially, it manages and funds the **Primary Health Care Outreach Clinics (PHC-ORCs)**. This includes managing the schedule, ensuring health workers (ANMs/MCHWs) attend, and providing any local incentives or support.

3. **Logistics and Cold Chain Management:**
    - The Palika health coordinator is responsible for the "last-mile" of the cold chain.
    - This involves:
        - Collecting vaccines from the (provincial) Health Office.
        - Storing them at the local-level "cold chain point" (e.g., at a PHCC).
        - Ensuring all health posts have functional refrigerators and vaccine carriers.
        - Monitoring temperature charts to ensure the cold chain is not broken.
4. **Community Mobilization and Demand Generation:**
    - The Palika is responsible for all local awareness and "demand generation" activities.
    - This is done by **managing and mobilizing the FCHVs**. FCHVs are responsible for identifying and tracking pregnant women and newborns, counseling mothers on the immunization schedule, and reminding them to attend the clinics.
5. **Monitoring, Surveillance, and Outbreak Response:**
    - The Palika collects, verifies, and reports immunization data (HMIS) from all health facilities.
    - It is responsible for **AEFI (Adverse Events Following Immunization) surveillance** and reporting.
    - In the event of a case (e.g., measles), the Palika must lead the immediate **outbreak investigation and response** (e.g., case-finding, emergency vaccination).

Conclusion

The NIP is a model of public health success in Nepal. At the local level, it is an intensively managed program that combines precise planning (micro-planning), a robust cold chain, fixed and outreach delivery, and powerful community mobilization (via FCHVs), all coordinated by the local government.

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2. What do you think an effective disaster management plan and early warning reporting system can contribute to minimizing the effect of natural disaster or disease epidemic on communities and what examples can you share to illustrate this? [7+3]

Answer:

Part 1: Contribution of Disaster Management Plans and Early Warning Systems (7 Marks)

Introduction

An **effective disaster management (DM) plan** and an **Early Warning Reporting System (EWRS)** are the two most critical tools for reducing the devastating impact of natural disasters and epidemics. A DM plan is the "blueprint" for a coordinated response, while an EWRS is the "trigger" that sets the plan in motion. Their contribution is to shift a community from being a *passive victim* of a hazard to an *active, prepared responder*.

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Contribution to Minimizing Effects:

1. **Saves Lives by Enabling Timely Evacuation (EWS):**

    - **Contribution:** The most direct benefit. An EWRS provides the crucial lead-time for people to move from a high-risk area to a safe one.

    - **Example (Disaster):** In the floodplains of the Terai (e.g., along the Koshi or Narayani rivers), an EWS based on upstream water-level "gauges" and community-level sirens/megaphones gives communities hours to evacuate to pre-designated "safe shelters," directly preventing mass drownings.

2. **Enables a Coordinated, Not Chaotic, Response (DM Plan):**

    - **Contribution:** In the "golden hours" after a disaster, chaos is the enemy. A DM plan (especially a **Health Sector DM Plan**) pre-defines roles, responsibilities, and lines of communication.

    - **Example (Disaster):** After the 2015 Gorkha Earthquake, facilities *with* a Mass Casualty Incident (MCI) plan were able to manage the sudden influx of patients far more effectively (e.g., setting up triage, pre-positioning supplies, calling in off-duty staff) than those without one. The DM plan ensures that everyone (health, police, army, Red Cross) knows their job.

3. **Facilitates Early Epidemic Detection and Containment (EWRS):**

    - **Contribution:** In public health, an EWRS (like Nepal's **Early Warning and Reporting System - EWARS**) is designed to detect *signals* of an outbreak *before* it becomes a large epidemic.

    - **Example (Epidemic):** The EWARS system tracks "syndromes" (e.g., "Acute Gastroenteritis" - AGE, or "Fever with Rash"). If a health post in a Palika suddenly reports 10 cases of AGE (diarrhea) when it normally reports 1, the EWARS system flags this. This "signal" triggers an immediate response (e.g., RRT deployment, water testing), allowing the health system to **contain a cholera outbreak** in one ward, preventing it from spreading to the entire district.

4. **Protects Critical Infrastructure and Services (DM Plan):**

    - **Contribution:** The "preparedness" phase of a DM plan includes making critical infrastructure (like hospitals) resilient.

    - **Example (Disaster):** A hospital DM plan includes "non-structural mitigation," like bolting down oxygen cylinders and generators, and "structural mitigation," like seismic retrofitting. This ensures that *after* an earthquake, the hospital itself is still standing and functional, ready to *receive* casualties instead of *becoming* a casualty.

5. **Ensures Availability of Essential Supplies (DM Plan):**

    - **Contribution:** A core part of DM planning is **pre-positioning and stockpiling** essential supplies.

    - **Example (Epidemic/Disaster):** The Health Emergency Operations Center (HEOC) at the federal and provincial levels maintains a stockpile. When COVID-19 (epidemic) hit, this stockpile (though quickly overwhelmed) provided the initial buffer of PPE. When a flood (disaster) hits, this plan ensures that "Emergency Health Kits" (containing ORS, chlorine, antibiotics) are immediately dispatched, preventing the "second disaster" of disease outbreaks.

Part 2: Illustrative Examples (3 Marks)

1. **Epidemic Example (COVID-19):**

    - **Contribution of EWRS:** The global EWRS (run by WHO) monitoring pneumonia of "unknown origin" in Wuhan, China, is what first alerted the world. In Nepal, the **EWARS** and the **Health Entry Desks (HEDs)** at airports and borders were the early warning systems used to detect imported cases (e.g., through temperature screening and travel history).

    - **Contribution of DM Plan:** The national **"Health Sector Emergency Response Plan for COVID-19"** was the DM plan. It guided all actions: setting up quarantine/isolation centers, designating "COVID hospitals," procuring PPE, and (later) the entire vaccination campaign. Without this plan, the response would have been completely uncoordinated.

2. **Natural Disaster Example (Floods in Terai):**

    - **Contribution of EWRS:** The "Community-Based Flood Early Warning System" in West Nepal (Karnali/Narayani) is a globally recognized success. It uses upstream "watchers" who call downstream communities via mobile phone. This simple, low-tech EWRS has provided 3-4 hours of warning time, saving thousands of lives and livestock.

    - **Contribution of DM Plan:** The **Local Disaster and Climate Resilience Plan (LDCRP)**, prepared by the Palika, is the DM plan. It identifies the "safe evacuation shelters" (usually schools), maps the "safe routes," and forms a "Local Disaster Management Committee (LDMC)" trained in first aid and light rescue. The EWRS triggers this plan into action.

Conclusion

Disaster management plans and early warning systems are the foundations of resilience. The EWRS provides the *warning*, and the DM plan provides the *wisdom* to act on that warning. Together, they are the most effective interventions a community can have to minimize death, disease, and chaos from any hazard.

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3. What is information system? List out the existing information systems used in Health System of Nepal and its role in the evidence based decision making in health programs of Nepal. [2+3+5]

Answer:

Part 1: What is an Information System? (2 Marks)

Introduction

An **Information System (IS)** is an integrated, organized system for collecting, processing, storing, and disseminating information. In public health, a **Health Management Information System (HMIS)** is not just "software" or "computers"; it is a comprehensive system of *people, processes, and technology* that work together to convert raw health **data** (e.g., "5 cases of malaria") into usable **information** (e.g., "malaria cases have doubled this month") and **knowledge** (e.g., "the outbreak is linked to the new construction site") to support effective decision-making.

Part 2: Existing Information Systems in Nepal's Health System (3 Marks)

Nepal's health sector uses a fragmented but growing number of information systems, which are increasingly being integrated.

1. **HMIS (Health Management Information System):**
    - This is the **primary, routine** information system. It is a paper-based (at the facility) and digital (at the palika/provincial/federal level) system for collecting aggregated monthly data on all major health services (MCH, immunization, disease, curative care) from *all* public health facilities. It runs on the **DHIS2 (District Health Information System 2)** platform.
2. **LMIS (Logistics Management Information System):**
    - This is a parallel system specifically designed to manage the health commodity **supply chain**. It tracks the stock levels, consumption, and "pipeline" of essential medicines and logistics to prevent stock-outs. It is increasingly moving to an electronic (eLMIS) platform.
3. **EWARS (Early Warning and Reporting System):**
    - A specialized **syndromic surveillance** system. It collects *weekly* data on specific diseases and syndromes (e.g., fever, diarrhea) from a network of "sentinel" hospitals and health posts to detect potential **outbreaks** early.
4. **Program-Specific Systems:**
    - Several vertical programs maintain their own detailed information systems, such as:
        - **TB Program:** An electronic register (e-TB) to track every individual TB patient.
        - **HIV Program:** A system to manage patient data and antiretroviral (ARV) drugs.
        - **Vaccination:** An electronic "immunization register" is being rolled out to track every child.

5. **DHIS2-Based Systems:** DHIS2 is the software *platform* used for many of the above, including HMIS, EWARS, and others, to allow for better integration.

Part 3: Role in Evidence-Based Decision Making (5 Marks)

Introduction

The primary role of these information systems is to provide the **evidence** needed for **decision-making** at every level of the health system—from the FCHV to the Palika Mayor to the Federal Health Minister. Without data, managers are "flying blind."

Key Roles in Decision Making

1. **Problem Identification and Prioritization (Local Level):**
    - **Role:** The monthly HMIS report allows a Palika Health Coordinator to identify their *biggest* problems.
    - **Decision:** "The HMIS data shows that malnutrition (underweight) rates in Ward 3 are three times higher than in other wards. **Therefore, we will focus** our nutrition counseling and outreach clinics in Ward 3."
2. **Resource Allocation (Provincial and Local Level):**
    - **Role:** The LMIS provides evidence of where supplies are needed most.
    - **Decision:** "The LMIS report shows that Health Post X has only one week of Amoxicillin stock left, while Health Post Y is overstocked. **Therefore, we will immediately** transfer stock from Y to X and order more for the provincial store."
3. **Monitoring Program Performance (All Levels):**
    - **Role:** HMIS tracks progress against set targets.
    - **Decision:** "The HMIS dashboard shows our provincial institutional delivery rate is only 55%, far from our annual target of 70%. **Therefore, we must** investigate the barriers. Are FCHVs not counseling? Are transport incentives not being paid?"
4. **Early Warning and Outbreak Response (All Levels):**
    - **Role:** EWARS provides the "signal" for an epidemic.
    - **Decision:** "EWARS flagged a sudden 'Fever and Rash' cluster in Gorkha. **Therefore, we will** deploy a Rapid Response Team (RRT) immediately to investigate for a potential measles outbreak."
5. **Planning and Policy Making (Federal Level):**

- **Role:** Aggregated, long-term HMIS and survey data show national trends.
- **Decision:** "The national HMIS data shows a rapid, year-on-year increase in hypertension and diabetes cases being diagnosed at PHCCs. **Therefore, we must** develop a new national policy and training package (like mhGAP) for NCD management at the primary care level."

Conclusion

Information systems are the "nervous system" of the health sector. They convert raw data into life-saving action. An effective HMIS ensures that every decision—from ordering medicine at a health post to writing the National Health Policy—is based on **evidence**, not on assumption or anecdote.

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4. List out the major training activities do at the district level. Describe the steps of Public Health related training activities? [2+8]

Answer:

Part 1: Major Training Activities at the District Level (2 Marks)

Introduction

In the federal context, "district level" activities are typically managed by the **(Provincial) Health Office (HO)**, which supports all the Palikas within that district, or by the **District Hospital**. These trainings are crucial for maintaining and upgrading the skills of the health workforce.

Major Training Activities:

- **Programmatic/Vertical Trainings:** These are "cascade" trainings for national programs, such as:
  - **Immunization:** Micro-planning, cold chain management, and AEFI surveillance.
  - **Tuberculosis:** DOTS management, e-TB reporting.
  - **MCH:** CB-IMNCI follow-up, Family Planning counseling.
- **Information System Trainings:** HMIS, LMIS, EWARS reporting for health post in-charges and data assistants.
- **Supportive Supervision/Mentorship:** Orienting health facility in-charges on how to conduct supportive supervision for their staff.
- **Outbreak Response Training:** Basic training for local **Rapid Response Teams (RRTs)**.

- **FCHV Program Trainings:** Refresher training for FCHVs on new programs (e.g., NCD screening, CB-IMNCI).

Part 2: Steps of Public Health Related Training Activities (8 Marks)

Introduction

An effective public health training is not a one-time "event"; it is a systematic **training cycle** that involves planning, implementation, and follow-up. Failing to follow these steps is why many trainings fail to change practice.

The Training Cycle (8 Steps)

1. **Step 1: Training Needs Assessment (TNA)**
    - **Description:** This is the most critical step. It is the process of identifying the "gap" between *what* health workers are *supposed* to know/do and *what* they *actually* know/do.
    - **Example:** HMIS data shows poor diarrhea management. A TNA (via supportive supervision) finds that health workers are *not* correctly prescribing Zinc. This identifies a clear "skill gap."
2. **Step 2: Defining Training Objectives**
    - **Description:** Based on the TNA, you must define clear, specific, and *measurable* learning objectives. Use "action verbs."
    - **Example:** "After the training, the participant will be able to *correctly classify* dehydration in a child" (not "will *understand* dehydration").
3. **Step 3: Designing the Training Curriculum and Materials**
    - **Description:** Developing the "what" and "how." This involves selecting the content, sequencing the modules, and choosing the training methods (e.g., lecture, role-play, case study).
    - **Example:** A curriculum for CB-IMNCI would include modules on "Assess," "Classify," and "Treat," and would use case studies and role-plays.
4. **Step 4: Planning the Training Logistics (Administration)**
    - **Description:** This is the administrative "heavy lifting." It includes selecting a venue, setting a date, managing budgets, procuring materials (flipcharts, markers), arranging travel/lodging, and sending invitation letters.
5. **Step 5: Selecting and Preparing Trainers (ToT)**

- **Description:** Identifying subject-matter experts and *training them on how to be effective trainers* (a "Training of Trainers" or ToT). A clinical expert is not always a good teacher. They must understand adult learning principles.

6. **Step 6: Participant Selection**

   - **Description:** Selecting the *right* people to attend. Participants must be those who actually *need* the skill and will *use* the skill.
   - **Example:** Sending a lab technician to an SBA (Skilled Birth Attendant) training is a waste of resources.

7. **Step 7: Conducting (Implementing) the Training**

   - **Description:** The actual delivery of the training. This includes:
     - **Pre-test:** To measure baseline knowledge.
     - **Training Delivery:** Using participatory, "hands-on" methods, not just lectures.
     - **Post-test:** To measure immediate knowledge gain.
     - **Evaluation:** Getting participant feedback on the training itself.

8. **Step 8: Post-Training Follow-up and Supportive Supervision**

   - **Description:** This is the most *important* but most *neglected* step. It is the process of following up with participants *after* they return to their health post to see if they are actually applying their new skills.
   - **Example:** A supervisor visits the health post 3 months after a "CB-IMNCI" training, observes the health worker, and provides on-site coaching and mentorship. This follow-up is what solidifies the new skill and leads to real-world performance improvement.

Conclusion

A training activity is only successful if it *changes behavior* and *improves health outcomes*. This is only possible when training is seen as a continuous cycle that starts with a clear "needs assessment" and ends with long-term "post-training follow-up."

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5. Write short notes on:

a. Management of Health Camps [5]

b. Management of Multi Drug Resistance (MDR) TB [5]

Answer:

a. Management of Health Camps

Introduction

A health camp is a temporary, mobile health service delivery outreach model designed to bring services to a remote or underserved population. While popular, they must be managed effectively to ensure they are safe, high-quality, and beneficial, and not just a one-time "token" event.

Key Management Steps

1. **Pre-Camp Phase (Planning):** This is the most critical phase.
    - **Needs Assessment:** Coordinate with the local Palika and Health Post to identify the *actual* "felt need" (e.g., "Uterine Prolapse screening," "Cataract screening," not just a general camp).
    - **Approval and Coordination:** Get formal approval from the MoSDH, Palika, and Health Office. **Crucially, coordinate with the local health facility** to ensure they are involved.
    - **Logistics:** Arrange for a skilled team, medicines, equipment, transportation, and a safe venue (e.g., a school) with appropriate flow, privacy, and WASH facilities.
    - **Community Mobilization:** Use FCHVs and local media to inform the community of the date, time, and *specific services* being offered.
2. **During-Camp Phase (Implementation):**
    - **Patient Registration and Triage:** Set up a systematic flow, starting with registration and triage to identify urgent cases.
    - **Quality of Care:** Ensure services are provided by licensed professionals (e.g., from NHPC, NMC) and that infection prevention protocols are followed, especially for surgical or dental procedures.
    - **Data and Record Keeping:** Maintain a clear record (a "register") of every patient seen, the diagnosis, and the treatment given.
3. **Post-Camp Phase (Follow-up and Reporting):** This is the most-often-failed step.
    - **Referral Linkage:** The camp will identify complex cases (e.g., needing surgery). A plan *must* be in place to refer them to a "hub" hospital (e.g., the District or Provincial Hospital) and ensure they can get there.
    - **Handover: Hand over all patient records, data, and remaining supplies to the local Health Post**. The local system must be ablet o provide follow-up care (e.g., changing a dressing, refilling a prescription).

- **Reporting:** Submit a complete report of the camp's activities and findings to the Palika and Health Office.

Conclusion: A health camp's success is not measured by *how many patients* it sees, but by its *linkage to the permanent health system*. A camp that does not have a plan for follow-up and referral can do more harm than good.

b. Management of Multi Drug Resistance (MDR) TB

Introduction

Multi-Drug Resistant Tuberculosis (MDR-TB) is a form of TB caused by bacteria that are resistant to at least Isoniazid (H) and Rifampicin (R), the two most powerful first-line anti-TB drugs. It is a significant public health threat as it is much harder and more expensive to treat, with lower success rates.

Key Management Aspects

1. **Case Detection and Diagnosis:**

   ✓ **Case Finding:** High-risk patients (e.g., those who "failed" first-line treatment, "relapsed" after treatment, or were in contact with a known MDR-TB case) are actively screened.

   ✓ **Diagnosis:** Diagnosis is done using **GeneXpert** (a rapid molecular test) which can detect both TB and Rifampicin resistance (as a proxy for MDR) in under two hours. This is followed by **Drug Susceptibility Testing (DST)** (culture) at a reference lab (e.g., NTC) to confirm the full resistance pattern.

2. **Standardized Treatment Regimen:**

   ✓ Treatment is long (9 months to 20 months), complex, and uses "second-line" drugs (e.g., Bedaquiline, Pretomanid, Linezolid, Moxifloxacin) which are more toxic and less effective than first-line drugs.

   ✓ Nepal has adopted **shorter, all-oral regimens** (e.g., a 9-month regimen) based on WHO guidelines, which is a major improvement over older, 20-month regimens that included painful daily injections.

3. **Decentralized Treatment and Patient Support:**

   ✓ MDR-TB treatment is no longer only at centralized "DR-Hostels." It is being decentralized, with treatment initiated and managed at **"DR Treatment Centers"** (often at provincial/district hospitals).

   ✓ A **DOTS (Directly Observed Treatment, Short-course)** model is still used, but it is supported by a robust patient support system. This includes **psychosocial**

counseling and **financial support** (e.g., for travel, nutrition) to help patients adhere to the long, difficult treatment.

4. **Infection Control:**

   ✓ Managing MDR-TB involves strict **Airborne Infection Control (AIC)** measures at health facilities (e.g., N-95 masks for staff, good ventilation, patient separation) to prevent transmission to other patients and health workers.

5. **Surveillance and Reporting:**

   ✓ Every MDR-TB case is meticulously recorded in the **electronic register (e-TB)** and reported to the **National Tuberculosis Program (NTP)** to monitor treatment outcomes and drug resistance trends in the country.

Conclusion: Managing MDR-TB is a highly specialized, resource-intensive program that relies on rapid molecular diagnostics (GeneXpert), complex all-oral drug regimens, and, most importantly, a very strong patient support system to ensure adherence.

The End