Lecture (11) :

- **An Overview of Health Care Management**

- **Management :**

➔ **Definition :**

Planning, organising, directing and controlling: the art of getting things done by and through people (**WHO**, 1993: 5).

- Whenever group efforts are necessary to achieve anything, there is a need for management.
- While it is necessary to ensure that things get done, the manager should never forget that without people, nothing will get done!

- **Organization :**

➔ **Definition :**

All deliberate arrangement of people to accomplish some specific purpose

➔ **Characteristics of an organization :**

(all organizations have three common characteristics) :

1) People
2) Distinct purpose
3) Deliberate structure

- **Healthcare Management :**

➔ **Definition :**

Health management is the **application of management principles for Health care**.

➔ Healthcare management is a growing profession with increasing opportunities in both **direct care** and **non–direct care** settings.

→direct care setting :

Are those organizations that provide care directly to a patient, resident or client who seeks services from the organization

→non direct care setting :

Are not directly involved in providing care to persons needing health services, but *rather support the care of individuals through products and services made available to direct care settings*

➔ **The Need for Managers and Their Perspectives:**

- **Health care organizations** are **complex** and **dynamic**.

- The nature of organizations **requires** → that managers provide leadership, as well as the supervision and coordination of employees.
- In health care organizations, the scope and complexity of **tasks** carried out in provision of services are so great that individual staff operating on their own could not get the job done.
- The coordination of many highly specialized disciplines that must work together seamlessly is required.

- **Managers are needed to:**
  - **Ensure** organizational tasks are carried out in the best way possible to achieve organizational goals
  - and that appropriate resources, including financial and human resources, are adequate to support the organization.

- Health care managers are appointed to positions of authority, where they shape the organization by making **important decisions.**

- **Decisions made by health care managers:**
  - Focus on ensuring that the patient receives the most appropriate, timely, and effective services possible.
  - Address achievement of performance targets that are desired by the manager.

- **Managers must consider two domains as they carry out various tasks and make decisions**. These domains are termed **external** and **internal** domains

  1) The **external domain:**

  Refers to the influences, resources, and activities that exist outside the boundary of the organization but that significantly affect the organization. Such as community needs

  2) The **internal domain:**

  Refers to those areas of focus that managers need to address on a daily basis, such as ensuring the appropriate number and types of staff, and quality of care.

  → Keeping the dual perspective requires significant balance and effort on the part of management in order to make good decisions.

➔ **The six management functions:**

- **Definition of function :**

  Function is a broad area of responsibility composed of many activities aimed at achieving a **predetermined** objective.

- **The six management functions :**

1) Planning

➔ **Definition :**

- is the process of looking forward.
- It means setting priorities and determining performance targets

➔ This function **requires** the manager to set a direction and determine what needs to be accomplished.

➔ This function refers to How and Why? For example, developing policies and procedures

2) Organizing

➔ **Definition** : refers to effective utilization of resources to achieve organisation objectives.

➔ This management function refers to the allocation of tasks, teamwork assignments, and delegation of authority to meet the deadline are critical **components** of this function.

3) Staffing

➔ **Definition :** This function refers to

- acquiring and retaining **human resources**.
- developing and maintaining the **workforce** through various strategies and tactics.
- Provide the qualification needs and to have adequate staffing maintain smooth workflow**.**

4) Controlling

➔ **Definition** : This function refers to monitoring staff activities and performance and taking the appropriate actions for corrective action to increase performance. (comparing the actual performance with the standards of the organisation).

➔ Controlling involves ensuring that performance does not deviate from standards.

5) Directing

➔ **Definition :** to guide, instruct, and oversee employees to achieve predetermined objectives.

➔ The **focus in this function** is on initiating action in the organization **through** :

1) effective leadership

2) motivation

3) communication with, subordinates. Providing guidance to employees to perform to the best of their ability and capacity.

6) Decision making

➔ making effective decisions based on **consideration** of benefits and the drawbacks of alternatives.

- In order to effectively carry out these functions, the manager needs to possess several **key competencies .**
  (**Katz** (1974) identified key competencies of the effective manager, **including** conceptual, technical, and interpersonal **skills**.)

➔ **Definition of competency :**
refers to a state in which an individual has the adequate ability or qualities to perform certain functions

1) **Conceptual skills:**
   - **Definition** : Are those skills that involve the ability to critically analyze and solve complex problems.
   - **Examples**: a manager conducts an analysis of the best way to provide a service or determines a strategy to reduce patient complaints regarding food service.

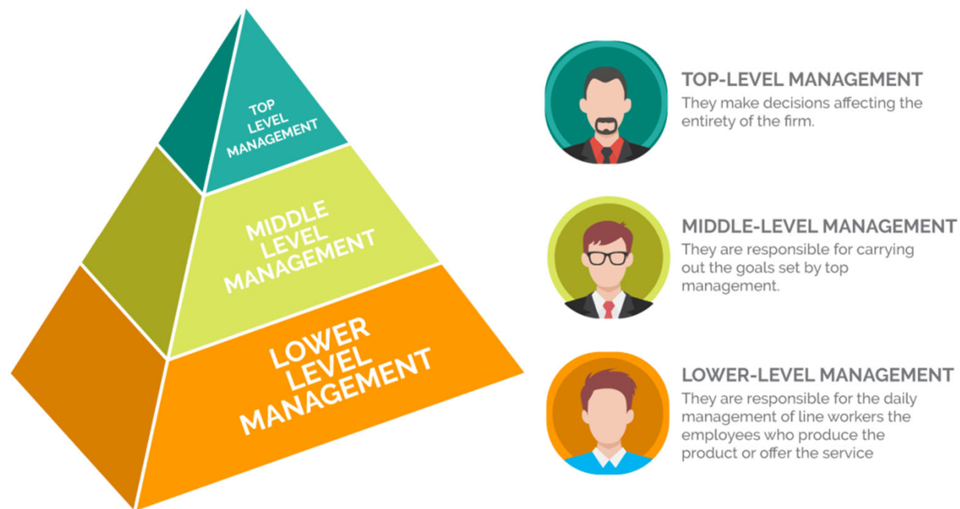
2) **Technical skills:**
   - **Definition** : Are those skills that reflect expertise or ability to perform a specific work task.
   - **Examples**: a manager designs and implements modifications to a computer-based staffing model.

3) **Interpersonal skills:**
   - **Definition** : Are those skills that enable a manager to communicate with and work well with other individuals, regardless of whether they are peers, supervisors, or subordinates.
   - **Examples**: a manager counsels an employee whose performance is below expectation or communicates to subordinates the desired performance level for a service for the next fiscal year.

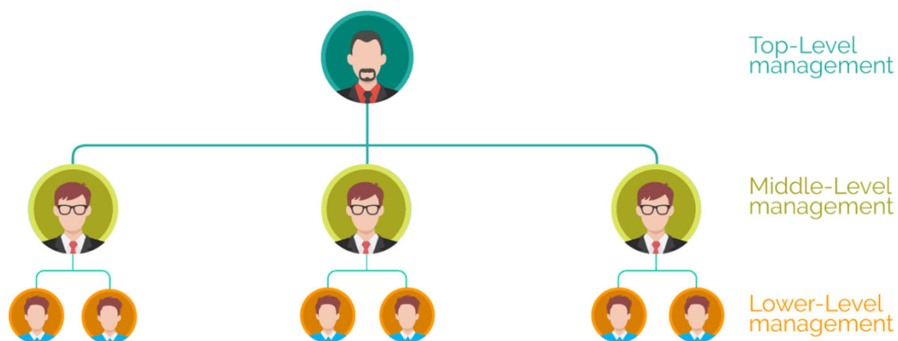
- **Management Positions: The Control in the Organizational Hierarchy**

➔ **Definition of The hierarchy of management :**
means that authority, or power, is delegated downward in the organization, and lower-level managers have less authority than higher-level managers.

➔ **The hierarchy of management**



➔ Management positions within health care organizations exist at the **lower**, **middle**, and **upper** levels; the upper level is referred to as senior management.



- **Vertical structure:**

➔ **Definition :**

is a **functional organizational structure**, whose key characteristic is a pyramid-shaped hierarchy that defines the functions carried out and the key management positions assigned to those functions.

➔ The most common organizational structure for health care organizations

➔ The traditional structure.

- Other **administrative structures** have been adopted by health care organizations, usually in combination with a functional structure. These **include**:
  1) **Matrix or team-based models**. This type of structure is often useful when skills need to be shared across departments to complete a task and can allow companies to utilize a wide range of talents and strengths.
  2) **Service line management models**. Service-line management is a system in which a hospital is divided into specialist clinical areas that are then managed, by clinicians, as distinct operational units.
     - Service-line management enables clinicians and managers to:
       - ✓ plan service activities,
       - ✓ set objectives and targets,
       - ✓ monitor operational activity and
       - ✓ manage performance

- **Leadership :**

➔ **Definition of leadership :**

- Leadership is conceptualized as a process that elicits influence within a context for achieving goals by sharing a common vision (Cummings et al., 2010).
- Leadership is being able to see the present for what it really is, see the future for what it could be and then take action to close the gap between today's reality and the preferred future of tomorrow (Cummings, 2012).

➔ **Leadership versus Management**

- Though sometimes used interchangeably, these are two different concepts.
- In any business setting, there must be **leaders** as well as **managers**. But are these the same people? Ans: Not necessarily
- There are leaders who are good managers and there are managers who are good leaders, but usually neither case is the norm.
- In today's dynamic workplace, organizations need leaders to cope with new challenges, and transform organizations in order to achieve a competitive advantage in the marketplace.
- In addition, organizations need managers to maintain a smoothly functioning workplace, and to utilize resources effectively.
- Finally, a well balanced organization should have a mix of leaders and managers to succeed.

➔ **Styles of Leadership in Healthcare :**

1) Coercive. **(Autocratic)**

- Coercive leadership style power is used inappropriately to get a desired response from a follower.
- This very directive format should probably not be used unless the leader is dealing with a very problematic subordinate or is in an emergency situation and needs immediate action.
- In healthcare settings over longer periods of time, three other leadership styles could be used more effectively: participative, pacesetting, and coaching.
- May contribute to rapid turnover.

2) Participative. **(Democratic)**

- Many healthcare workers are highly trained, **specialized individuals who know much more about their area of expertise than their supervisor.**
- Healthcare workers will respond better and be more productive if the leader is participative in his or her style.
- Asking for their input and giving them a voice in making decisions ***will let them know they are respected and valued.***

3) Pacesetting

Pacesetting leadership:

- In a pacesetting style, a leader sets high performance standards for his or her followers.
- This is very effective when the employees are self-motivated and highly competent.

4) Coaching.

Coaching style

- A coaching style is recommended **for the very top personnel** in an organization.
- With this style, the leader focuses on the personal development of his or her followers rather than the work tasks.
- This should **be reserved for followers the leader can trust** and those who have **proven their competence**

■ Most good leaders use a **mix of styles.**
For example, a leader may take an autocratic approach to implementing some changes, such as requiring compliance with handwashing protocols, while taking a democratic or participatory approach to other decisions, such as developing methods to decrease surgical site infections.

Lecture (12+13) : Management and Motivation

- **Managers** are continually challenged to **motivate a workforce to do two things:**
  1) The first is to motivate employees to work toward helping the **organization achieve its goals**.
  2) The second is to motivate employees to work toward achieving their **own personal goals**.

- The types of workers in the healthcare sector range *from highly trained and highly skilled technical and clinical staff members, e.g., physicians and nurses, to relatively unskilled workers.*

  →To be successful, healthcare managers need to be able to manage and motivate **this wide array of employees.**

- **Motivation** :

➔ **Definition** :

- a **motive** is "something (a need or desire) that causes a person to act." **Motivate**, in turn, means "to provide with a motive," and **motivation** is defined as "the act or process of motivating."
- Thus, motivation is the act or process of providing a motive that causes a person to take some action.

➔ **MOTIVATED VS. ENGAGED: Are the terms the same ?**

- Oftentimes when you read about motivation, the term engaged, appears within the same context. **In order to be motivated, employees must be engaged—and in order to be engaged, they must be motivated**.

➔ **Gallup** interviewed more than 1.2 million employees at more than 800 hospitals" (2010). The purpose of the research conducted was to understand what engaged healthcare employees look like.

→Results showed that engaged healthcare employees:

- Are more productive
- Are more focused on patient care and treatment
- Are safer
- Are loyal to their employers

→Disengaged employees :

- bring morale down
- impact the organization's bottom line.

- According to Gallup, within the U.S. workforce, more than $300 billion is lost in productivity alone in disengaged employees.

- Top-performing organizations recognize that employee engagement requires motivation and is the driving force behind organizational performance and outcomes (Gallup, 2010; Manion, 2009).

➔ **MOTIVATIONAL STRATEGIES:**

- ✓ Communicate and address the big picture.
- ✓ Reward the desired behavior.
- ✓ Celebration.
- ✓ Give employees three compliments for every criticism.
- ✓ Focus on revitalizing employees.
- ✓ Focus on collaboration instead of competition
- ✓ Find **creative ways to** obtain information and recognize excellence in employees.
- ✓ **Play** to employees' strengths.
- ✓ Acknowledge the ***importance of work-life balance and employee well-being.***

■ **Notes on rewards [the second points above] :**

→**rewards** may serve as incentives , and those who give rewards may seek to use them as motivators

What Are Rewards?

- Rewards can take two forms. They can be either **intrinsic/internal rewards** or **extrinsic/external** ones.

1) **Intrinsic rewards** are **derived from within the individual**. For a healthcare employee, this could mean taking pride and feeling good about a job well done.
   - Intrinsic rewards are internal to the individual and are in many **ways less tangible**. In fact, they are highly subjective in that they represent how the individual perceives and feels about work and its value.
   - Five types of **intrinsic rewards** that have been summarized by **Manion** (2005) include:

     1. Healthy relationships—in which employees are able to develop a **sense of connection** with others in the workplace.

     2.Meaningful work—where employees **feel that they make a difference in people's lives**. This is typically a motivator for people to enter and stay employed in the healthcare industry. This type of work is viewed as that in which the meaningful tasks outweigh the meaningless.

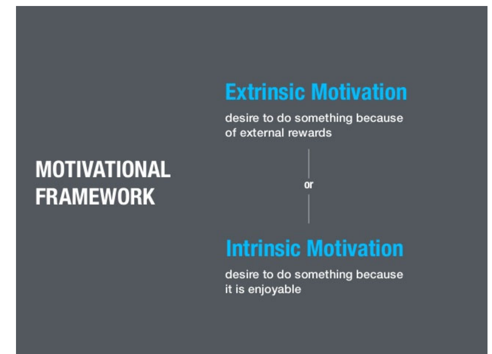
     3.Competence—where employees are **encouraged to develop skills** that enable them to perform at or above standards.

     4. Choice—where employees **are encouraged to participate in the organization in various wa**ys, such as by expressing their views and opinions, sharing in decision making, and finding other ways to facilitate participatory approaches to problem solving and goal setting.

     5. Progress—**celebrate when progress** is made toward completing important milestones within a project.

2) **Extrinsic rewards** pertain to those **reinforcements** that are given by another person.
   - There are a host of **external things** that managers can provide that may serve as incentives for employees to become more engaged in an organization and increase their productivity. These **include**:

✓ **Money**—in the form of pay, bonuses, etc.
✓ **Benefits**—also in many different forms, including health, dental, and vision insurance; vacation days; sick leave; etc.
✓ **Flexible schedules**.



- **Misconception on extrinsic and intrinsic motivation**
  - Relying only on intrinsic or extrinsic sources of motivation **may jeopardize the achievement of motivation aims.**
  - Relying on one source can motivate some employees and demotivate others who do not believe in the particular source. Management practitioners need to consider using both sources in motivating employees in order to achieve organizational pre-determined objectives.
  - However, despite the fact that both intrinsic and extrinsic sources must be used to motivate employees, managers must be keen to understand which source motivates who.
- **Money and Motivation:**
  - Scholars and organizational practitioners have been conceiving motivation by relating it with money alone.
  - Believers of this conception contend that, money is the main factor for enhancing motivation in organizations.
  - Those who conceive it as a misconception anticipate that, money motivates only to a point.
  - This idea is supported by **Hay Group study** (1999), where 500,000 employees ranked fair pay and benefits as the least ten important motivating factors that keep them committed and staying with their companies.
  - That being the case, money can motivate some employees in the organization but must not be relied as the only way of motivation.

➔ ***Who Motivates Employees?***

- While **rewards** may serve as incentives and those who give rewards may seek to use them as motivators, **the real motivation to act comes from within the individual.**
- Managers can work to provide various types of incentives in an effort to influence an employee in any number of ways, such as **rearranging work schedule**s, **improving working conditions.**

- While these may have an impact on an employee's level of motivation and willingness to act, when all is said and done, **it is the employee's decision to take action or not**.
- In discussing management and motivation, it is important to continually remember the roles of both managers and employees in the process of motivation.

➔ **Some employees are not motivated at all:**

  - There has been misconception that, some employees in organizations are not motivated at all.
  - Believers of this misconception argue that, despite the application of several packages for motivating employees, some never get motivated at all.
  - However, **Manion (2005) believe that, everyone is motivated by something.**
  - Each employee is motivated by a certain package.
  - The challenging task to managers is to identify each employee is motivated by what package.

➔ **One size fits all:**

  - In this misconception managers believes that, one size fits all employees in rewarding and recognizing them.
  - It is important to note that, individuals have different motives, and may act in different ways and be motivated by different aspects.
  - **Atchison** (2003) provides that, to end this misconception, managers need to consider preferences when planning to motivate employees in order to improve effectiveness.
  - Management practitioners need to be aware and consider investigating employees to find out each is motivated by what package.
  - This will help the organization to increase employee's performance as the size that fit each employee will be identified; thus motivation impacting the achievement of organization goals

➔ **WHY MOTIVATION MATTERS**

  - Healthcare organizations face **pressure** externally and internally.

1) Externally, the healthcare system must confront challenges such as :

- ✓ aging population,
- ✓ economic downturns,
- ✓ increases in market competition
- ✓ increases in the cost of providing care

2) Internally, our healthcare system faces pressure stemming from challenges such as :

- ✓ shortages of certain types of healthcare workers
- ✓ increasing accreditation requirements
- ✓ dealing with limited resources,
- ✓ increasing responsibilities connected with providing quality care, and ensuring patient safety.

- As healthcare employees are continually being asked to increase their responsibilities with fewer resources, managers must create a work environment in which employees are engaged, happy at their job, inspired, and motivated.

- People spend approximately one-third of their lives at work, and managers need to recognize that the **workplace** is one of the **most important aspects of a person's identity.**

→In situations where **people self-esteem is constantly under attack,:**

- ✓ stress occurs,
- ✓ morale diminishes,
- ✓ illness prevails, and
- ✓ absenteeism goes up

- Employees who are motivated feel invested in the organization, are happier, work harder, are more productive, and typically stay longer with an organization

■ **A motivated and engaged workforce :**

- ✓ experiences better outcomes and
- ✓ **provides an organization with a competitive edge** to successfully compete and be viewed as a dominant force in the market.

➔ **Theories of motivation :**

- Psychologists have studied human motivation extensively and have derived a variety of theories about what motivates people.
- These include theories that **focus on motivation being a function of :**

a) employee **needs** of various types,
b) extrinsic factors
c) intrinsic factors

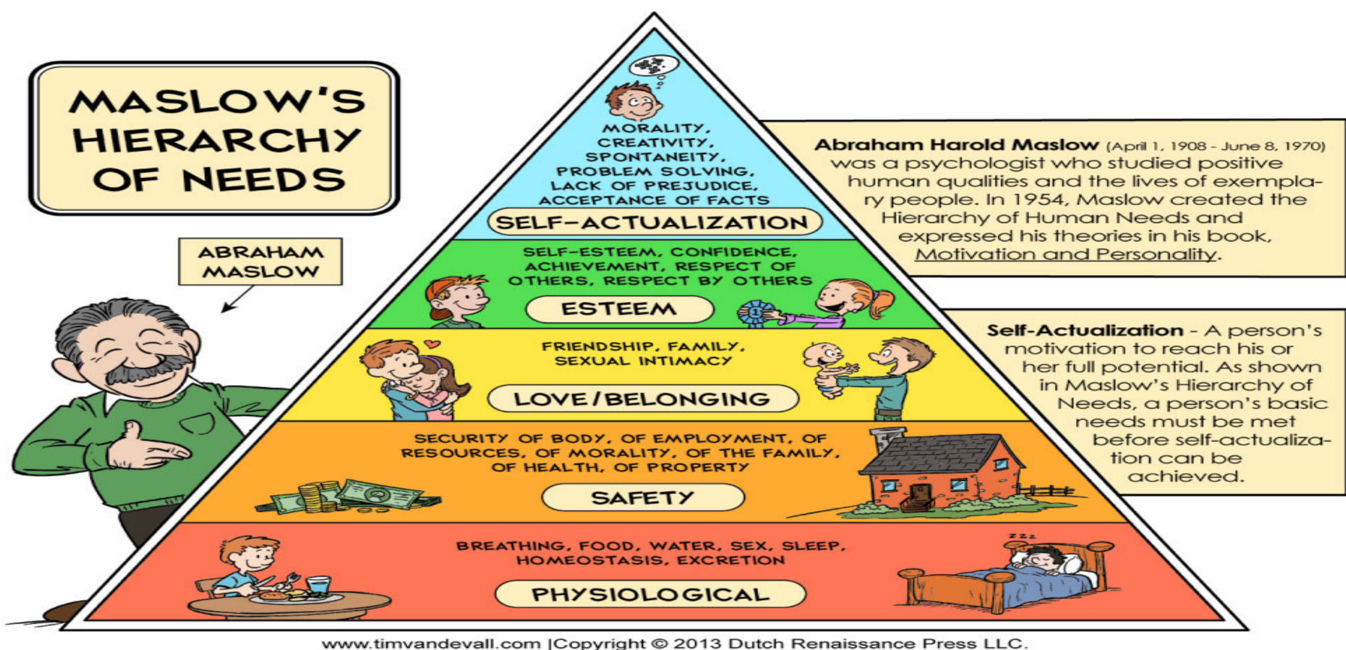
a)

i) Needs-Based Theories of Motivation Maslow's Hierarchy of Needs

- **Maslow** (1954) postulated a **"hierarchy of needs"** that progresses from the lowest level needs to the highest level of self-awareness and actualization.
- Once each level has been met, the theory is that an individual will be motivated by and strive to progress to satisfy the next higher level of need.
- **The five levels in Maslow's hierarchy are:**
  1. **Physiological needs**—including food, water, breathing, sexual drive, sleep

2. **Safety needs**—including shelter, a safe home environment, employment, a healthy and safe work environment, access to health care, money, and other basic necessities;
3. **Belonging needs**—including the desire for social contact and interaction, family, friendship, affection, and various types of support;
4. **Esteem needs**—including status, recognition, and positive regard; (People need to sense that they are valued and by others and feel that they are making a contribution to the world).
5. **Self-actualization needs**—including personal growth and development, and autonomy.

- The movement from one level to the next was termed "**satisfaction progression**" by Maslow, and it was assumed that over time individuals were motivated to continually progress upward through these levels.

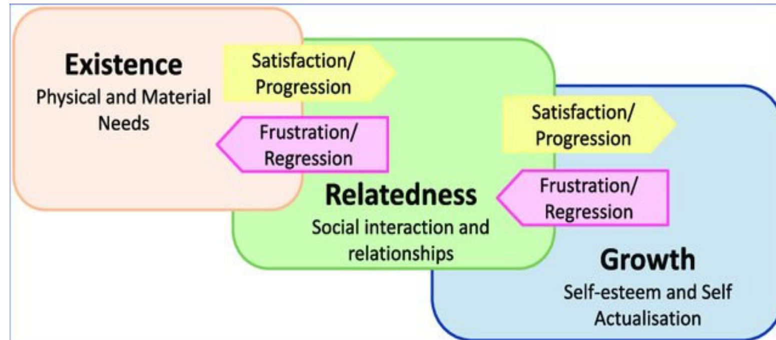


ii) Alderfer's ERG Theory

- The three components identified by Alderfer (1972) in his ERG theory drew upon Maslow's theory but also **suggested that individuals were motivated to move forward and backward through the levels in terms of motivators**.
- He reduced Maslow's levels from five to the following **three:**

  1) Existence—which related to Maslow's first two needs, thus combining the physiological and safety needs into one level;
  2) Relatedness—which addressed the belonging needs; and
  3) Growth—which pertained to the last two needs, thereby combining esteem and self-actualization.

- Alderfer also added his frustration—regression principle, which **postulated** that individuals would move in and out of the various levels, depending upon the extent to which their needs were being met.



iii) Herzberg's Two-Factor Theory :

- Herzberg (2003) further modified Maslow's needs theory
- consolidated down to **two areas of needs** that motivated employees. These were termed:

  1) **Hygienes**—These were characterized as lower-level motivators and included, for example, "company policy and administration, supervision, interpersonal relationships, working conditions, salary, and security" (p. 5).(Job context)

  2) **Motivators**—These emphasized higher-level factors and focused on aspects of work, such as "achievement, recognition for achievement, the work itself, responsibility, and growth or advancement" (p. 5). (job content).

- Herzberg's is an easily understood approach that **suggests that** individuals have desires beyond the hygiene's and that motivators are very important to them.

iv) McClelland's Acquired Needs Theory:

- The idea here is that needs are acquired throughout life. That is, needs are not innate but are learned or developed as a result of one's life experiences (McClelland, 1985).
- This theory focuses on **three types of needs:**

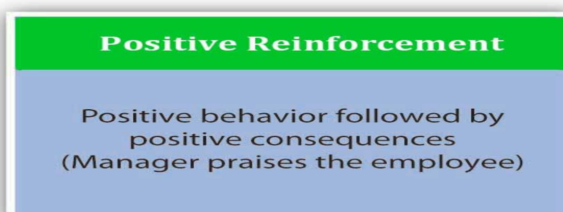
- **Need for achievement**—which emphasizes the desires for success, for mastering tasks, and for attaining goals;
- **Need for affiliation**—which focuses on the desire for relationships and associations with others; and
- **Need for power**—which relates to the desires for responsibility for, control of, and authority over others.

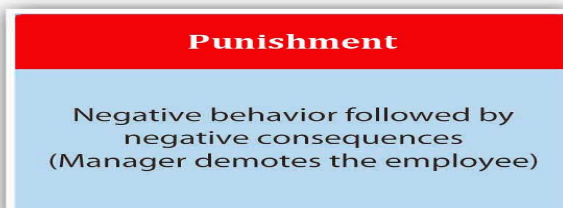
b) Extrinsic Factor Theories of Motivation

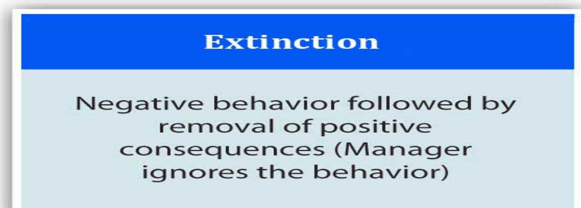
i) *Reinforcement Theory*

- B. F. Skinner (1953) studied human behaviour and proposed that individuals are motivated when their behaviours are reinforced. The first two are associated with achieving desirable behaviours, while the last two address undesirable behaviours:

1. **Positive reinforcement**—relates to taking action that rewards positive behaviours;
2. **Negative reinforcement**- anything that strengthens and increases behaviour by the withdrawal or removal of unpleasant consequences.
3. **Punishment**—Punishment is the act of causing an unpleasant consequence to a response to prevent the person from repeating that behaviour. Placing an employee on suspension for excessive absenteeism is an example of punishment.
4. **Extinction**—Eliminating any reinforcement that is maintaining a behaviour is called extinction.







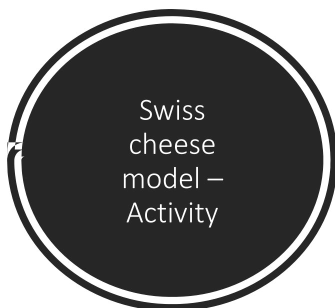
c) Intrinsic Factor Theories of Motivation

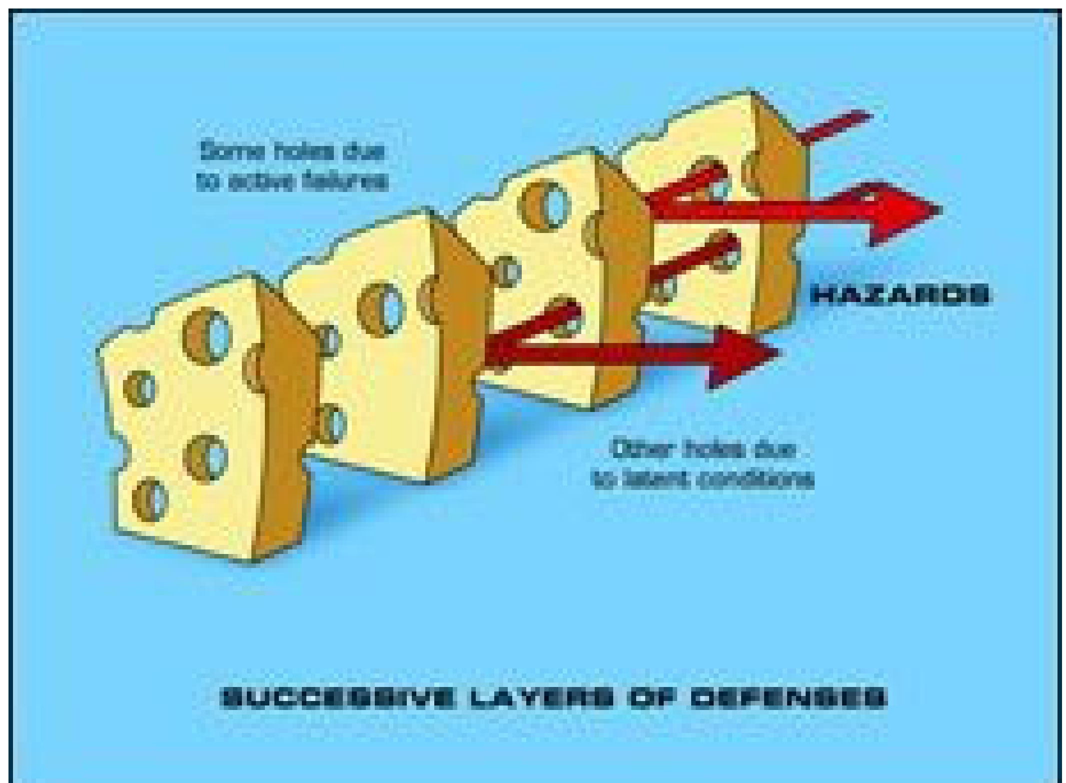
- Theories that are based on intrinsic or endogenous factors focus on
- internal thought processes and
- perceptions about motivation.

   i) **Adams' Equity Theory**—which proposes that individuals are motivated when they perceive that they are treated equitably in comparison to others within the organization (Adams, 1963);

- While all of these theories are helpful in understanding management and motivation from a conceptual perspective, it is important to recognize that most managers draw upon a combination of needs, extrinsic factors, and intrinsic factors in an effort to help motivate employees.

- **The last slide in lecture [this pic is related to the activity of this week]**





Lecture (10 + 14):

Lets start with lecture 14 which is introduction to research / and then go back to lecture 10 which discusses qualitative research

- **Introduction to research:**

➔ **<u>The research journey</u> :**

THE RESEARCH PROCESS			
Phase	PHASE I	PHASE II	PHASE III
Main task	*DECIDING* ↓ WHAT *(research questions to answer?)*	*PLANNING* ↓ HOW *(to gather evidence to answer the research questions)*	*UNDERTAKING* ↓ COLLECTING *(the required information)*
Operational steps/research journey	1	2 3 4 5	6 7 8

November 2022

➔ The research process: **an eight-step model**

■ **Notes :**

- The first is to decide **what** you want to find out about or, what **research questions** you want to find answers to.
- Having decided upon your research questions or **research problems**, you then need to decide **how** to go about finding their answers.
- The path to finding answers to your research questions constitutes **research methodology**.

➔ **The eight-step model for carrying out research**

- **PHASE I DECIDING WHAT TO RESEARCH**

- **Step I Formulating a research problem**
  - ✓ Formulating a research problem is the first and most important step in the research process.
  - ✓ A research problem identifies your destination.
  - ✓ The more specific and clearer you are the better, as everything that follows in the research process – study design, measurement procedures, sampling strategy, frame of analysis and the style of writing of your dissertation or report – is greatly influenced by the way in which you formulate your research problem.
  - ✓ The main function of formulating a research problem is to decide what you want to find out about.

- **PHASE II PLANNING A RESEARCH STUDY**

- **Step II Conceptualizing a research design**
  - ✓ An extremely important feature of research is the use of appropriate methods as it is enabling you to arrive at valid findings, comparisons and conclusions.
  - ✓ The main function of a research design is to explain how you will find answers to your research questions.
  - ✓ A research design should include the following: the study design, and the logistical arrangements that you propose to undertake, the measurement procedures, the sampling strategy, the frame of analysis and the timeframe.
  - ✓ When selecting a research design, it is important to ensure that it is valid, workable and manageable.
- **Step III Constructing an instrument for data collection**
  - ✓ A 'research tool' or a 'research instrument': is anything that becomes a means of collecting information for your study, for example, questionnaires and interview guides.
  - ✓ The construction of a research instrument is the first 'practical' step in carrying out a study.
  - ✓ You will need to decide how you are going to collect data for the proposed study and then construct a research instrument for data collection.

- **Step IV Selecting a sample**
  - ✓ Sampling is selecting the group that you will actually collect data from in your research.
  - ✓ The type of sampling strategy you use will influence your ability to make generalizations from the sample findings about the study population.
- **Step V Writing a research proposal**
  - ✓ A research proposal, tells a reader about your research problem and how you are planning to investigate. Its main function is to detail the operational plan for obtaining answers to your research questions.
  - ✓ A research proposal must tell you, your research supervisor and a reviewer the following information about your study:
    1. what you are proposing to do;
    2. how you plan to proceed;
    3. why you selected the proposed strategy.
  - ✓ It should contain the following information about your study:
    - a statement of the objectives of the study;
    - a list of hypotheses, if you are testing any;
    - the study design you are proposing to use;
    - the setting for your study;
    - the research instrument(s) you are planning to use;
    - information on sample size and sampling design;
    - information on data processing procedures;
    - the study's limitations; and the proposed time-frame.

• PHASE III CONDUCTING A RESEARCH STUDY

- **Step VI Collecting data**
  - ✓ Having formulated a research problem, developed a study design, constructed a research instrument and selected a sample, you then collect the data from which you will draw conclusions for your study.
  - ✓ For example, you might commence interviews, mail out a questionnaire, conduct focus group discussions or make observations.

- **Step VII Processing and displaying data**
  - ■ Qualitative analysis:
    - ✓ manually analyze the contents of your notes (content analysis)
    - ✓ use a computer program such as, Nvivio
  - ■ Quantitative analysis:
    - ✓ Frequency, or other statistical procedures and how it should be presented.
    - ✓ You will also need to identify the variables to be subjected to these statistical procedures.

- **Step VIII Writing a research report**
  - ✓ Writing the report is the last and, for many, the most difficult step of the research process.
  - ✓ This report informs the world;
    - • What you have done
    - • What you have discovered
    - • What conclusions you have drawn from your findings.
  - ✓ Your report should be written in an academic style and be divided into different chapters and/or sections based upon the main themes of your study.

➔ **Going back to : PHASE I DECIDING WHAT TO RESEARCH: STEP I Formulating a Research Problem**

- This operational step includes four topics:
  1) Reviewing the literature [more details about literature review are discussed below]
  2) Formulating a research problem
  3) Identifying variables
  4) Constructing hypotheses

- **Literature review:**

➔ **Definition :**The literature review (LR) is an integral part of the research process and makes a valuable contribution to almost every operational step.

- It has value even before the first step; that is, when you are merely thinking about a research question that you may want to find answers to through your research journey.

➔ **Literature review functions :**

• It provides a theoretical background to your study.
• It helps you establish the links between what you are proposing to examine and what has already been studied.
• It enables you to show how your findings have contributed to the existing body of knowledge in your profession.
• It helps you to integrate your research findings into the existing body of knowledge.

➔ **The literature review can help in four ways:**

1) Bring clarity and focus to your research problem

- The LR play an extremely important role in shaping your research problem because the process of reviewing the literature helps you to understand the subject area better.
  - **• When reviewing the literature:**

- **what** aspects of your subject area have been examined by others.
- what they have found out about these aspects.
- what gaps they have identified and what suggestions they have made for further research.

  • All these will help you gain a greater insight into your own research questions and provide you with clarity and focus which are central to a relevant and valid study.

  • It will help you to focus your study on areas where there are **gaps** in the existing body of knowledge, thereby enhancing its relevance

2) Improve your research methodology

- Going through the literature familiarizes you with the methodologies that have been used by others to find answers to research questions similar to the one you are investigating.
- A literature review tells you if others have used procedures and methods similar to the ones that you are proposing, which procedures and methods have worked well for them and what problems they have faced with them.
- By becoming aware of any problems and drawbacks, you will be better positioned to select a methodology that is capable of providing valid answers to your research question. This will increase your confidence in the methodology you plan to use and will equip you to defend its use.

3) Broaden your knowledge base in your research area

- Ensure you read widely around the subject area in which you intend to conduct your research study.
- It is important that you know what other researchers have found in regard to the same or similar questions.
- What gaps exist in the relevant body of knowledge.
- It helps you to understand how the findings of your study fit into the existing body of knowledge.

4) Enabling you to contextualize your findings

- Obtaining answers to your research questions is comparatively easy: the difficult part is examining how your findings fit into the existing body of knowledge.
- How do answers to your research questions compare with what others have found?
- What contribution have you been able to make to the existing body of knowledge?
- Undertaking a literature review will enable you to compare your findings with those of others and answer these questions. It is important to place your findings in the context of what is already known in your field of enquiry.

➔ **How to review the literature:**

- if you do not have a specific research problem, you should review the literature in your broad area of interest with the aim of gradually narrowing it down to what you want to find out about. After that the LR should be focused around your research problem.
- A danger in reviewing the literature without having a reasonably specific idea of what you want to study.

➔ **Steps involved in conducting a literature review:**

1) Searching for the existing literature in your area of study.

- You have at least some idea of the broad subject area and of the problem you wish to investigate, in order to set parameters for your search.
- Some sources that can be used in LR:
  • Books.
  • Journals.

2) Reviewing the selected literature.

- While going through the literature you should carefully and critically examine it with respect to the following aspects:
- Note the methodologies adopted (study design, sample size and its characteristics, measurement procedures, etc.) and the criticisms of them.
- Notice where there are significant differences of opinion among researchers.
- Ascertain the areas in which little or nothing is known – the **gaps** that exist in the body of knowledge.

3) Writing the literature reviewed.

- Your writing about the literature reviewed should be thematic in nature, that is based on main themes.
- The sequence of these themes in the write-up should follow a logical progression.
- Should adhere to an acceptable academic referencing style

- **Lecture (10) :**
- **Qualitative research**

➔ **WHAT IS QUALITATIVE RESEARCH?**

- Quality refers to the How and Why of a things
- Qualitative research refers to descriptions of things.
- Qualitative research offers unique **opportunities** for understanding complex situations.
- Qualitative research seeks to understand the phenomenon under study in the **context of the culture or the setting in which it has been studied** (**naturalistic**).
- Adjectives like: **Rich, Deep, Thick** used when talking about qualitative research.

➔ **Examples of research objectives for qualitative research:**

1) to assess medical students' perception of their quality of life and to explore its modifying factors related to the academic environment and individual skills.
2) to explore current perceptions of healthcare staff towards reporting and organisational learning for improving patient safety.
3) to determine dentistry students' perceptions of risk factors involved in developing musculoskeletal disorders.
4) to investigate perceptions of XXX women of childbearing age and healthcare professionals regarding preconception health.

➔ **Qualitative and Quantitative research questions:**

- **Quantitative Research question:** What proportion of people with epilepsy stop taking medications for three consecutive days in 6-month period?
- **Qualitative Research question:** How does medication shape the lives of people with epilepsy?

➔ **Characteristics of Qualitative Research:**

1) The **focus** is on process, understanding, and meaning;

- Qualitative researchers are interested in:

✓ how people interpret their experiences,
✓ what meaning they attribute to their experiences
✓ how they construct their worlds,

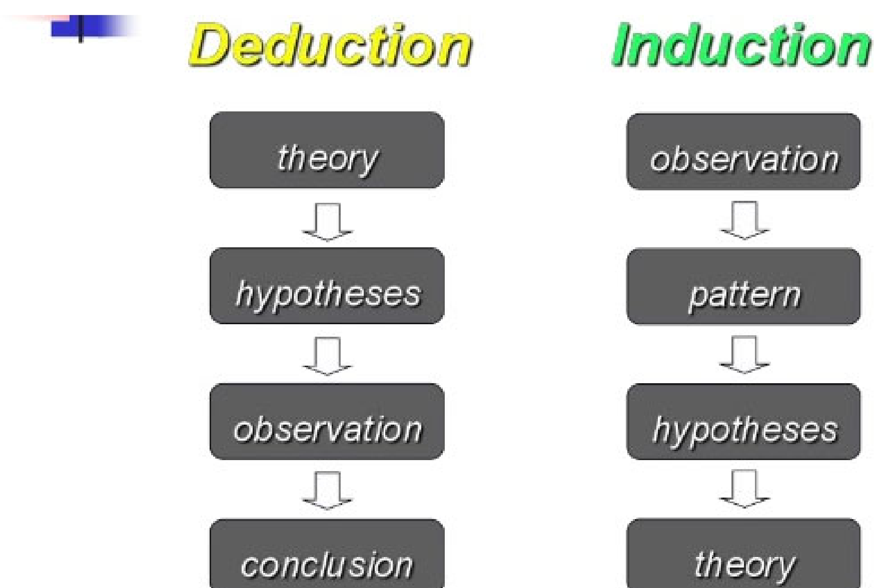
2) The **researcher** is the **primary instrument of data collection and analysis**;

- A second characteristic of all forms of qualitative research is that *the researcher is the primary instrument for data collection and analysis.*

- Since understanding is the goal of this research, the human instrument, which **is able to be immediately responsive and adaptive**, would seem to be the ideal means of collecting and analysing data.
- Other advantages are that the researcher can **expand** his or her understanding **through nonverbal** as well as **verbal communication**, **process information (data) immediately**, **clarify** **and** **summarize** **material**, **check** with respondents **for accuracy of interpretation.**

3) The **process** is inductive;

- Often qualitative researchers undertake a qualitative study because there is a lack of theory or an existing theory fails to adequately explain a phenomenon.
- Another important characteristic of qualitative research is that the process is **inductive; that is, researchers gather data to build concepts, hypotheses, or theories rather than deductively testing hypotheses as in quantitative research.**
- Bits and pieces of information from interviews, observations, or documents are combined and ordered into larger themes as the researcher works from the particular to the general.



4) The **product** is richly descriptive

- The product of a qualitative inquiry is *richly descriptive.*
- Words and pictures rather than numbers are used to convey what the researcher has learned about a phenomenon.
- In addition, data in the form of quotes from documents, field notes, and participant interviews, are always included in **support** of the findings of the study. These quotes contribute to the descriptive nature of qualitative research.

3.1. Theme one: Contribution of the organisation

The contribution of the organisation was identified by participants as important in inhibiting or facilitating their capacity to recognise and respond to the patient with sepsis. Participants highlighted that organisational factors were often related to processes and models of care, and that the availability of resources impacted on their ability to recognise and respond to the patient with sepsis. For example;

"You don't actually think really about the patient's well-being. You know they're unwell, but you don't um you're more interested and the pressures about the [patient] flow. The majority of our shift is all about flow, it's about flow of the inpatients by *ambulance* and looking at maybe it's because I have done a lot of BPIO [Business Practice Improvement Officer] stuff and NEAT [National Emergency Access Target] stuff I tend to look at the time a lot… From, a nursing point of view and it sounds really horrible to say out of my mouth, but I think that the patient comes second as the flow of the department comes first, which is against everything that you've trained for. It's so fast changing. You don't have the time and with flow your patients have been ripped out from under you and your getting new ones in. I just don't think that you've got time to fully assess them and work them up until the next one arrives". CN1

"Time constraints make nurses not have time to 'think' therefore being task orientated and less likely to recognise sepsis- not engaging your brain as much when you are busy, and task orientated. You write the observations down so all the boxes are ticked, patient can be moved into next area and so busy between different jobs that you are not actually thinking about what you are doing. You are not in a space to think as it is so fast". RN4

"When you are really busy you um, people go into auto pilot and then they're just as opposed to assessing what's actually on in their head they become more task orientated in saying ok this is what I need to do and they focus more on putting the dots on the lines on a piece of paper rather than what the dots on the lines actually mean". NGR

➔ Example of findings in qualitative research- descriptive:

Table 2 Factors influencing patient safety, as perceived by the nurses

Category	Description of the category	Barriers (B) and facilitators (F)
Patient factors	Patient factors relate to patients' influence on patient safety as perceived by the nurses	Patient interaction (B + F) Patient engagement (F)
Individual staff factors	Individual staff factors refer to various personal characteristics of the nurses and other health care providers that the nurses perceived to influence patient safety	Interest and knowledge (F) Skills and abilities (B + F) Feelings (B) Fallibility (B)
Team factors	Team factors refer to various aspects of the interaction between nurses and other health care providers that the nurses perceived to influence patient safety	Collaboration in multiprofessional teams (B + F) Communication with colleagues (B + F)
Task and technology factors	Task and technology factors concern workplace technologies and processes involved in storing and sharing of data, information and knowledge that the nurses perceived to influence patient safety	Collecting, storing and sharing patient safety-related data and information (B + F) Medical records (B + F) Incident reporting (B + F) Computerized technology (B + F) Written protocols (F)
Work environment factors	Work environment factors relate to workplace conditions that the nurses perceived to influence patient safety	Structures and forums for learning from errors (B + F) Work schedule (B) Staffing levels and competence mix (B + F) Physical environment (B)
Organizational and management factors	Organizational and management factors concern conditions of the health care organization (beyond the specific workplace in which the nurses work) that the nurses perceived to influence patient safety	Leadership (B + F) Financial resources (B)
Institutional context factors	Institutional context factors refer to conditions of the outer context of the health care organization that the nurses perceived to influence patient safety	Use of knowledge from external sources (B + F) Communication with people external to the workplace (B) Societal interest in patient safety (F)

➔ **Example of findings in quantitative research:**

Table 3

The correlation between dimensions of EBP perceived by nurses

dimensions	Practice		attitude		knowledge	
	coefficient	p	coefficient	p	coefficient	p
practice	1		0.222	0.004	0.734	<0.001
attitude			1		0.443	<0.001
knowledge					1	

p<0.01

➔ **PURPOSES OF QUALITATIVE RESEARCH :**

(These verbs are usually used in qualitative research)

1) **Describe**
2) **Understand**
3) **Explain**
4) **Identify**
5) **Develop**
6) **Generate**

➔ **QUALITATIVE DATA COLLECTION METHODS**

- **Observations,** in which the researcher takes field notes on the activities and behaviour of the individuals at the research site. In these field notes, the researcher records in an unstructured or semi-structured way, activities at the research site.
- **Interviews**, the research conducts face to face interviews with participants, interviews participants by telephone or engages in focus group interviews with six to eight interviewees in each group. These interviews involve generally open ended questions that are few in number and intended to elicit views and opinions from participants.
- **Document review/analysis,** the researcher may collect documents, these may be public documents (newspapers, reports**)**

➔ **QUALITATIVE DATA ANALYSIS:**

- Thematic analysis.

Thematic Analysis

- Peyrovi, H., Nikbakht Nasrabadi, A., & Valiee, S. (2016). Exploration of the barriers of reporting nursing errors in intensive care units: A qualitative study. *Journal of the Intensive Care Society*, *17*(3), 215-221.

Results

In total, 16 registered nurses, 8 female and 8 male, were recruited to the study. Three participants held a master's degree, while 13 participants held a bachelor's degree in nursing. The participants' mean age was 32 years. The minimum and maximum general work experiences were 2 and 23 years, respectively, with a mean of 9.56 years. The participants in this research had between 1 and 12 years of working experience with a mean of 6.98 years at ICUs.

The qualitative analysis led to the emergence of four themes about the barriers to report nursing errors by nurses: (a) saving professional reputation and preventing stigma; (b) fear of consequences – punishment, legal problems and organisational misconduct; (c) feelings of insecurity – pointing a finger at nurses and lack of managerial support and (d) not investigating the root cause of error (Table 1).

Saving one's reputation

One of the important barriers to effective error reporting among critical care nurses was saving their reputation among their colleagues, physicians, managers, patients and families. The goal of saving the reputation was based on individual and professional aspects. On a personal level, nurses did not want to be stigmatised by others and they did not want to tarnish their professional reputation in the organisation.

Table 1. Summary of categories and subcategories.

Category	Subcategories
Saving one's reputation	Stigma Professional reputation
Fear of consequences	Punishment Legal problems Organisational misconduct
Feelings of insecurity	Pointing a finger at nurses Lack of managerial support
Not investigating the root cause of error	Lack of attention to the cause of the error Failure to follow the origin of error

Stigma. Stigma was mostly due to others' reactions. Participants were thinking that in providing an error report, the managers would attribute other problems of the patient to them.

In this regard, one of the participants stated that '*If you report an error and then something happens to the patient, there will be discussion for days that such a nurse makes mistakes. Then, if anything goes right, only the wrong things are thought about by others?*' (Participant 1). Another participant also alluded to the issue: '*...Projection means you see staff around yourself or doctors that relate everything to that error you made...*' (Participant 14). Another participant alluded to stigma by saying that '*...for example, I administer captopril rather than nitrocontin and I*

- It is not sharply divided from other activities such as collecting data.

➔ **Qualitative research process:**

- ✓ **Select topic and problem- problem identification.**
- ✓ **Justify significance of study**
- ✓ **Design study**
- ✓ **Identify and gain access to subjects**
- ✓ **Select study subjects and data (purposive sampling)**
- ✓ **Analyse data**
- ✓ **Interpret results/conclusion**

➔ **Qualitative research design:**

- Qualitative research design is **emergent**.
- The initial plan for research cannot be tightly prescribed, and that all phases of the process may change or shift after the researchers enter the field and begin to collect data.

- **Quantitative Versus Qualitative (study design) :**

	Quantitative	Qualitative
Flexibility in study design	Study design is stable from beginning to end	Some aspects of the study are flexible (for example, the addition, exclusion, or wording of particular interview questions)
	Participant responses do not influence or determine how and which questions researchers ask next	Participant responses affect how and which questions researchers ask next
	Study design is subject to statistical assumptions and conditions	Study design is iterative, that is, data collection and research questions are adjusted according to what is learned

➔ QUALITATIVE SAMPLING:

- Selection of a sample is a key element of a study design.
- Usually non-probability (purposive) sampling.
- Purposive sampling facilitates the selection of participants whose qualities or experiences are required for the study.

➔ RIGOUR OF QUALITATIVE RESEARCH

- **Rigour** refers to the quality of the research.
- Strategies that help in achieving rigour in qualitative research:
  1) Clear descriptions of the sample necessary for the study to be meaningful.
  2) An indication of how and why the sample was chosen.
  3) Engagement with others, such as multiple researchers, in order to code or discuss data widely.
  4) The use of quotations in the representation of data findings.
  5) Triangulation (examining the phenomenon from different angles; measures, methods, researchers).

➔ TRUSTWORTHINESS OF QUALITATIVE RESEARCH:

- Trustworthiness refers to the assessment of the quality and worth of the complete study.
- Help to determine how study findings reflect the aims of the study, according to the data provided by respondents.

➔ FEASIBILTY:

- The feasibility of research projects must be considered early on in the design phase of a study, in order to determine whether the research is likely to be successfully completed.
- Researchers need to consider staffing requirements for data collection, and analysis, as well as budget constraints, and required time frames.

- For example, asking a group of participants to complete a one hundred-page questionnaire survey or attend a two-day focus group meeting is unlikely to be considered feasible by most people.
- The scope of the project must also be feasible, with refinement of research questions to a focused topic.

➔ **LIMITATIONS OF QUALITATIVE RESEARCH:**

The main limitation of qualitative research is that their findings cannot be extended to wider populations with the same degree of certainty that quantitative analyses can (limited generalisability).

Lecture (15) : / last lecture

- **Demography**

➔ **Definition :**

- **Demography (population studies):**
  is the study of human populations: their size, composition, and distribution as well as the causes and consequences of changes in these characteristics.
- Demography is the scientific study of population.
- Demographers **seek to know** the levels and trends in population size and its components. They search for explanations of demographic change and their implications for societies.
- They use censuses تعداد, birth and death records, surveys, visa records, even motor vehicle and school registrations. They shape these data into manageable forms such as simple counts, rates, or ratios.
- Most of the principal measures used in demography (counts, rates, ratios, and proportions) will be defined in these lectures, together with recent examples of their use

■ Notes :

- Everyone of us is a member of a population.
- Population factors have an impact on many facets of life—from where we live to the prices we pay for goods and services.
- The need for health care preoccupies the political leaders of the industrialized countries whose populations are "aging,"
- while the need for classrooms, employment opportunities, and housing preoccupies the leaders of countries that are still growing rapidly.

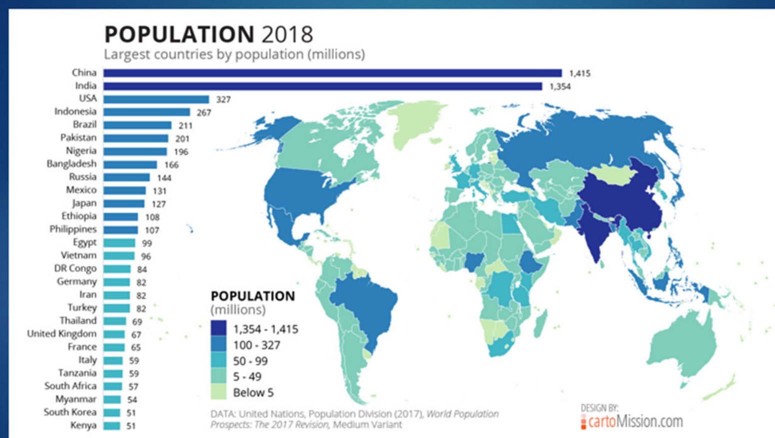
➔ **The Tools of Demography:**

1) **COUNT**: The absolute number of a population or any demographic event occurring in a specified area in a specified time period. (For example, 2,027,000 live births occurred in Egypt in 2010.).
2) **RATE**: The frequency of demographic events in a population during a specified time period (usually a year) divided by the population "at risk" of the event occurring during that time period. Rates tell how common it is for a given event to occur. (For example, in 2008 in Zambia the death rate was 16 per 1,000 population.) Most rates are expressed per 1,000 population.

- Crude rates are rates computed for an entire population and
- Specific rates are computed for a subgroup, usually the population more nearly approximating the population "at risk" of the event (age-specific, sex-specific, race-specific, occupation-specific)

3) **RATIO**: The relation of one population subgroup to or to another subgroup; that is, one subgroup divided by another. (For example, the sex ratio in France in 2010 was 94 males per 100 females.)

4) **PROPORTION**: The relation of a population subgroup to the entire population; that is, a population subgroup divided by the entire population. (For example, the proportion of Vietnam's population in 2008 classified as urban was 29 percent.)



➔ **Demography: Population Dynamics**

- Three major **factors determine the dynamics of a population**:
  1) Births (fertility)
  2) Deaths (mortality)
  3) Migration
- If some groups within a population **grow** or **decline** faster than others, the composition of the whole is altered.
- These three factors determine the most basic characteristics of a population, as well as its demographic future.

■ **Fecundity**

➔ **Definition :**

The physiological ability of women to reproduce.

- Some are infecund due to disease or genetic dysfunction.
- Mothers could be infecund when they **breastfeed**.
- For individuals, **fecundity ranges between 0-30 children**.

■ **Fertility**

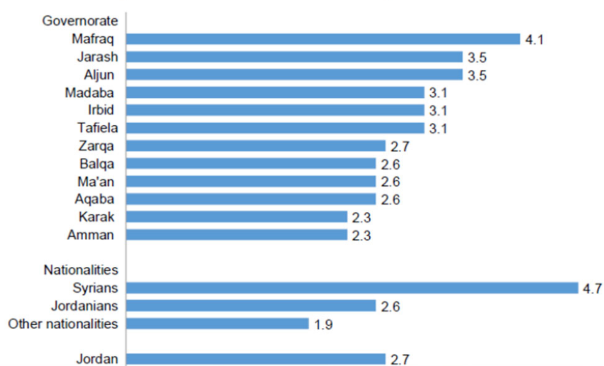
➔ **Definition :**

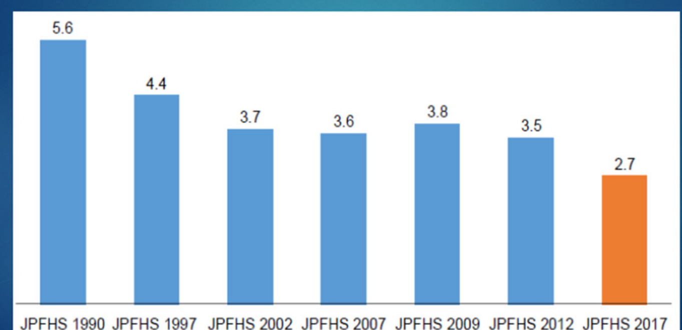
is the number of live births women have**.**

➔ **Total Fertility Rate (TFR):**

is the average number of children that would be born to a woman by the time she ends childbearing.

- The TFR is one of the most useful indicators of fertility because it gives the best picture of how many children women are currently having.
- The average for the world it is 2.42 (2016)
- In Jordan total fertility rate is 2.7 (JPHS, 2017/18).





➔ **Factors Affecting fertility:**

What are the factors that may influence fertility?

- Cultural, social, economic, and health factors interfere with the process of human reproduction
- These factors operate in different societies in different ways. The relative importance of these factors varies by society. **These factors are**:

1) General factors **(distant factors)**
   - ✓ Cultural values e.g. (Does the society value large or small families?)
   - ✓ Social roles: (Is the wife primarily a child bearer or a child rearer ?)
   - ✓ Economic (Do parents rely on children to look after them in old age?)
   - ✓ Health (what is the prevalence of gonorrehea in a population), that will impair fecundity.

2) Specific factors (proximate determinants of fertility)

- Fertility is affected by cultural, social, economic, and health factors. <u>Most of these factors operate **(indirectly)** through **4** other factors which explain nearly all variation in fertility levels among populations and have a **direct** biological effect on fertility:</u>

1. The proportion of women in sexual union.
2. The percentage of women using contraception
3. The proportion of women who are not currently fecund (primarily because of breastfeeding).
4. The level of induced abortion**.**

- In US. and most developed countries ***contraceptive use and abortion*** are the most important proximate determinants. The US, Brazil, Australia, and few East and South East Asia countries have contraceptive use rates of >= 75%.
- The latest figure in Jordan is 52% for modern methods use(PFHS, 2017/18).
- **Spain** recorded **the lowest fertility rate** in a nation 1.15 births per woman of reproductive age. Basically due to 72% using contraceptives.
- **Russia** achieved low fertility rates due to having easier access to **abortion.**
- When contraceptive and abortion prevalence rates are low, the postpartum infecundity and marriage determinants are more important.
- **African countries**:
  <u>women marry early and bring more children,</u> but they breast feed for 2-3 years, thus prolonging the period of infecundity following childbirth.

➔ **Fertility Measurement**

a) Birth Rate (Crude Birth Rate):

- Definition : The birth rate (also called the crude birth rate) indicates the number of live births per 1,000 population in a given year
- It is **the most easily obtained** and **most common reported fertility measure**

Fertility Measurement

Crude Birth Rate (CBR)

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November 2022

$$CBR = \frac{\text{Total number of births}}{\text{Total population}} \times 1000$$

Examples:

- There were 24 births per 1,000 population in Kuwait in 1994 :

Number of births (38,868) divided by the total population (1,620,086) x K (1,000)= 24.0

- In 2005, there were 13.98 births per 1,000 population in the USA:

Number of births (4,138,349) divided by the total population (295,895,897) x K (1,000)= 13.98

- **In Jordan, Crude Birth Rate= 21.6 (PFHS 2017/18).**

-

b) General Fertility Rate

- Definition : The general fertility rate GFR, (also called the fertility rate) ,is the number of live births per 1,000 women ages 15-49 in a given year.
- The GFR is a somewhat more refined measure than the birth rate because it relates births to the age-sex group at risk of giving birth (usually defined as women ages 15-49

General Fertility Rate

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November 2022

$$\frac{\text{Number of births}}{\text{Number of women ages 15-49}} \times K = \frac{2{,}027{,}000}{22{,}285{,}000} \times 1{,}000 = 91.0$$

There were 91 births per 1,000 women ages 15 to 49 in Egypt in 2010.

Zambia's general fertility rate from 2004 to 2007 was 214 live births per 1,000 women ages 15 to 49—one of the highest in the world. Taiwan's rate of 36 per 1,000 women in 2009 was one of the lowest in the world.

GFR in Jordan = 90 for ages 15-49 (PFHS 2017/18)

$$\frac{\text{Number of births}}{\text{Number of women ages 15-49}} \times K = \frac{181{,}268}{2{,}923{,}344} \times 1{,}000 = 62.0$$

There were 62 births per 1,000 women ages 15-49 in Ecuador in 1995.

▪ ▪ ▪

Yemen's general fertility rate in the early 1990s was 238 live births per 1,000 women ages 15-49—one of the highest in the world. The Czech Republic's rate of 34 per 1,000 women ages 15-49 in 1996 was very low.

- Yemen's general fertility rate in the early 1990s was 238 live births per 1,000 women ages 15-49—one of the highest in the world.
- The Czech Republic's, it was very low at a rate of 34 per 1,000 women aged 15-49 in 1996.
-

- **Replacement level fertility:**
- **Definition :**
  The level of fertility at which a couple has only enough children to replace themselves, or about two children per couple.
- This population will eventually stop growing.
- It needs a TFR slightly higher than 2
- In US it is 2.1 because death rate is not too high
- In Sierra Leone , Repl. Level Fert. would be greater than 3 because death rate is too high.

- **Mortality:**
- Death Rate
- Definition :
  The death rate (also called the crude death rate) is the number of deaths per 1,000 population in a given year.
  - In the early 1990s, the death rate in Turkey was 6.6 per 1,000 population.
  - Number of deaths (405,000)/ Total population (61,644,000) x K (1,000) = 6.6
  - In the early 1990s, Guinea's death rate was 20 per 1,000 population, while Singapore's was 5 per 1,000.
  - Crude death rate in Jordan in 2017 was 3.4/1000 population

The death rate (also called the crude death rate) is the number of deaths per 1,000 population in that population in a given year.

$$\frac{\text{Number of deaths}}{\text{Total population}} \times K = \frac{8,504,709}{1,149,285,000} \times 1,000 = 7.4$$

In the 2008, the death rate in India was 7 per 1,000.

In 2009, Zambia's death rate was estimated at 16 per 1,000, while Singapore's was 4.

- **Death rates:**
- **Age-Specific death rate**
- **Cause-specific death rate**
- **Sex-specific death rate**

$$\frac{\text{Deaths from heart disease}}{\text{Total population}} \times K = \frac{617,527}{304,050,700} \times 100,000 = 203.1$$

$$\frac{\text{Deaths of population ages 15-24}}{\text{Population ages 15-24}} \times K = \frac{32,208}{42,546,900} \times 1,000 = 0.8$$

In the United States in 2008, the age-specific death rate for ages 15 to 24 was 0.8 per 1,000.

By comparison, Puerto Rico's 2008 age-specific death rate for ages 75 to 84 was 50.2 per 1,000.

➔ **Infant Mortality Rate (IMR):**

- **Definition:**
- The infant mortality rate is the number of deaths of infants under age 1 per 1,000 live births in a given year.
- **The infant mortality rate is considered a good indicator of the health status of a population.**
- **L**atest figure about IMR in Jordan is 17/1000 live births *(PFHS /2017)*

$$\frac{\text{Number of deaths of infants under age 1 in a given year}}{\text{Total live births in that year}} \times K = \frac{78{,}400}{3{,}227{,}000} \times 1{,}000 = 24.3$$

There were 24 deaths of infants under age 1 per 1,000 live births in Brazil in 2007.

In 2009, Sweden reported the world's lowest infant mortality rate, 2.2 per 1,000. An example of a high national rate would be Chad's, which was estimated at 130 between 2005 to 2010.

➔ **Life Expectancy**

- **Definition :**

  Life expectancy is an estimate of the *average* number of additional years a person could expect to live **if the age-specific death rate**s for a given year prevailed for the rest of his or her life.
- Life expectancy is a **hypothetical measure** because it is based on current death rates and actual death rates change over the course of a person's lifetime.
- Each person's life expectancy changes as he or she grows older and as mortality trends change.
- If the age-specific death rates for 1996 remain unchanged, males in Brazil born in

If the age-specific death rates between 2005 to 2010 remain unchanged, males born in Argentina during that period can expect to live 72 years at the time they are born. Females can expect to live 79 years.

- Life expectancy for Jordanians 72.8 for males, and 74.3 years for females (PFHS, 2017/18).