

# Advanced Practice in Oncology Nursing



# HELLO!

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**I am here because I love being here.**

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# Road map



# Introduction

cancer has been a significant cause of mortality and morbidity both in developing and developed nations worldwide. Early identification of cancer with reliable diagnostic accuracy has still been one of the mainstay challenges of an oncologist clinic.



According to the World Health Organization (WHO), cancer is the second leading cause of death in the Middle East, after cardiovascular disease. The incidence of cancer is rising in the Middle East due to a number of factors like changes in diet, smoking, decreased physical activity, air pollution, water pollution, and exposure to chemicals.



## Key trends

Egypt has a higher incidence of liver, Breast and Bladder cancer than global averages, which is attributed to a higher prevalence of HCV, a critical risk factor for liver cancer and a higher but decreasing prevalence of schistosomiasis and a growing prevalence of smoking, key risk factors for bladder cancer



Population over 65 years <sup>1</sup>	5.3m (2022)	10.7m (2040)	↑ 100%
Total cancer incidence <sup>3</sup>	135k (2020)	235k (2040)	↑ 75%
Total cancer mortality <sup>3</sup>	89k (2020)	162k (2040)	↑ 82%
Probability of premature death from cancer per year in 2030 <sup>4</sup>	8% (2020)	5% (SDG target)	Projected to miss SDG target by 59%

**ECONOMIST IMPACT**

The future of cancer care: health system sustainability in The Middle East and North Africa (MENA)



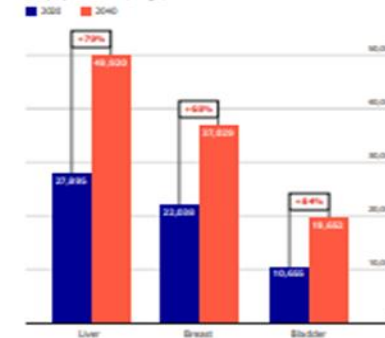
**Egypt**

**Key trends**

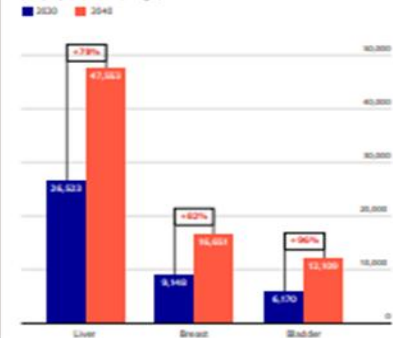
With over 109 m people, the Egyptian population is one of the largest in the MENA region. The over-65 population, which makes up just over 5% of the total population today, is expected to double by 2040.<sup>1</sup> Egypt has a higher incidence of liver and bladder cancer than global averages, which is attributed to a higher prevalence of HCV, a critical risk factor for liver cancer and a higher but decreasing prevalence of schistosomiasis and a growing prevalence of smoking, key risk factors for bladder cancer.<sup>2</sup>

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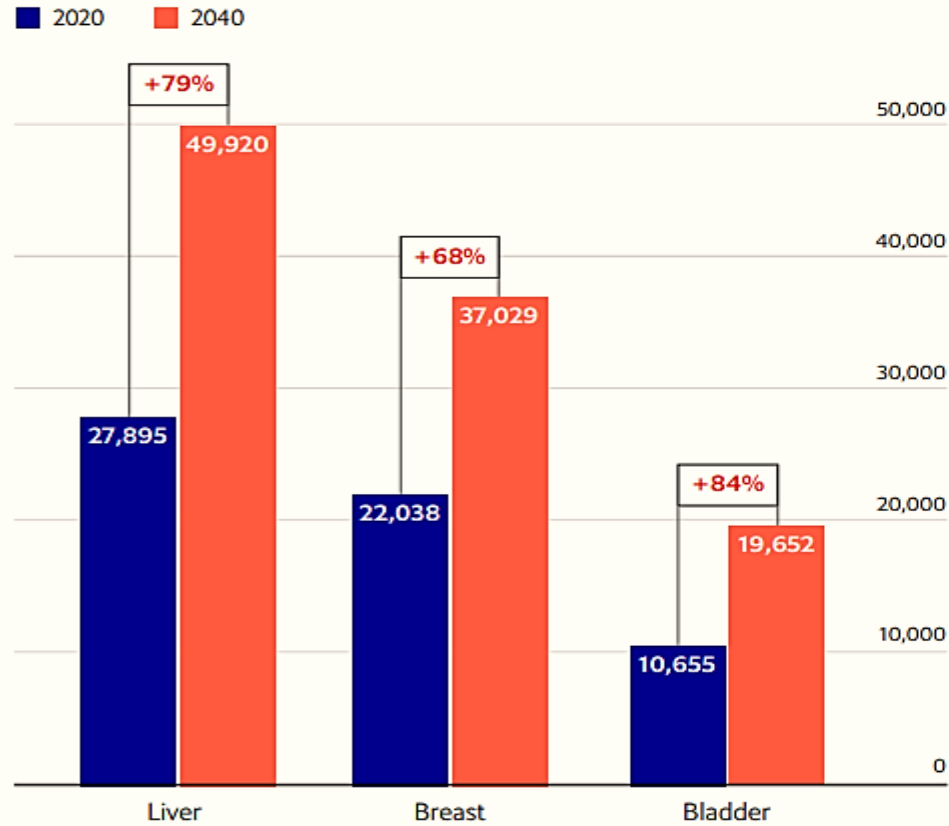
Top 2 Cancers: Incidence Projections estimates 2020 and 2040<sup>3</sup>  
(# of people, both sexes, all ages)



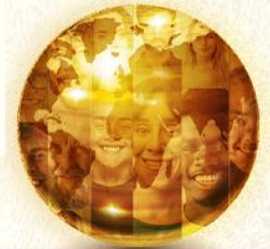
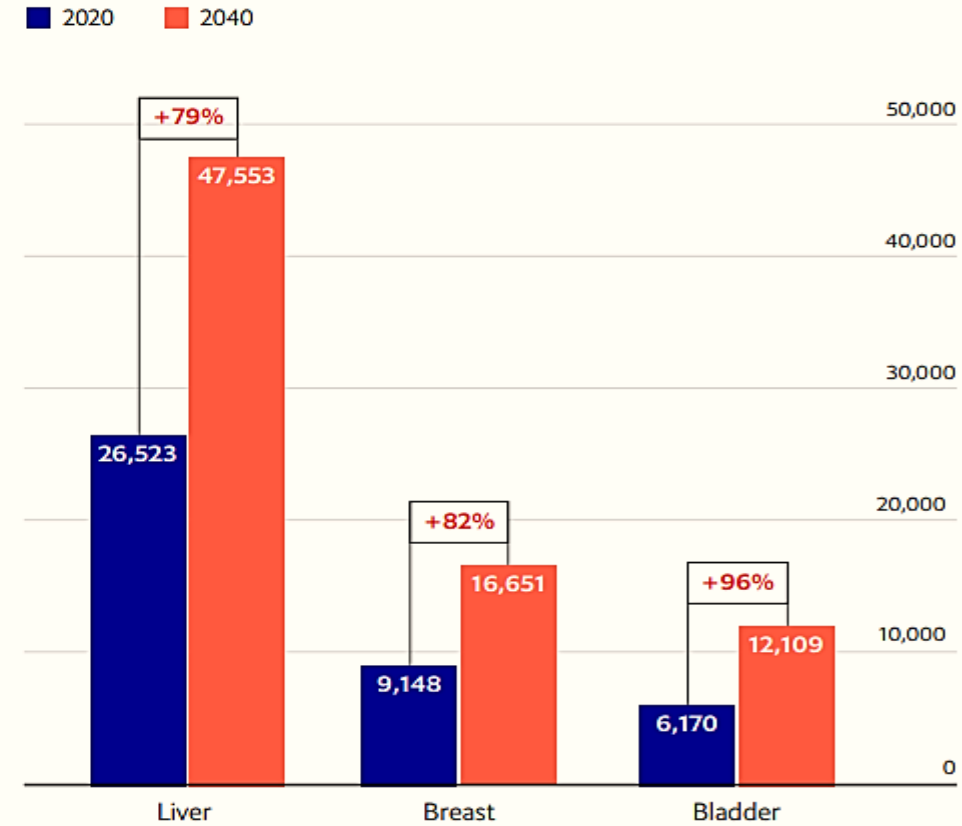
Top 3 Cancers: Mortality Projections estimates 2020 and 2040<sup>3</sup>  
(# of people, both sexes, all ages)



**Top 3 Cancers: Incidence Projections estimates 2020 and 2040\***  
 (# of people, both sexes, all ages)



**Top 3 Cancers: Mortality Projections estimates 2020 and 2040\***  
 (# of people, both sexes, all ages)





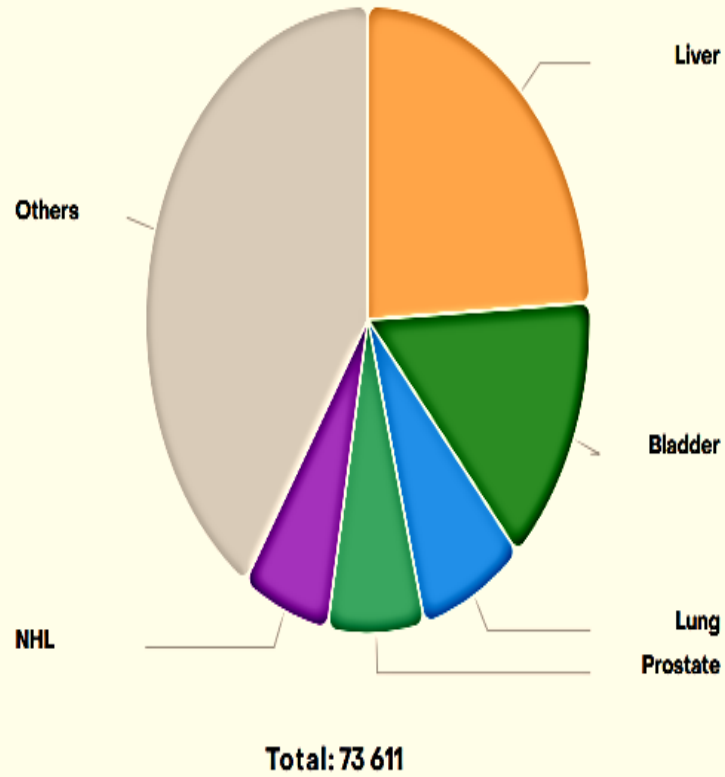
# Facts

Cancer mortality and incidence are rising world wide. By 2030, it is estimated that over 30 million people will die from cancer each year. Cancer is defined by cellular transformation that spreads from a primary focal point to various parts of the body, eventually killing the patient.

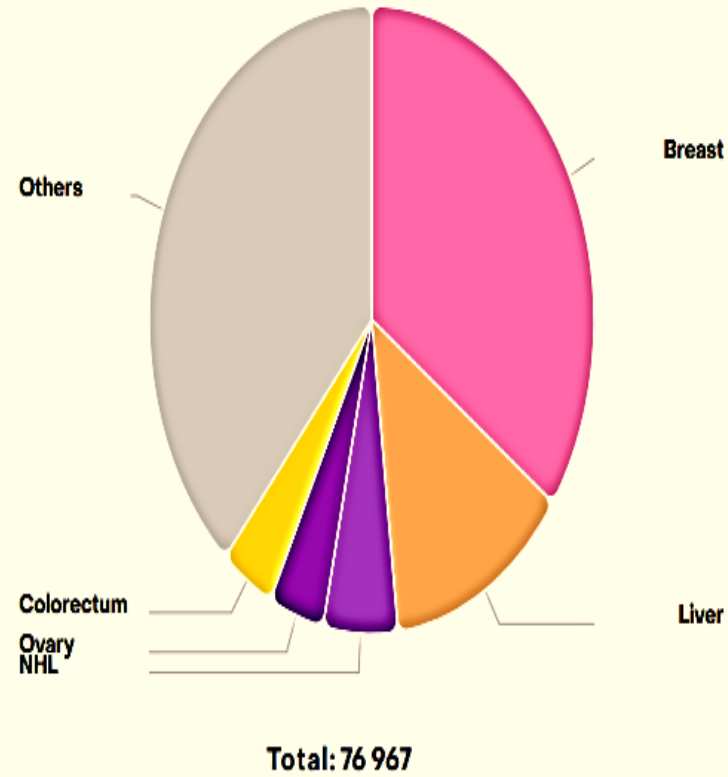


# Top 5 most frequent cancers\*\*

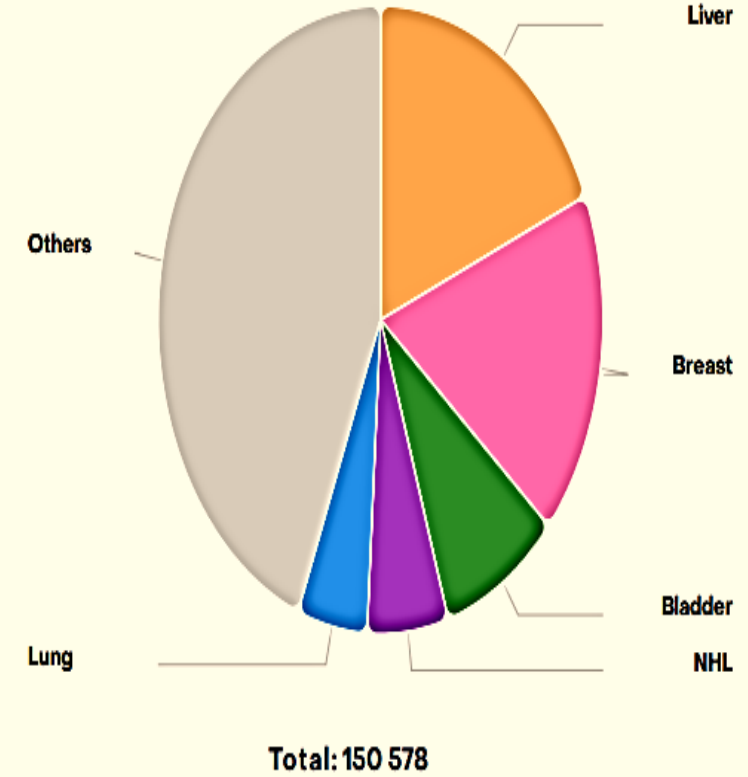
## | Males



## | Females



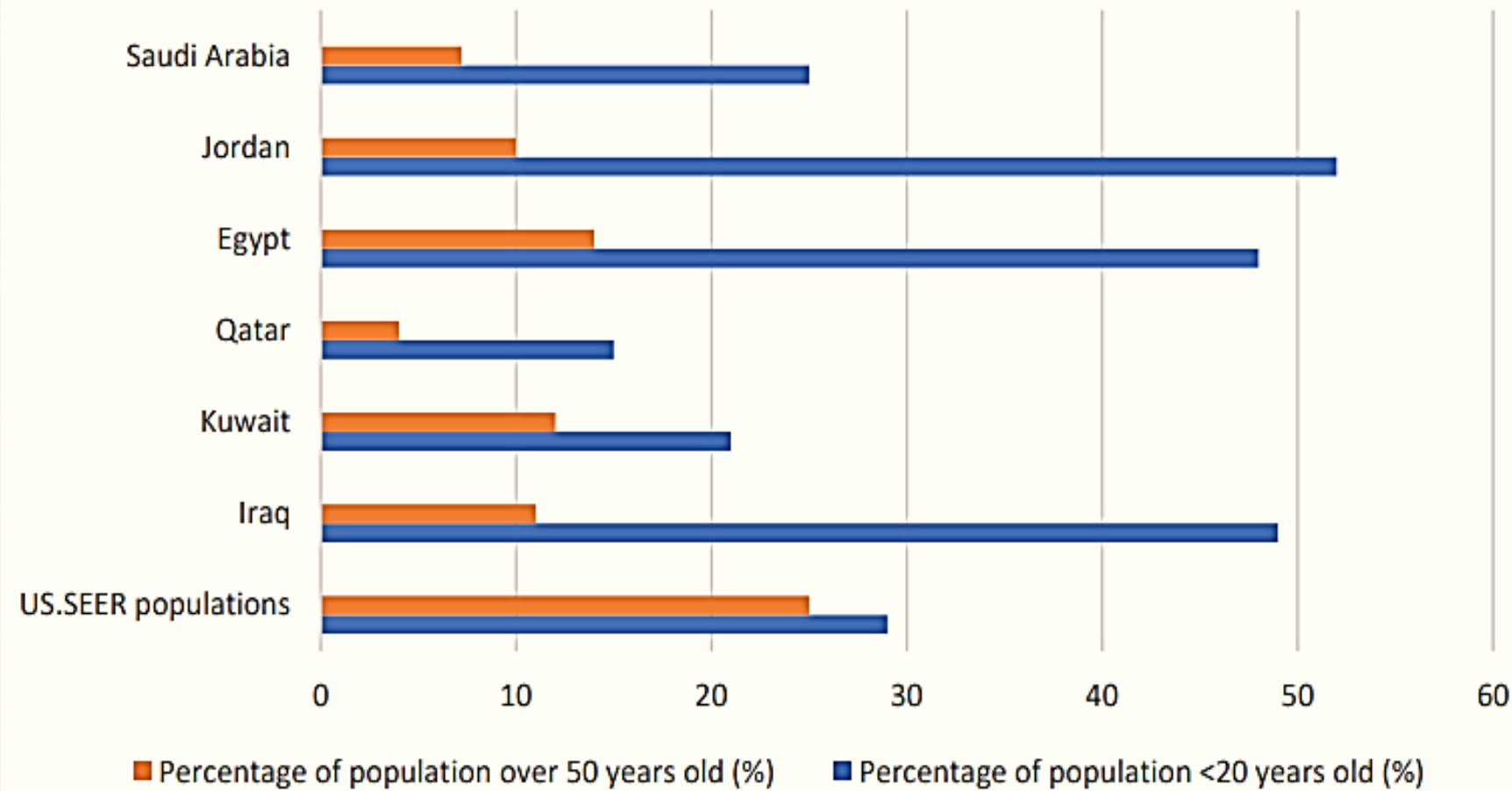
## | Both sexes



# The Challenges in treating patients with cancer in ME



# Age distribution



## Age distribution

There are significant disparities in the percentages of young and old in these groups with widely varying age distributions.



As a result, any recommendations for cancer treatment are, to the greatest extent practicable, adjusted to account for resource differences across nations as well as between various regions or people within a single nation.

# Inadequate primary Healthcare Systems

One of the primary issues in cancer care is the scarcity of well-trained health care workers.



The 100 Million Healthy Lives initiative, have helped improve screening and early detection services for HCV, breast, lung and prostate cancer.

The Egyptian Women's Health Initiative was launched in 2019 with the aim of screening at least 28m women for breast cancer. As of March 2023, over 34m women have been screened

## Cultural norms that prevent the care of cancer patients

Cultural, religious, and family ideas and attitudes are also factors that hinder the early detection and treatment of cancer patients. There is a dearth of understanding of the early symptoms of the disease, prevention, and the advantages of an early diagnosis.



**Hope intervention**

**Greatest level of  
satisfaction**





# Personalized Cancer Care

 (866) 574-1149

City of Hope®, one of the largest and most advanced cancer research and treatment organizations in the United States, has been recognized as having one of the nation's Top 5 hospitals for cancer care, according to U.S. News & World Report's 2024-25 rankings.

The recognition marks the latest milestone for City of Hope as it enhances its ability to make a meaningful impact in the lives of patients, families and communities nationwide.

We are bringing breakthroughs from the laboratory to our patients, with lifesaving speed – treating cancer with leading-edge technologies, innovative treatments and supportive care tailored to each patient's needs.

And we're treating patients across the United States through our national footprint of cancer centers.

Learn about our cancer centers by exploring the links below.





Cancer Hope Network provides free one-on-one peer support for adult cancer patients and their loved ones.

Request a match

Become a volunteer mentor



## I'm looking for support.

Get matched with a survivor or caregiver who understands.



## I want to give back.

Tell me more about ways to volunteer and make an impact.



## I want to be inspired.

Read stories of hope and survival by those affected by cancer.

## Our Impact

Cancer Hope Network began over 40 years ago to combat the fear and isolation faced by cancer patients. Through the decades, our commitment to supporting clients and volunteers has remained at the core of who we are.

80+

Cancer Types

400+

Support Volunteers

50,000+

Survivors & Loved Ones Served



<b>Empty Cell</b>	<b>US</b>	<b>Middle East (ME)</b>
Disclosure of information to patient	Almost universal in the past 10 years	Usually not
Who decides on treatment?	Patient	Family
Role of doctor in guiding decisions	Facilitator	Family knows best
Patient expectations/demands	Wants to be in control/demands all possible treatments	Expects family to be in control/less demanding, may be fatalistic/'God's will'



## Establishing (therapeutic alliance)

may be feeling  
Patients scared,  
anxious, or confused.  
It is



Communicate effectively  
**Hope intervention**



# Workforce

When the number of physicians and paramedical staff is insufficient, one strategy to improve the care of cancer patients is to allow non-physicians, such as advanced practice nurses, to offer care.

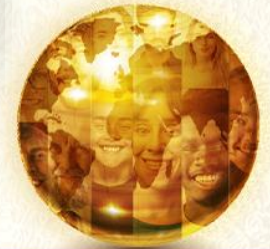
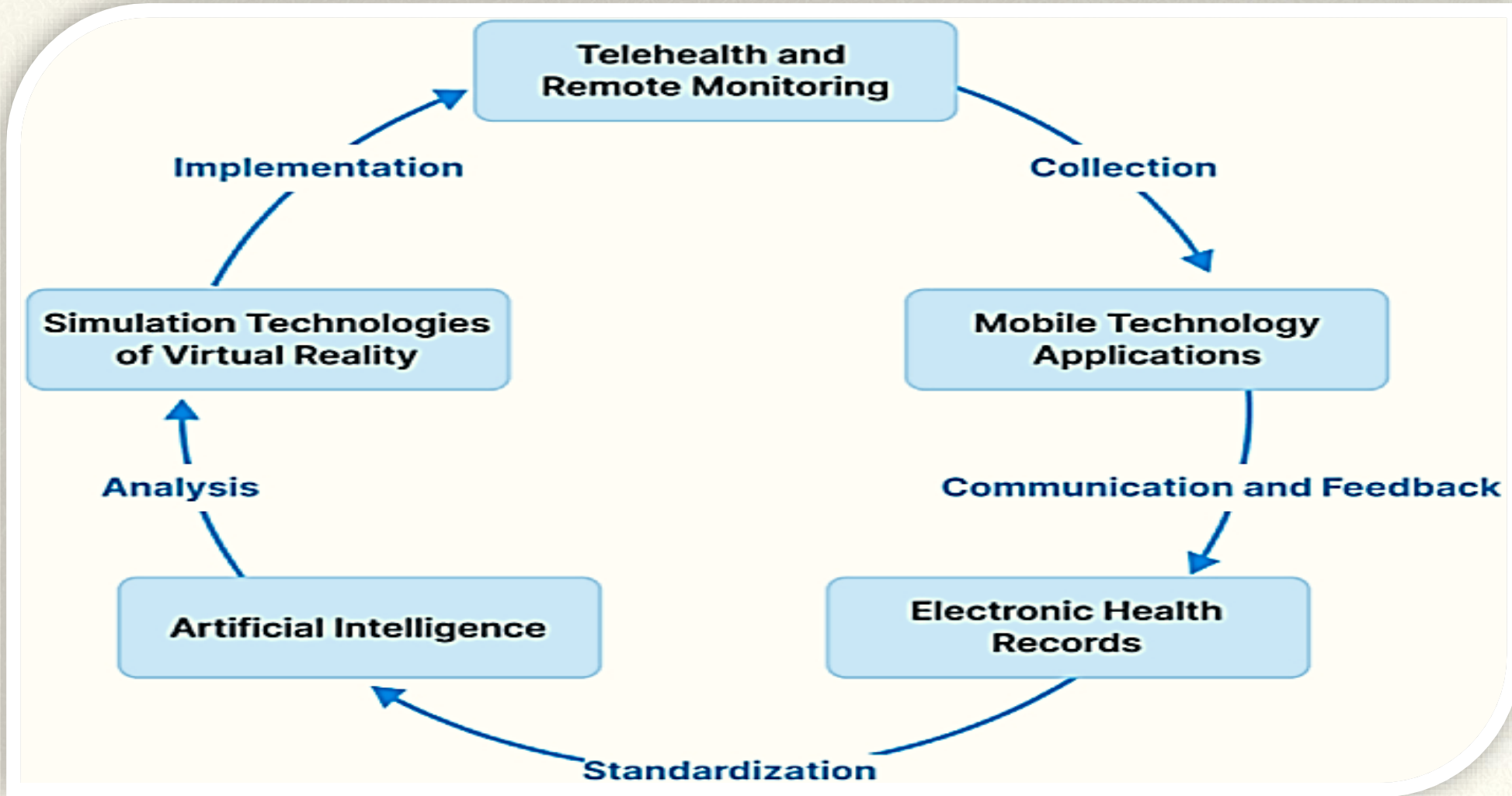


Nurses being trained to execute duties that do not require a physician's training would allow physicians to devote more time to providing better care.



Innovations and advancements in medical technology have introduced novel approaches to prolong the survival of patients with cancer.





# Use of nanotechnology

- Nanoparticles are tiny particles that can be used to deliver drugs, heat, or radiation directly to cancer cells. This can make cancer treatment more precise and less toxic, and it can also help reduce the side effects of treatment.





In 2018, researchers at the University of Jordan developed a new type of nanoparticle that can be used to deliver chemotherapy drugs directly to cancer cells. This nanoparticle is made of a biodegradable material that is coated with a molecule that binds to cancer cells 16. When the nanoparticle enters the cancer cell, it releases the chemotherapy drug, which kills the cell. This new nanoparticle has the potential to make cancer treatment more effective and less toxic.

In 2020, researchers at the American University of Beirut developed a new type of nanosensor that can be used to image cancer cells in real time. This nanosensor is made of a molecule that emits light when it comes into contact with cancer cells. This light can be detected by a camera, which allows doctors to see cancer cells in real time. This new nanosensor has the potential to help doctors to make more informed decisions about cancer treatment.

In 2021, researchers at the King Abdulaziz University, Saudi Arabia developed a new type of nanocarrier that can be used to deliver nutrients and oxygen to cancer cells. This nanocarrier is made of a biodegradable material that is coated with a molecule that binds to cancer cells. When the nanocarrier enters the cancer cell, it releases nutrients and oxygen, which helps to improve the quality of life for cancer patients. This new nanocarrier has the potential to make cancer treatment more tolerable for patients.

# Artificial intelligence for cancer therapy

AI can be used to identify cancer earlier by analyzing medical images and data to identify cancer earlier, when it is more treatable. AI can be used to analyze a patient's individual tumor genetics to personalize cancer treatment. This can make cancer treatment more effective and less toxic.



In 2019, researchers at the King Saud University developed an AI-powered system that can identify cancer cells in medical images with 90% accuracy. This system has the potential to help doctors to identify cancer earlier, when it is more treatable.

In 2020, researchers at the American University of Beirut developed an AI-powered system that can personalize cancer treatment for individual patients. This system has the potential to make cancer treatment more effective and less toxic.

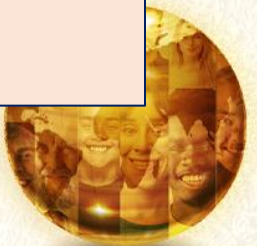
In 2021, researchers at the University of Jordan developed an AI-powered chatbot that can provide support to cancer patients. This chatbot can answer questions, provide resources, and offer emotional support. This chatbot has the potential to help cancer patients to cope with the emotional and physical challenges of cancer. As research continues, it is likely that AI will be used to develop even more innovative and effective cancer treatments.

# Summary

- Effective cancer care requires a multidisciplinary approach, and nursing professionals in the Middle East have embraced this concept. Collaborating with oncologists, surgeons, psychologists, and other healthcare professionals.



- Cancer research is needed in the Arab world to provide evidence to healthcare workers and health policy makers. By collecting and analyzing data, nurses contribute to the development of evidence-based approaches and identify areas for improvement. These efforts lead to better patient outcomes and the continuous advancement of cancer care in the region.



# Thank you!

