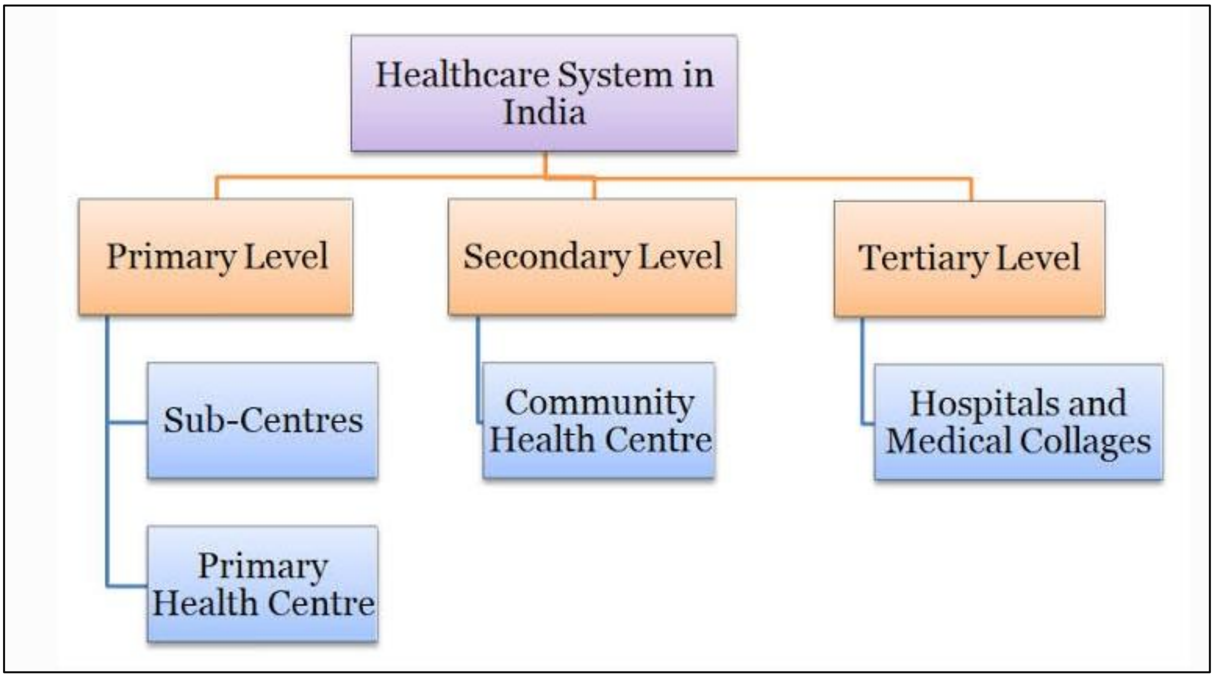

Figure: Healthcare System in India

The healthcare industry is a complex system of inter-connected entities. Each of these entities has disjoint information systems to manage patient data and records. The current IT solutions in healthcare systems have several challenges such as sharing and accessing medical records across several stakeholders while still maintaining security and privacy of these records. Thisglobal problem on how to create, maintain, and share sensitive medical records and clinical data among various stakeholders without sacrificing data privacy and integrity is still unresolved. In fact, existing healthcare records are decentralized, disjointed, non-uniform, and fragmented in nature. Here, you can see the presentation a Blockchain-based framework, called DASS-CARE, that supports decentralized, accessible, scalable, and secure access to healthcare services including medical records. Such framework will greatly facilitate the process of real time access and updates without compromising security, integrity and confidentiality of patient data. Our objective is multifold. First, improve the quality of healthcare and lower the cost of delivery. Second, enhance medical records management including electronic health records unification. Finally, provide users with the ability to view their medical records regardless of their history, a task that is difficult to accomplish under the current fragmented systems.

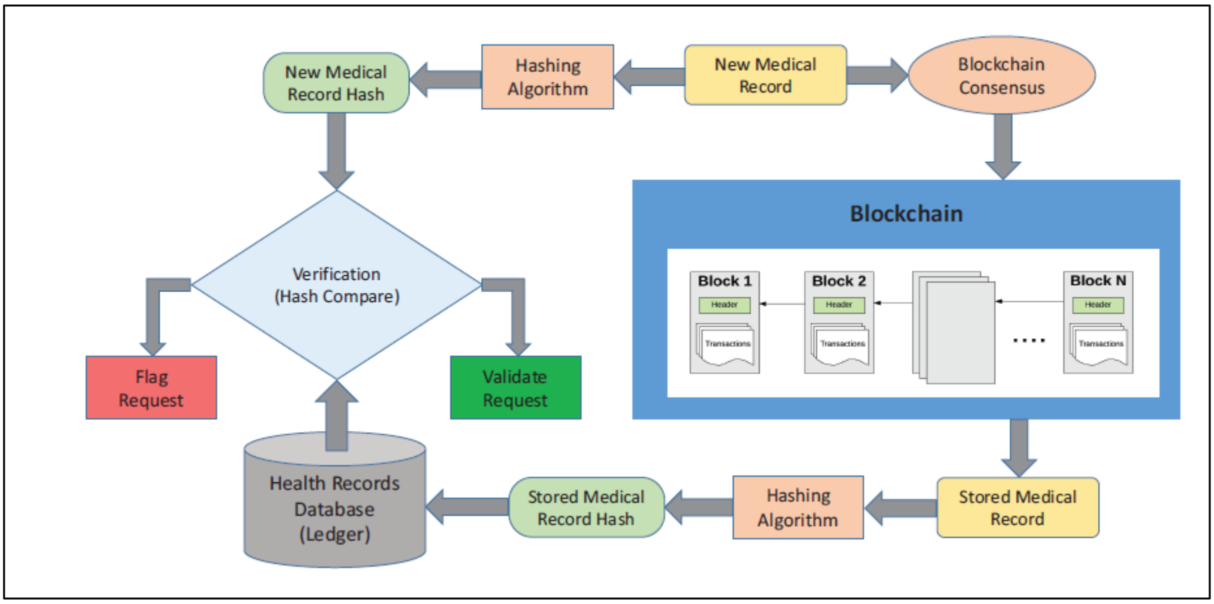

Figure: Proposed DASS-CARE framework: Health records validation process using Blockchain

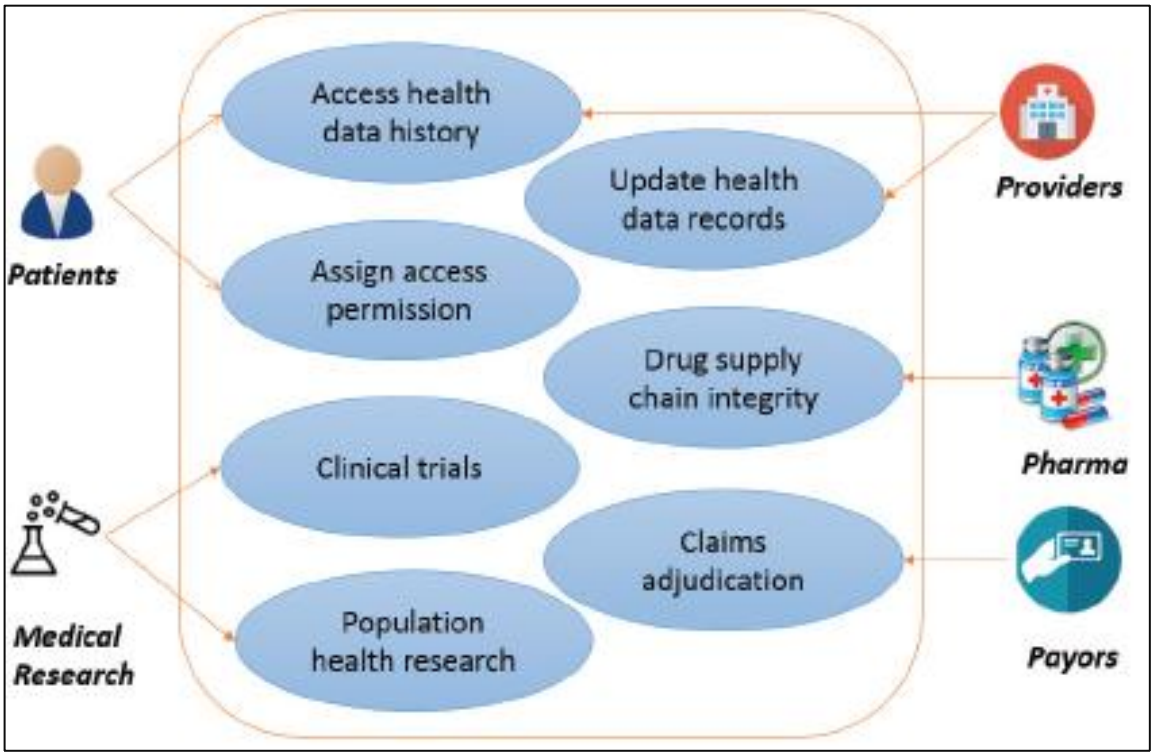

Figure: Roles in Blockchain-based model: Use case Diagram

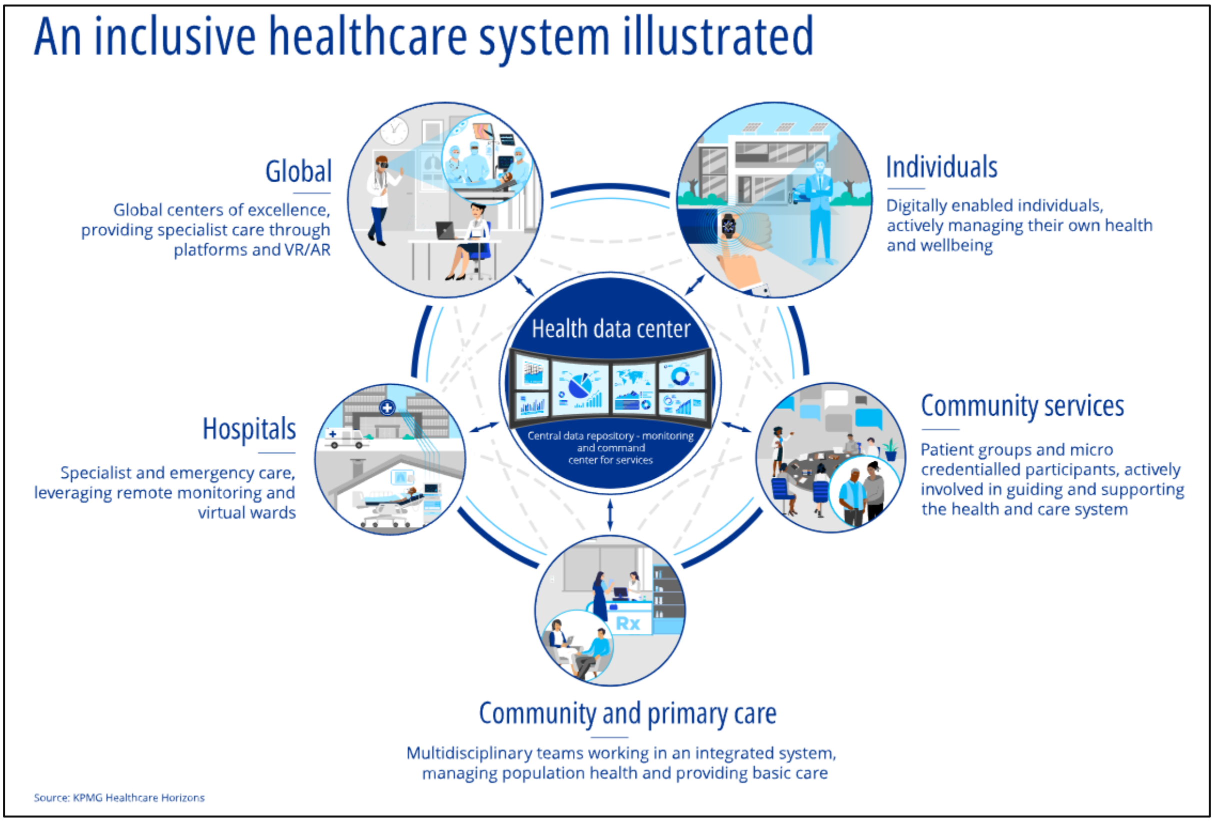

Figure: Inclusive Healthcare system

As seismic as the future trends that are expected to profoundly impact every industry over the next decade and their predicted applications to healthcare are, none of them will be effective on their own in moving towards inclusive health systems. To achieve this goal, they will need to happen in harmony – to be driven, or at least directed, by local health leaders working to bridge global and community actors into a coherent model of their future health ecosystem. This will require integration at two levels.

First, the integration of local communities with health systems and global platforms. Engaging communities in health promotion, prevention and care is the single most important factor enabling the inclusive vision described in Healthcare Horizons. At a global level, technology will be key to unlocking this, but it will require planning, investment and coordination from health leaders to ensure that the global players entering this space do not fragment and cherry pick patients. At the system level, the energy of local communities will need to be harnessed and to ensure equity their needs fully understood. But to make this happen integration must be accompanied with empowerment, entrusting communities with influence in the evolution of health systems.

Second, integration of health services themselves – physical and virtual, primary and secondary – so that patients can seamlessly move between different tiers of support with continuity of care and interoperable data acting as an engine for predictive and proactive healthcare. This is where changes to the health workforce and to information flows become most vital.

What kind of health system could this create? The above diagram that follows is one that may, at first, be familiar in its core, but has several layers and key distinctions from the reality of most healthcare systems today.

Social Security Benefits:

India's social security system is composed of a number of schemes and programs spread throughout a variety of laws and regulations. Keep in mind, however, that the government-controlled social security system in India applies to only a small portion of the population.

Furthermore, the social security system in India includes not just an insurance payment of premiums into government funds (like in China), but also lump sum employer obligations.

Generally, India's social security schemes cover the following types of social insurances:

- Pension;
- Health Insurance and Medical Benefit;
- Disability Benefit;
- Maternity Benefit; and
- Gratuity.

While a great deal of the Indian population is in the unorganized sector and may not have an opportunity to participate in each of these schemes, Indian citizens in the organized sector (which include those employed by foreign investors) and their employers are entitled to coverage under the above schemes.

The Code on Social Security, 2020

Foreign companies should note that when The Code of Social Security, 2020 – one of the four new labor codes introduced by the Ministry of Labor and Employment – comes into force, it will subsume the following enactments:

- The Employees' Compensation Act, 1923;
- The Employees' State Insurance Act, 1948;
- The Employees' Provident Funds and Miscellaneous Provisions Act, 1952;

- The Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959;
- The Maternity Benefit Act, 1961;
- The Payment of Gratuity Act, 1972;
- The Cine- Workers Welfare Fund Act, 1981;
- The Building and Other Construction Workers Welfare Cess Act, 1996; and
- The Unorganised Workers' Social Security Act, 2008

Rules for the new labor codes on industrial relations, social security, and occupational safety health & working conditions (OSH) are likely to be finalized by the end of January, according to Labor Secretary Apurva Chandra. If that is the case, it may result in implementation of the labor codes by April 1, 2021 – which was the deadline put by the labor ministry. However, this timeline is subject to change, depending on interventions made by key stakeholders and lobby groups and other exigencies, such as the impact of the ongoing pandemic.

The Labor Secretary was also quoted in the media saying that the draft model standing orders for the manufacturing, mining, and service sectors will be finalized by February. These draft orders set the standards for service conditions and employees' conduct in the respective sectors and were notified on December 31, 2020 to seek feedback (within a period of 30 days from the date of notification).

Health Insurance and Medical Benefit

India has a national health service, but this does not include free medical care for the whole population. The Employees' State Insurance (ESI) Act, 1948 created a fund to provide medical care to employees and their families, as well as cash benefits during sickness and maternity, and monthly payments in case of death or disablement for those working in factories and establishments with 10 or more employees. (As on March 31, 2019, the total number of ESI beneficiaries was over 130 million, with coverage extending to over 120,00,000 factories and business establishments.)

Coverage under the ESI scheme has been extended to hotels, shops, cinemas and preview theatres, restaurants, newspaper establishments, and road-motor transport undertakings. The scheme has also been extended to private educational and medical institutions that have employed 10 or more employee. This is applicable in certain states and union territories only.

The ESI scheme offers benefits to both the workers and their dependents in case of any unfortunate eventualities at work. Under the ESI Act, employees or workers employed at the above-mentioned categories earning wages up to INR 21,000 per month (up to INR 25,000 per month in case of person with disability) are entitled to this social security scheme.

Eligible workers contribute 0.75 percent of their salary towards the ESI while the employer pays 3.75 percent – making a total contribution of 4.5 percent. These new rates are effective from July 1, 2019. (Earlier these rates stood at 1.75 percent and 4.75 percent, respectively.) The company or establishment can apply for an ESI registration within 15 days from the time the ESI Act becomes applicable to that entity. The Employees' State Insurance (Central) Amendment Rules, 2017 was notified on January 20, 2017 detailing new maternity benefits for women who have insurance. As of March 31, 2019, 51,20,000 women have benefitted from the scheme.

Further, daily wage earners earning an average wage of up to INR 137 are exempted from payment of contribution. Employers, however, are mandated to contribute their own share in respect of these employees.

Sickness benefit under ESI coverage is 70 percent of the average daily wage and is payable for a maximum of 91 days in a year. To qualify for sickness benefit, the insured worker is required to contribute for 78 days in a contribution period of six months. There are provisions for extended sickness benefits and corresponding eligibility criteria.

ESI also provides disablement benefit, which is applicable from day one of entering insurable employment for temporary disablement benefit. In case of permanent disablement benefit, it is paid at the rate of 90 percent of wage in the form of monthly payment, depending upon the extent of loss of earning capacity as certified by a Medical Board.

Besides sickness and disability pay outs, the ESI provides for dependents' benefits (DB). The DB paid is at the rate of 90 percent of the wage in the form of monthly payment to the dependents of a deceased insured person – in cases where the death has occurred due to employment injury or occupational hazards.

Other benefits that are offered with ESI are:

- Medical benefits;
- Maternity benefits;
- Unemployment allowance;

- Confinement expenses;
- Funeral expenses;
- Physical rehabilitation;
- Vocational training; and
- Skill upgradation training under Rajiv Gandhi Shramik Kalyan Yojana (RGSKY).

A one-time relaxation has been extended to employers who could not file the return of ESI contribution for the contribution period from April 1, 2020 to September 30, 2020 due to the extenuating circumstances faced by enterprises last year. The new deadline to file this return is January 15, 2021. This does not impact employees contributing to and receiving benefits from the ESI. Also, no further relaxations have been provided for older or newer contribution periods.

Disability Benefit

The Employee's Compensation Act, 1923, formerly known as the 'Workmen's Compensation Act, 1923', requires the employer to pay compensation to employees or their families in cases of employment related injuries that result in death or disability.

In addition, workers employed in certain types of occupations are exposed to the risk of contracting certain diseases, which are peculiar and inherent to those occupations. A worker contracting an occupational disease is deemed to have suffered an accident out of and in the course of employment, and the employer is liable to pay compensation for the same. Injuries resulting in permanent total and partial disablement are listed in parts I and II of Schedule I of the Employee's Compensation Act, while occupational diseases have been defined in parts A, B, and C of Schedule III of the Employee's Compensation Act.

Last year, the central government changed the wage amount to be considered for calculation of compensation to workers under the Employee's Compensation Act, 1923 vide notification S.O.71 (E) dated January 3, 2020. Now, it will be INR 15,000 (US$205), according to the notification by the Ministry of Labor and Employment. The previous wage amount considered for the calculation of compensation was just INR 8,000 (US$109).

Compensation calculation depends on the situation of occupational disability:

(a) Death

50 percent of the monthly wage multiplied by the relevant factor or an amount of INR 120,000 (US$1,640), whichever is more.

(b) Total permanent disablement

60 percent of the monthly wage multiplied by the relevant factor or an amount of INR 120,000 (US$1,640), whichever is more.

The relevant factor for computation is mentioned in Schedule IV of the Employee's Compensation Act.

Maternity Benefit

The Maternity Benefit (Amendment) Act, 2017 came into force on April 1, 2017, and increases some of the key benefits mandated under the previous Maternity Benefit Act of 1961. The amended law provides women in the organized sector with paid maternity leave of 26 weeks, up from 12 weeks, for the first two children. For the third child, the maternity leave entitled will be 12 weeks. India now has the third most maternity leave in the world, following Canada (50 weeks) and Norway (44 weeks).

The Act also secures 12 weeks of maternity leave for mothers adopting a child below the age of three months as well as to commissioning mothers (biological mothers) who opt for surrogacy. The 12-week period in these cases will be calculated from the date the child is handed over to the adoptive or commissioning mother.

In other provisions, the law mandates that every establishment with over 50 employees must provide crèche facilities within easy distance, which the mother can visit up to four times a day. For compliance purposes, companies should note that this particular provision will come into effect from July 1, 2017.

The Maternity Benefit (Amendment) Act introduces the option for women to negotiate work-from-home, if they reach an understanding with their employers, after the maternity leave ends.

Under the pre-existing Maternity Benefit Act of 1961, every woman is entitled to, and her employer is liable for, the payment of maternity benefit at the rate of the average daily wage for the period of the employee's actual absence from work. Apart from 12 weeks of salary, a female worker is entitled to a medical bonus of INR 3,500 (US$47.85).

The 1961 Act states that in the event of miscarriage or medical termination of pregnancy, the employee is entitled to six weeks of paid maternity leave. Employees are also entitled to an additional month of paid leave in case of complications arising due to pregnancy, delivery, premature birth, miscarriage, medical termination, or a tubectomy operation (two weeks in this case).

In addition to the above, the 1961 Act states that no company shall compel its female employees to do tasks of a laborious nature or tasks that involve long hours of standing or which in any way are likely to interfere with her pregnancy or the normal development of the fetus, or are likely to cause her miscarriage or otherwise adversely affect her health.

Changes expected under The Code on Social Security, 2020

Inspector cum facilitators will be hired for the purpose of ensuring the rules of the Act are being upheld. They will be able to get information from employers about their female employees, regarding the kind of work they do and the wages they are paid, as well as enquire about any complaints they may have.

Inspector cum facilitators will allow offending employers a period of time to begin complying with the rules of the Act by way of a written statement. If they do so, no action will be taken against them.

It will be ensured that female employees who work in the unorganized sector are able to establish their identities via their Aadhaar number.

Employers who withhold maternity rights from their female employees will be fined INR 50,000 (approx. US$683) or be imprisoned for at least six months or both.

If a female employee is denied maternity rights and she is part of a trade union under the Trade Unions Act of 1926, she is eligible to file a complaint with them that will be heard in any court of competent jurisdiction. However, only the denied employee and the inspector cum facilitator can approach the court for help.

Gratuity

The Payment of Gratuity Act, 1972 directs establishments with 10 or more employees to provide the payment of 15 days of additional wages for each year of service to employees who have worked at a company for five years or more.

Gratuity is provided as a lump sum payout by a company. In the event of the death or disablement of the employee, the gratuity must still be paid to the nominee or the heir of the employee.

The employer can, however, reject the payment of gratuity to an employee if the individual has been terminated from the job due to any misconduct. In such a case of forfeiture, there must be a termination order containing the charges and the misconduct of the employee.

Gratuity is calculated through the formula mentioned below:

Gratuity = Last Drawn Salary × 15/26 × Tenure of Service, where:

The ratio 15/26 represents 15 days out of 26 working days in a month.

Last Drawn Salary = Basic Salary + Dearness Allowance.

Tenure of Service is rounded up or down to the nearest full year. For example, if the employee has a total service of 10 years, 10 months and 25 days, 11 years will be factored into the calculation.

Gratuity is exempt from taxation provided that the amount does not exceed 15 days' salary for every completed year of service calculated on the last drawn salary (subject to a maximum of INR 2 million). It is important to note that an employer can choose to pay more gratuity to an employee, which is known as ex-gratia and is a voluntary contribution. Ex-gratia is subject to tax.

When turning 65, applying for Medicare benefits can be a daunting and confusing task. From understanding the different parts of Medicare to determining eligibility, there are many things to consider when applying for Medicare. However, with the right guidance and knowledge, the process can be made simpler. In this section, we will provide you with an in-depth guide to applying for Medicare benefits.

1. Determine Eligibility: The first step in applying for Medicare is to determine your eligibility. You are eligible for Medicare if you are 65 years or older, have been a permanent resident of the United States for at least five years, or have a qualifying disability. You may also be eligible for Medicare if you have end-stage renal disease (ESRD) or amyotrophic lateral sclerosis (ALS).

2. Understand the Different Parts of Medicare: Medicare is divided into four parts: Part A, Part B, Part C, and Part D. Part A covers hospital stays, hospice care, and skilled nursing facility care. Part B covers doctor's visits, preventive care, and medical equipment. Part C is also known as Medicare Advantage and offers an alternative way to receive Medicare benefits through private insurance companies. Part D covers prescription drugs.

3. Choose Your Coverage: Once you've determined your eligibility and understand the different parts of Medicare, it's time to choose your coverage. You can choose to enroll in Original Medicare (Part A and Part B) or a Medicare Advantage plan (Part

C). If you choose Original Medicare, you may also want to consider enrolling in a Medicare Supplement plan to help cover out-of-pocket costs.

4. Apply for Medicare: You can apply for Medicare online, by phone, or in person at your local Social Security office. If you are already receiving Social Security benefits, you will automatically be enrolled in Medicare Parts A and B.

5. Keep Track of Deadlines: Its important to keep track of Medicare enrollment deadlines to avoid late enrollment penalties. You can enroll in Medicare during your Initial Enrollment Period (IEP), which is the seven-month period that begins three months before the month you turn 65. If you miss your IEP, you may have to pay a late enrollment penalty.

In summary, applying for Medicare can be a complex process, but understanding the different parts of Medicare, determining eligibility, and choosing the right coverage can make it easier.

Benefits are important aspects of employee benefits that are often overlooked. Understanding how these two benefits works is crucial in planning for your future and financial wellbeing. Social Security is a federally funded program that provides retirement, disability, and survivor benefits to eligible individuals. Medicare, on the other hand, is a federal health insurance program that provides coverage to individuals who are 65 years and older, as well as those with certain disabilities.

1. Social Security Tax

- Social Security Tax is a payroll tax that is deducted from an employee's paycheck.
- The tax rate is currently at 12.4%, with half being paid by the employer and the other half paid by the employee.
- The tax is calculated based on the employee's earnings, up to a certain limit. In 2021, the limit is $142,800.
- The funds collected from the Social Security tax are used to pay for retirement, disability, and survivor benefits.

2. Medicare Benefits

- Medicare benefits are available to individuals who are 65 years and older, as well as those with certain disabilities.
- The program has four parts: A, B, C, and D.
- Part A covers inpatient hospital care, skilled nursing facility care, hospice care, and home health care.
- Part B covers doctor visits, outpatient care, and preventive services.

- Part C, also known as Medicare Advantage, is an alternative to Original Medicare and is offered by private insurance companies.
- Part D covers prescription drugs.
- The cost of Medicare depends on several factors, including income and the type of coverage selected.

Understanding Social Security tax and Medicare Benefits is crucial in planning for your financial future. These benefits can help ensure that you have a stable source of income during your retirement years and provide you with access to necessary healthcare services. By taking the time to understand these benefits, you can make informed decisions that will benefit you in the long run.

Strategies for maximizing PIA and Medicare benefits:

When it comes to maximizing your Primary Insurance Amount (PIA) and Medicare benefits, there are a variety of strategies you can employ depending on your unique situation. Whether you're just starting to think about retirement or have already made the transition, it's important to understand how your PIA and Medicare benefits work together to provide you with the coverage and support you need.

One key strategy is to delay claiming your Social Security benefits until you reach full retirement age or beyond. By doing so, you can increase your PIA, which is based on your highest 35 years of earnings. This can result in a higher monthly benefit payment and a larger overall payout over the course of your retirement.

Another important factor to consider is your Medicare coverage. While Medicare Part A is typically free for most beneficiaries, Part B and Part D come with monthly premiums that can vary depending on your income and other factors. To maximize your Medicare benefits, it's important to shop around for the right plan that meets your needs and fits your budget.

In addition to these strategies, there are a number of other steps you can take to maximize your PIA and Medicare benefits, including:

1. Working with a financial advisor or retirement planner to develop a comprehensive retirement plan that takes into account your unique needs and goals.
2. Staying up-to-date on changes to social Security and medicare policies, as well as any other relevant legislation that could affect your benefits.
3. Taking advantage of programs and resources designed to help retirees with healthcare costs, such as the Medicare Savings Programs and Extra Help.

4. Exploring alternative sources of income, such as part-time work or rental properties, to supplement your retirement savings and increase your overall financial security.

By following these strategies and taking a proactive approach to your retirement planning, you can maximize your PIA and Medicare benefits and enjoy a comfortable and secure retirement.

Figure: Types of Social Security

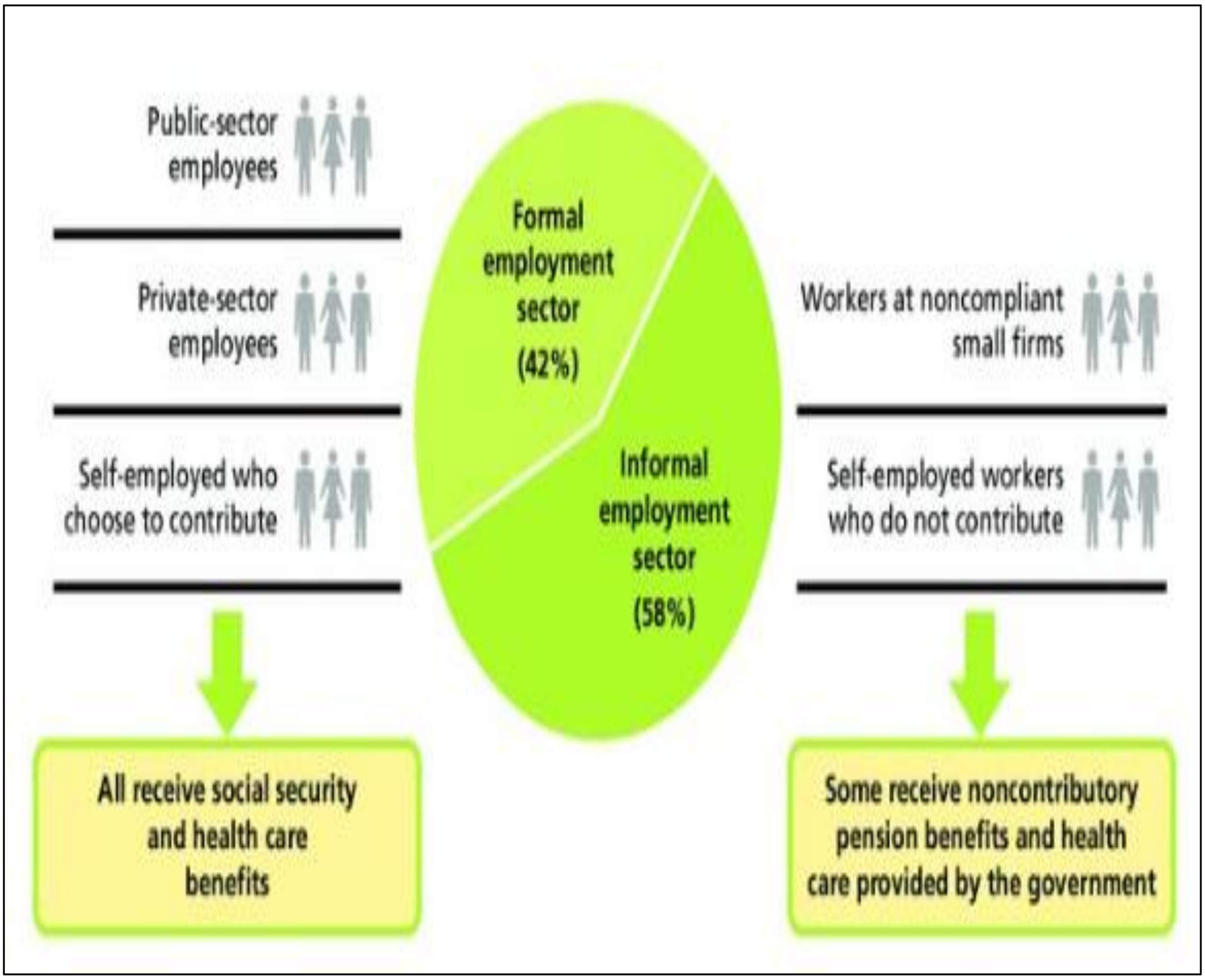

Figure: Social security and healthcare benefits