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Health workers and sustainable systems for health in a post-growth society

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Abstract

The Agenda 2030 signed by the Heads of State and Government in 2015 set out 17 indivisible and universal Sustainable Development Goals (SDGs) and 169 targets. Among others the Agenda 2030 proposes to achieve "sustainable, inclusive and sustained growth" (SDG 8), in fact an oxymoron due to the global "limits of growth" in a finite ecosystem. The SDG 3, "Ensuring a healthy life and promoting well-being for all at all ages", included among others the target "3.8: achieving universal health coverage". Besides representing a substantial regression from the original WHO's Primary Health Care (PHC) strategy, which addressed among others the social and economic determinants of health, the UHC target and the SDG3 are deemed to be unattainable due to the constant increase in demand on the one side and inappropriate offer of health services on the other, both largely determined by factors outside the health sector and linked to the present hegemonic unsustainable growth-defined development model. Focusing on the health care model and the generation of its human resources, we highlight how both remained mostly anchored to standardized and, today, globalized biomedical hospital-centric models, which are inadequate to meet populations' health needs and expectations. We then suggest the need for a paradigmatic shift in the health and social care organization (toward a human rights and social determinants approach, home-community-based care, integrated-holistic approaches, patients' empowerment, etc.) and the health workers' educational model (linking it to the specific characteristics of local contexts in terms of needs and resources, and to a new ethical framework). Both are pillars of the transformation of health systems towards a post-growth society.

Key words: Health personnel medical education; Healthcare systems; Sustainable Development Goals; Universal Health Coverage.

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1. Background

Following an intergovernmental process that involved also significant sectors of civil society, the Agenda 2030 for Sustainable Development was adopted on 25 September 2015 by the Summit of Heads of State and Government convened in New York by the United Nations (United Nations, 2015). The new agenda committed governments to the adoption of a set of 17 "indivisible" goals to end poverty "once and for all" by 2030; to combat inequalities; to ensure lasting protection of the planet and its resources; and to create the conditions for "shared prosperity" and "sustainable, inclusive and sustained" growth (United Nations, 2015).

By definition, sustainable development, which "meets the needs of current generations without compromising the ability of future generations to meet their own needs" (UN, 1990), includes intergenerational equity. It involves, on the one hand, the use of renewable resources and strict environmental protection, and on the other hand the ability to ensure that human progress (first and foremost the improvement of the living conditions of the populations) lasts over time.

Sustainable Development Goal 3 (SDG3) has been set out in “Ensure healthy lives and promote well-being for all at all ages”. Undoubtedly, the goal cannot be achieved exclusively through efforts in the health sector, this is supported by the indivisibility of the 17 SDGs. Similarly, inequality in health is a mirror of all other inequalities, as well as constituting a "common danger" as stated in the Constitution of the World Health Organization (WHO, 1946).

On the other hand, the achievement of “Sustainable, inclusive and sustained” economic growth (SDG8), one of the pillars of the Agenda 2030 (United Nations, 2015), is conceptually an oxymoron (Kopnina, 2016; Spaiser et al., 2017). Theory and evidence from various scientific disciplines, including physics and ecology, support the idea that the current notion of development, centred on the economic growth paradigm, implying a ‘sustained’ increase in the production, consumption and waste, are incompatible with the planet's finite space and resources (Greenham & Ryan-Collins, 2013) It is not a matter of simply “greening” growth, rather it is urgent to identify alternative approaches that can safeguard wellbeing while protecting the environment, including the downscaling of economic production and consumption in the wealthiest countries (Parrique, Timothée, et al., 2019). The concern was made evident already more than forty years ago. The first Report to the Club of Rome, insisted on the existing “Limits to growth” and called for “the initiation of new forms of thinking that will lead to a fundamental revision of human behaviour and, by implication, of the entire fabric of present-day society” to avoid “the tragic consequences of an overshoot” (Meadows et al., 1972). The rapidly approaching global crisis forecasted some fifty years ago based on mathematical models was recently confirmed based on more solid data (Meadows et al., 2004; Turner, 2014). Low-income countries are the most affected by the current multifaceted crisis, most evidently environmental, with enormous human and economic costs (UN, 2019; Landrigan et al., 2015; Briggs, 2003).

Despite good intentions achievement of SDGs seems to step every year further away: “At the current pace, around 500 million people could remain in extreme poverty by 2030. Global hunger is on the rise. Violent conflicts, climate change, gender disparities, and persistent inequalities are undermining efforts to achieve the SDGs.” (Steiner, 2019). Emerging and re-emerging infectious diseases and epidemics strictly related to above mentioned societal and environmental changes, including the current Covid-19 pandemic, represent and additional challenge (Nii-Trebi, 2017; Abrams, 2020).

Among the 9 health targets of SDG3, the WHO considers Universal Health Coverage (UHC) “the centrepiece” (Ghebreyesus, 2018).

Besides UHC representing a substantial regression from the original WHO’s Primary Health Care (PHC) strategy, which addressed among others the social and economic determinants of health, thinking of the UHC as a mere expansion of current health services, without questioning the foundations of the economic paradigm in which they are embedded, arguably makes of it an unsustainable goal.

In particular, social, economic and environmental unsustainability is linked to the current conventional healthcare systems’ structure and approach, including among others: the excessive focus

on specialized medical care and neglect of the first level of care and the Primary Health Care (PHC) strategy (Hurst, 2000); the inefficient use of human, financial and technological resources which increases costs with limited benefit in terms of health outcomes (Papanicolas et al., 2018); the high production of bio-medical waste, especially in rich countries (Shrank et al., 2019).

If health systems are not built on the needs, as well as the socio-economic and cultural characteristics of the population they are supposed to serve, they tend to reflect instead the needs of the market. In turn, this tends to generate significant inequities in access to healthcare both among and within countries.

Also in poor countries, the hegemonic health care model remains anchored to an approach focused on biomedical interventions emphasizing the second and third levels of care, with a disproportionate use of costly technology and treatments, often fragmented in a vast array of care providers and private insurance schemes, with limited access for the poorest population groups and neglecting the basic needs of the majority of the population. The health personnel education and development model mirrors the healthcare model and contributes to its perpetuation.

If the social and economic determinants are left unattended, not only health systems become instrumental to the mitigation of the harmful effects of societal failure and inequity but also concur to further deepen inequalities through the exploitation of disease as a mean for profit-making and capital accumulation, taking advantage of inadequate and insufficient primary prevention strategies tackling the “causes of the causes” (CSDH, 2008).

In the following sections, we first briefly analyse the link between the economic growth paradigm, human health and the health care system, focussing on the resulting increase in demand. We then examine the inadequacy of the current healthcare model in providing adequate response to the specific needs of the population they serve, so hindering the achievement of SDG3 and the UHC target specifically. Thirdly, we look at the educational model of health personnel and how it is functional to the perpetuation of the healthcare model. Finally, we discuss our findings and propose a paradigmatic shift in both the way health systems need to be rethought and health workers educated to build a post-growth society that we imagine as community-centered and aimed at producing health, rather than curing diseases.

2. Economic growth and health

Over a certain level of GNI per capita economic growth does not lead to further improvements in people's quality of life, nor is it indicative of improvements in health conditions, while increasing GDP without an equitable distribution of wealth and appropriate social policies does not bring benefits to health (Aillon and D’Alisa, 2020; CSDH, 2008).

Healthcare accounts for a significant part of world’s Gross Domestic Product (GDP) and its growth. In 2018 OECD member countries dedicated an average of 8.8% of their gross domestic product to health care (OECD, 2020).

The global healthcare market reached a value of nearly $8,452 billion in 2018, having grown at a compound annual growth rate (CAGR) of 7.3% since 2014, and was expected (before the Covid-19 pandemic) to grow at a CAGR of 8.9% to nearly $11,908.9 billion by 2022 (The Business Research Company, 2020).

The healthcare industry is one of the largest in the world and contributes substantially to global economic growth. Between 2000 and 2017, a group of 42 countries experienced rapid economic growth and dramatically increased their overall spending on health. On average, real spending on health per capita grew 2.2 times and increased 0.6 percentage points as a percentage of GDP. For most of these countries, growth in health spending was faster than that of GDP (WHO, 2019). However, this growth in health spending shows large gaps between rich and poor countries. In recent years, the global average of health spending has increased steadily and for 2016 it represented an average of 12.6% of the gross domestic product (GDP) of high-income countries and 5.38% in low-income countries (WB 2020). Where the market allows it, the healthcare industry thrives on disease.

While there is a general correlation - but not necessarily causation - between health care spending and life expectancy, it has been shown that above annual spending of approximately $ 75 per capita, that relationship is not predictable. The efficiency of health spending can be drastically different, as can be seen in some of the OECD member countries (Barthold et al., 2014). Improvement in health outcomes is strongly conditioned by the way money is spent and the possibilities of access to health services (Savedoff et al., 2012). Demand is an important driver of health spending. The increase in demand for health care is undoubtedly linked to a growing burden of disease, which in turn is heavily related to social determinants. However, it should be borne in mind that demand is often also induced by offer.

2.1 Social determinants of increased health care demand

Ensuring that health care offer meets demand is the greatest challenge that health systems are increasingly facing to provide sustainable universal access. Thus, understanding what originates demand increase is of fundamental importance to reduce it.

The steady increase in the world's population and its progressive ageing, with its corollary of chronic and multi-morbidity diseases are among the main causes of increased demand for health services. Between 2015 and 2050, the proportion of the world's population over 60 years of age will almost double from 12% to 22% (WHO, 2018).

The health of elderly people is heavily influenced by social, economic and environmental determinants, including the quality of food, housing conditions and the consistency of family and community networks, as well as by life experiences and behaviours since early childhood. Thus, the social determinants that affect people from infancy today, will also influence the type and frequency of diseases in the coming decades. Complex adult and geriatric multimorbidity syndromes lead to a greater demand for health care and require totally new care approaches (WHO, 2018) that we will discuss below.

The considerable increase in the global burden from chronic diseases cannot be attributed exclusively to the ageing of the population. In fact, it affects all age groups and almost all countries, with a much greater impact in poorer countries which are experiencing an epidemiological transition with a double burden of disease, while they still record a high morbidity and mortality due to infectious diseases, they experience the rising burden of chronic non-communicable diseases. Three quarters of deaths from chronic diseases are recorded in low- and middle-income countries (Haider & Bibb, 2017).

Everywhere, the clear distribution of infectious diseases among social groups, with an impressive social gradient, highlights their link with low education, precarious housing, lack of access to potable water, sanitation and solid waste collection services, originated in historical processes of dispossession and restructuring of the territory, which forced impoverished sectors of society to live in underserved rural areas and vast marginalised urban peripheries (Doyal, 1981).

A "pandemic" of chronic diseases, especially heart disease and cancer, observed since Second World War, clearly parallels the globalization of western socio-economic and lifestyle model requiring a constant increase in indiscriminate consumption (Luzzati et al., 2018). Faster, resource intensive, highly contaminant industrial and agricultural production, transformation and distribution cycles inexorably destroy natural resources, increase pollution of soil, water and air, and are at the roots of climate change, with dramatic impact on populations' health. The direct and indirect impact of the ever-increasing global exposure to electromagnetic fields on human health is widely underestimated and is an additional matter of concern (Bortkiewicz, 2019).

The disruption of the ecosystems and climate change are also at the origin of emerging and re-emerging infectious diseases and epidemics (Nava et al., 2017; Missoni, 2017).

Pushed by the expectation of high returns, aggressive market strategies further push consumption of harmful food (processed foods with added sugar, salt, preservatives and colorants; high-calorie drinks, etc.), alcohol and tobacco, and other unhealthy or otherwise potentially harmful consumer products (such as home and personal care), which all contribute to the dramatic increase of chronic diseases such as obesity, metabolic diseases (first of all diabetes), respiratory diseases, cardiovascular, neoplastic, as well as neurodegenerative and mental illnesses (Willett et al., 2019;

Landrigan et al., 2015). Packaging, and its mostly unsustainable disposal, close the cycle. It is estimated that by 2050, 20,000 Mt of plastic waste will be in landfills or in the natural environment (Geyer et al., 2017). Microplastics in the food chain are just one of the latest concerns about the impact of waste on human health (WHO, 2019b). Also, future generations will probably suffer transgenerational effects of pollution, besides the environmental depletion that they will inherit. Indeed, many widely disseminated pollutants have been shown to produce epigenetic changes transmitted from one generation to the other (Xavier et al., 2019).

With the externalization of social and environmental costs - diseases and environmental degradation – companies increase their Return on Investment (RoI) while impoverishing the community and transferring costs on health systems.

Similarly, the economy and the market grow through the commodification of common goods such as water with negative impacts in terms of water security, as well as quality and water-related diseases (Brisman et al., 2018).

The globalisation of capitalist growth society and its neoliberal extreme (progressive deregulation and liberalization of trade regimes, extensive privatization and scaling back of the State, commodification and commercialization of vital social determinants) have been shown to be indissolubly linked with rising inequalities (Picketty, 2014) and a significant body of evidence strongly suggests that inequalities affect population health and wellbeing (Pickett and Wilkinson, 2015).

2.2 Commodification of health increases demand

Demand for health services is also induced through the healthcare industry's market strategies. For example, disease mongering strategies, i.e., creating patients, offering a distorted perception of the severity of a condition or presenting as pathological a physiological condition, pharma industry induces unnecessary consumption of drugs and increase in health expenditure (Doran & Henry, 2008).

Many new pharmaceutical products placed on the market do not offer significant therapeutic advantages, while the global system of protection of intellectual property rights (IPR) may contribute to price increases and reduced access to medicines and vaccines (Smith et al. 2009). Speculation rather than research and development costs determine the prices of new drugs offered on the market. In addition, "evergreening" of pharmaceutical patents - introducing minor changes and formulations that allow for extension of the length of the exclusivity period beyond the legitimate patent term - seriously challenges the access to affordable drugs as it delays the generic competition without improvement in the efficacy of the already patented drug (Abbas, 2019).

The global expansion of the online market has additional impact on the increase in health demand. Social networks represent an easily accessible market of hundreds of millions of users through direct-to-consumer advertising of improper or illegal use of often counterfeit medicines with considerable health risks and an inevitable increase in health expenditure. Online interaction now allows legal restrictions to be violated everywhere (Liang & Mackey, 2011).

Especially under circumstances where healthcare is privatised, thus responding to the investor's need for RoI, the healthcare system is often in itself iatrogenic (Illich, 1976) and causes increased demand.

Iatrogenesis and increased demand may also be due to consolidated medical culture. Over-prescription is an important cause of increased health care costs (Lown Institute, 2019). The abuse of medicines, technologies and services, including ineffective or inappropriate, is also linked to the culture and choices of prescribers (often under the marketing pressure of manufacturers and pharmaceutical representatives); patients' requests (induced by misleading and increasingly pervasive advertising); conflicts of interest; levels of care fragmentation leading to repetition of clinical investigation; and remuneration criteria for facilities and professionals (Geddes da Filicaia, 2018).

The health care system is one of the causes of the spread of antibiotic resistance, although 80% of antibiotic consumption happens in the livestock industry (IACG, 2019).

In the health sector "the increase in supply generates demand" (Geddes da Filicaia, 2018), particularly in the absence of control mechanisms and in health systems mainly based on private care.

Particularly in developing countries, governments are mostly in control only of the public sector and are not able to create appropriate mechanisms to regulate private sector's activities and performance. Screening and early detection programs offered by health services are important means of secondary prevention. However, "periodic check-ups", which are often promoted as part of well-designed market strategies of the biomedical industry, imply some risks. They often have "no effect in reducing diseases and deaths from either cancer or cardiovascular disease" and may lead instead to an increase in diagnoses and "incidentalomas" with consequent risks related to further for investigation (Geddes da Filicaia, 2018).

3. The inadequacy of the current healthcare model

According to WHO, the main goal of a health system is to protect and improve the health of the population it serves and reduce health inequalities. In addition, healthcare systems should respond to people's non-medical expectations, enable community participation in decisions that have an impact on people's health, protect individuals from the risk of financial hardship due to the costs of health services through fair risk pooling mechanisms and ensure equity in access to services (WHO, 2000; WHO, 2007; WHO, 2010a).

Indeed, as we highlighted in the previous sections, many determinants external to the health sector (i.e., the policies and operations normally under the responsibility of health authorities) strongly influence population's health, thus demand for health services, that the healthcare system provides. In a social system where the wellbeing of the people supposedly comes first, health should be considered a priority in all public policies and become a "whole of government" issue. If health of the population rather than GDP becomes the measure of human progress, all those activities, goods (actually "bads") and services that have a direct or indirect negative impact on health outcomes should be strongly discouraged. In such a perspective, a system *for* health is envisaged, caring at all levels for health protection, promotion and improvement, including the delivery of social and healthcare services, which mainly contribute to maintain and, when needed, restore health.

Nowadays, health systems are mostly understood as healthcare systems, mostly delivering preventive, diagnostic, therapeutic or rehabilitative biomedical services.

Just as for demand, the offer of these services and the way the care model is structured, "are subject to powerful forces and influences that often overwhelm the rational formulation of policies" (WHO, 2010a). Among others "these forces include a disproportionate focus on specialist care, fragmentation into a multiplicity of competing programmes, projects and institutions, and the pervasive commercialisation of health care into inadequately regulated systems" (WHO, 2010a). Weaker states and economies are more susceptible to the influence of multiple domestic, international and transnational forces on their national health policies and are less prepared to deal with them. Global interdependence and the interactions between global forces and national systems suggest important global governance implications (Missoni, 2015).

In the late 1960s and 1970s the political context was marked also by the emergence of decolonized African countries, the spread of nationalist and socialist movements, and new theories of development. A new "basic needs approach" was favoured over top-down interventions (Dag Hammarskjöld Report, 1975). The WHO also shifted towards strategies more attentive to the development of basic health services, community participation and the immediate health needs of the population. In this context in 1978 the Declaration of Alma-Ata identified Primary Health Care (PHC) as the best strategy toward "Health for all", the goal adopted by the World Health Assembly the previous year. According to the then WHO Director General, Hafdan Mahler, "it was a true revolution in thinking […] Health for all is a value system with Primary Health care as the strategic component" (WHO, 2008). However, the new value system was soon challenged. The focus on rural and most deprived urban populations groups and on basic health services was confronted by resistance from the social hierarchy and power base almost everywhere. The following year, a workshop hosted by the Rockefeller Foundation in Bellagio, with the leaders of the World Bank, Unicef, USAID and the Ford Foundation in attendance, launched an alternative "Selective Primary Health Care approach, which soon reoriented health systems toward the traditional biomedical disease -rather than health-oriented

approach. A top-down approach that also led to the fragmentation of health systems in multiple "vertical" programmes and the complete detachment between the health sector and other sectors of development (Missoni et al., 2019).

In the 1980s, under the auspices of the Bretton Woods institutions, indebted countries were forced to adopt Structural Adjustment Plans (SAPs), leading to the dismantling of universalist health systems, fragmentation, privatization and commercialization of health services and the introduction of user fees (Missoni et al., 2019).

Similar macroeconomic measures were imposed more recently by international and supranational bodies also in more advanced economies, such as Greece, affected by the economic crisis, causing the impoverishment of large sections of the population (Kondilis et al., 2013). Ideologically mandated "rigorous" one-fits-all austerity policies impose social expenditure "cuts", including on salaries, maintenance costs and investments and where an explicit privatization of health services would inevitably cause social unrest (e.g. in the case of countries with well-established "Beveridge Model" National Health Services), progressive cuts on the budget of public services, respond to the undeclared purely political objective of promoting the privatization of services, in a veritable "assault on universalism" (McKee & Stuckler, 2011).

In Official Development Assistance (ODA) recipient countries, health policies and priority setting are strongly influenced by earmarked resources and donor conditionality, which often do not consider the priorities and needs of partner countries and may foster inequities (Biesma et al., 2009).

Not only have health systems been suffering the hegemonic influence of the neoliberal doctrine leading to their privatization and fragmentation, with reduced access to care, but the adoption of the culturally dominant commodified healthcare model further pushed toward medicalization, hospital-centrism and specialization. Systems have progressively lost contact with the people, their local context, their culture, their real needs and access to needed care has become a privilege for the few and universal coverage a desirable but unsustainable goal (WHO, 2008).

The delocalization of the production of essential biomedical resources (drugs, equipment, etc.) based on the rationale of reducing costs and increasing profits, taking advantage of the globalised market sometimes exploiting cheap unprotected labour in third countries, has reduced countries autonomy in facing their needs. The ongoing pandemic of Covid-19 has dramatically highlighted the paradox of lack of medical masks in Europe when hit by the epidemic, due its total dependency on import of such a basic device from China (Missoni et al. 2020).

While technological innovation can contribute to more accurate diagnoses and better therapeutic responses, it is not always real progress; indeed, it can create sustainability problems. New bio-medical technologies are introduced responding to companies' RoI and do not necessarily respond to the promise of real therapeutic advantage. The health sector is also often a prey to "planned obsolescence" as a market strategy for manufacturers to induce the replacement of equipment with new models that bring nothing substantive in terms of diagnostic or therapeutic results; instead, they create dependence on accessories and consumables (Rosenthal, 2014). What is too often lacking is good management of existing technology and an adequate maintenance culture, an often-forgotten aspect in infrastructural and technological aid projects in low-income countries.

Finally, in many countries, healthcare management is substantially inspired by theories and practices adopted in culturally, economically and technologically distant contexts. Management and governance systems are often imposed from above and are not consistent with the local context, while the "western" model, dominated by neoliberal market-oriented policies, has become the universally adopted standard (Fattore & Tediosi, 2011). With resources being taken away from the public system to the advantage of the private system, important sections of the population are excluded from access to both curative and preventive care (UNRISD, 2007).

4. Human resources are functional to the care model

Health workers are possibly the most important asset of health care systems. Shortage and inadequate competence (knowledge, experience and motivation) in relation to local needs and socio-economic context seriously challenge healthcare systems effectiveness and sustainability.

The inadequacy of health workers' training in relation to the needs of the population is a longstanding issue. With a few exceptions medical faculties continue to follow a bio-medical approach, leading to 'hospital-centrism' at the roots of the failure in achieving the health for all goal (WHO, 2008a), and functional to the reproduction of the consumeristic, marketized and globalized social model. Practice in medical studies is mainly based on the observation of an hospitalized individual in a "horizontal" position, a "patient" in bed (Missoni, 2018) and in a context too often socially and/or culturally alien to the social reality in which people in their countries "are born, live, work, grow old and die" (CSDH, 2008).

The standardization of skills and learning objectives (specialization, high complexity, technological sophistication, etc.) respond to healthcare models that, besides being socially and culturally inadequate, are economically and environmentally unsustainable even in middle-high income countries, and elsewhere are accessible only to high-income population groups (Missoni, 2018).

The current educational models for the training of health professionals did not originate from the health needs of the population, but from the need to incorporate medical care and, in general, western medical thought, into the free market. The current hegemonic paradigm for the training of health professionals is the result of an aggressive process of dissemination of the educational model formulated from the Flexner Report (Flexner, 1916). The report served set the bases for the institutionalization and standardization of the teaching of "scientist" medicine, serving the adaptation of scientific discoveries and technological advances to the demands of the growing monopoly of capitalism. Improving health of the working class was functional to increase the pace of production, profit margins and economic growth (Berliner, 1975).

It also promoted the incorporation of medicine into an intense process of commodification. Additionally, this model consolidated an ideological framework that shifts the responsibility for the disease to the individual and to his most immediate conditions, eliminating responsibility of political and economic structural factors (Berliner, 1975). The technological nature of Flexnerian medicine shaped the priorities and vision of health systems worldwide. Also colonized countries and emerging economies were pushed to establish research and training centres, high-specialty hospitals and medical centres. This required large investments that were financed by governments, private investments including the Rockefeller Foundation (2020).

Due to its characteristics, the highly technological model of care was concentrated in main cities, which added to the high costs of its operation and exacerbated inequities in accessing this type of care. Despite the new emphasis on basic needs and primary health care which followed the Declaration of Alma-Ata (1978) and adoption of mechanisms to expand coverage of basic health services, although through "vertical" programs, the Flexnerian training model prevailed in universities and professional schools which in most cases remained detached from the needs of the population, being instead consistent with the economic aspirations of the expanding consumer society (Pereira, 1980).

As already pointed out 50 years ago by Giulio Maccacaro, who fought for the democratic renovation of the medical care in Italy, medical schools still produce health workers who are incapable of "usefully integrate an urban or rural community, of take care of it, understand the problems of its illness and of defend its right to health" (Maccacaro, 1971).

The ideological roots underlying the hegemonic medical education model prevent the building of awareness of the social determinants of health and leads future health personnel to act as mere intermediaries between the bio-medical industry and the patients, generating also evident ethical conflicts when the industry is the sponsor of medical training (Holloway, 2014).

With few exceptions, academic programs focus on acquiring technical skills in the hospital environment, where there is generally a wide range of human, technological and pharmacological resources.

Such an approach tends to produce "export" health personnel. Indeed, health workers and in particular doctors, who are not prepared and are unmotivated to serve in their own communities, will seek (often unsuccessfully) elsewhere - first in the private sector and large urban centres, then abroad – the kind of professional integration that requires the skills, and meets the aspirations suggested in their medical studies and that respond to the globalized stereotype of the successful doctor, the mythical hero of most popular TV series (Missoni, 2018). "Brain drain", is fuelled by "import" agencies from high-income countries lacking human resources, often bypassing the norms that some of those countries have adopted based on the WHO global code (WHO, 2010b).

In countries where a period of social service is compulsory upon completion of the degree, recent graduates are destined to first level of care units, for which they are neither trained nor motivated. For a large number of students this period becomes an undesirable step between their university life and specialization.

Medical personnel are the main victims of such a training responding to market logics, without a real link to the health needs of the population. Their professional practice is increasingly dependent on diagnostic and therapeutic resources (i.e., drugs) that are often very scarce in community settings. In situations where laboratory and cabinet diagnostic facilities are scarce, clinical skills and the capacity to rely on a limited spectrum of drugs are paramount. However, at community level the effective health worker will need a wide set of skills and competences that, to date, medical and health sciences schools rarely provide, such as the capacity to value and eventually integrate local knowledge and resources; managerial, leadership and advocacy skills to promote community involvement in dealing with social determinants of health; pedagogical skills, emotional intelligence and intercultural competences to interact with people and groups in the community. Medical schools and health sciences faculties rarely train students to a future role as actors of change, of true health promoters of the communities they will serve. Development of empathy and sensitivity, and above all social and environmental awareness and commitment are seldom found in the contents and objectives of academic program nor are reflected in the teaching-learning methods.

5. Discussion: the need for a paradigmatic shift in the health- and social care organization and the health workers' educational model

As we described the characteristics of the current growth society contribute to the increase in the global burden of disease, more and more made of chronic and complex comorbidities, but also of emerging and re-emerging infectious diseases, which translate in heavy and unsustainable demand for healthcare. The analysis of the policies and interventions aimed at controlling the social, economic and environmental determinants of this situation, go beyond the purpose of this paper, but clearly require a paradigmatic systemic shift toward a healthy, equitable, socially and environmentally sustainable societal model, in line with a vision of degrowth (Borowy and Aillon, 2017). Environmental policies, education, social protection, urban planning, regulation, taxation and public awareness programs aimed at reducing and improving quality of consumption, could go a long way towards addressing many strategic issues. Only if collective and planetary health, rather than economic performance, will become the priority of our society, as we would expect in a post-growth society, we will be able to build a societal system *for* health.

5.1 Healthcare

We have focussed our attention on the health care model and specifically on the generation of its human resources, highlighting how they both remained mostly anchored to standardized and, today, globalized biomedical hospital-centric models, which are inadequate to meet populations' health needs and expectations. *For* health systems may represent a fundamental building block of the post-growth society and in that sense some general criteria can be identified.

In a system *for* health, healthcare is people and community centered. Access is universal at all levels with no costs for the citizen at the point of delivery and success is measured in health outcomes, with the best possible use of resources. The focus is shifted from treatment to primary prevention, from the hospital (or care institution) to the community where the disease originates, and where an integrated social and health care system contributes to improving the living and working conditions of the population(housing, workplace, public spaces, transport, natural environment, recreational and sports facilities, etc.) in strict intersectoral coordination, involving all local stakeholders and citizenship in the building of a socially, economically and environmentally sustainable local system. Holistic - rather than "selective" - Primary Health Care remains the strongest pillar of "health for all". With the increasing burden of chronic diseases this approach becomes even more strategic. Integration between primary and secondary care, between health and social care, and between prevention and care, contributes to the social wellbeing of the patient, to a better relationship with health workers and to reduce costly hospital admissions.

The social and, to any possible extent, economic integration of the disabled and the elderly people also contribute to improve their quality of life. Experiences such as extended families, life-communities, the sharing of living spaces (co-housing) and other cooperative social and economic approaches at community level, all go in that direction. Socialization is itself both preventive and curative, and offers a consolidated alternative to hospitalization and institutionalization of people with reduced autonomy, including disabled and elderly people (Missoni, 2015). Whenever feasible homecare should be promoted and healthcare systems reorganized to ensure the needed logistics including the involvement of local community social-networks (volunteers, self-help groups, grass-roots organizations, etc.) and the collaborative link between care provided at home and the other levels of the care system. Recent systematic reviews have shown the benefits of such approaches to chronic care, both in terms of health outcome and costs (Desmedt et al. 2016; Yeoh et al. 2018).

In many countries, natural, traditional and complementary medicine (T&CM) play a relevant role at community level. In 2019, 170 out of 194 Member States of the World Health Organization had acknowledged their use of T&CM, having formally developed initiatives, policies, laws or regulations (WHO, 2019). The integration of T&CM with conventional healthcare is necessarily part of systemic approach to health, besides further contributing in a sustainable and culturally respectful way to pathways toward UHC (WHO, 2013; Park & Canaway, 2019). In some contexts, integration is also an indispensable link with the social and cultural reality and contributes to community empowerment and participation.

Today the connection between primary care and higher level of complexity may take advantage from new information and communication technologies (e-health, m-health, big-data, social networks, etc.). However, these also require guidance, regulation and organization within the health system for their optimization.

In advanced countries, innovative approaches and technologies are transforming healthcare, moving from reactive and hospital-centered to preventive, proactive, person-centered and focused on well-being rather than disease. Indeed, they may offer great opportunities, however, technical literature highlights that e-health comes with many challenges including security; privacy; design; performance; efficiency; fragmentation and heterogeneity; interoperability and regulatory and legal issues (Aceto et al., 2018).

Opportunities and threats vary radically depending on socio-economic environments both among countries and within countries. In that sense, due to costs and accessibility ICT may also increase disparities and further challenge UHC, unless its introduction is carefully evaluated and planned to take into account its social and economic appropriateness and long-term sustainability according to the context. This is a sector heavily pushed by and depending on the market, with "numerous, powerful and intelligent forces and actors" with an "immense thirst for technological and economic conquest" (Comtesse, 2017). This calls for additional thoughts and caution if analysed from a degrowth perspective; most healthcare systems are not prepared to face the challenge.

5.2 Health professionals

The Lancet commission on professionals for the 21st century has recognized the need for a new generation of educational reforms that aim to adapt basic skills to specific contexts, without neglecting global knowledge (Frenk et al., 2010). In our view, these new competences should be thought not only as mere reformulations or extension of the conventional academic content, but as the starting point for a change in the educational paradigm, rethinking the role of health workers as active agents in the process toward health and wellbeing for all, not only supporting people's reappropriation of self-care, that Iván Ilich suggested in the "*Expropriation of health*" (Illich, 1976), but also in facing the challenge of complex and multifaceted societal determinants of health and wellbeing.

However, as discussed above, health professionals' education is strictly related with and functional to the characteristics of the health systems they will equip. The systemic logic of sustained economic growth and the principle of profitability affects the functioning of many healthcare systems, especially if widely relying on private providers with weak public control. Educational systems (including in the area of health sciences) are equally affected and have increasingly abandoned the original humanist aspirations (preservation of life, health, well-being, knowledge or creativity). In the health field, universities mostly train human "resources" that healthcare systems need for their unmodified production line, with a private sector thriving on diseases and a public sector paying the costs.

The pedagogy of most of the schools of medicine and other health related disciplines, is still based on a dynamic in which the teacher works as the holder of the knowledge that he/she transfers to the students considered inert containers to be filled with predefined rather worldwide standardised contents. This approach consolidates what Illich (1971) defined as the 'radical monopoly' of the dominant technologies of education, which is functional to the conservation of unfair and commodified society that needs to be replaced. This "banking education model" (Freire, 2005) based on the uncritical transfer of information and values, nullifies the creative power of students and teachers, and the potential of their interaction.

The consequences of this educational model are catastrophic when transferred in the real world. Healthcare personnel reproduce in the community the same power position of the teacher at school. The doctor-patient relationship, as well as health education and communication, are pedagogical acts, that recently trained health professionals are not prepared to manage; they were not exposed to alternatives to the banking education that they received, thus they are not able to build a cooperative approach with patients and the community, and risk to become instrumental to the perpetuation of injustices and inequities in health, more than actors for change. They will tend to blame the patient for his/her condition or harmful behaviour and provide medical answers to social illness. In the words of de Beauvoir (1963) they will rather "transform the mentality of the oppressed and not the situation that oppresses them" (de Beauvoir, 1963), adopting a paternalistic and technocratic attitude, result of a hidden message in their curriculum and academic experience, that tends to perpetuate the patient's position of dependency and the inherent asymmetry of the doctor-patient relation (Hafferty and O'Donnell,2014).

Based on the above considerations, our argument is that the reformulation of the educational model starts from its logic and cannot be limited to the incorporation of new subjects. Introducing assignments on social determinants from the beginning of undergraduate studies, may be a good start, but it will not lead to change nor provide students with the needed transformative competences (Frenk et al., 2010) if the students are not endowed through direct experience with the capacity to act before these determinants in solidarity and collectively with the people of the communities they serve. In Freire's words "To say that men are people, and as people they are free, and to do nothing to concretely make this statement objective, is a farce" (Freire, 2005).

In some universities, groups of teachers and students have questioned the academic programs and their lack of ability to educate professionals with competences to practice medicine with principles of Primary Health Care, rather focusing on high hospital-centered specialization (Parada-Lezcano et al. ,2016). In search of an alternative model, some medical schools have incorporated subjects and projects aimed at strengthening areas of competence related to social determinants, ethics,

community work, appraisal of the local socio-economic context and primary prevention. As adds-on to traditional curricula, which throughout the career continue to privilege hyper specialization, these initiatives suffer the challenge of the hegemonic culture that disparages social medicine (Martinez and Campos-Rivera, 2009; University of Pavia, 2020).

The recently created University of Health, in Mexico City, has chosen to propose a more balanced academic program, in which equal importance is given to clinical and biomedical courses and those aimed at understanding the phenomena that determine health in communities and primary prevention (Universidad de la Salud, 2020).

Other experiences, such as one of international cooperation between a Nicaraguan and an Italian University, have insisted on the role of University as agents of cooperation and local development and implemented intercultural, interdisciplinary field work and an integral approach toward the multiplicity of determinants of health and life conditions of the population and the complexity of their interactions. (Missoni and Giasanti, 2011).

In Italy, the need to change medical education in order to prepare future health professionals for the challenges of the globalized and unequal world is also increasingly emphasized in the context of global health courses (Civitelli et al., 2020).

However, in our opinion, due to their limited number and extension, these experiences and fora are insufficient to counteract the hegemonic medical training model and respond to the health challenge in a sustainable and caring society in very diverse cultural and socio-economic contexts. A much wider, interdisciplinary and inclusive debate is needed, extending well beyond academia to include relevant sectors of society, aiming at discussing and promoting structural changes in medical education, keeping in mind the need for a context-specific approach.

Recognizing the influence of the logic of economic growth and capital accumulation in the educational field of professional training and the consequences of this model in professional practice is the first step in generating a model that allows constructive and humanist learning.

If we wish to educate professionals that may be transformative toward the current hegemonic unsustainable and iniquitous healthcare system, capable to break their role of intermediaries between the consumer patient and the “health” market and assume instead that of health promoters and leaders in the construction of a *for* health system responding to the principles and needs of a post-growth society, the current competitive, theoretical and purely quantitative approach should be drastically transformed, encouraging a cooperative, active, emotionally involving approach, empowering future health professionals to subsequently recreate a similar approach with the communities they will serve.

6 Conclusions

In the long term, the combination of three factors will be essential for the sustainability of universal healthcare, in the wider context of a *for* health system capable to ensure “healthy lives and promote well-being for all at all ages” (UN, 2015): action on social, economic and environmental health determinants; socially, technologically and context-appropriate healthcare; transformative human resources.

The universality and indivisibility of the SDGs set with Agenda 2030 represent both an opportunity to rethink the growth-led societal model, and a considerable challenge; especially considering the contradictions contained in the Agenda itself.

Granting universal access to care is strictly linked to the sustainability of healthcare systems, which in turn is heavily dependent on the intertwined action of multiple and diverse forces and determinants acting at various levels, with global determinants playing an increasing role.

Wide disparities in wealth, health and life conditions are the outcomes of a hegemonic capitalist development model, involving accelerated, energy-intensive production, consumption and distribution systems with truly human values, integrity of the ecosystem and health sacrificed in the

name of growth and return on investments. Thus, the pathway toward health for all is inevitably inscribed in deep societal changes paving the way to a post-growth society.

Rethinking the way healthcare is understood and organized is a fundamental starting point, including adopting a human rights and social determinants approach, privileging home-community-based care and integrated-holistic approaches, empowering communities and individuals as actors of their own health.

But healthcare systems reflect the mindset of the people who manage and operate it and they are the result of the educational model. Thus, in a move toward a post-growth society, we could start with reforming the way future health professionals are educated, providing them, among others, with the ethical framework that will make of them the actors and the leaders of a *for* health system.

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