

HEALTH POLICY, INTERNATIONAL VARIATION, AND DOCTOR-PATIENT INTERACTION

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In this paper we explore differences in health care systems. The paper will first describe differences in the way health care is organized and delivered in different countries. We will briefly mention European systems but we will focus on three comparisons around the Pacific Rim: The United States, Japan, and Australia. Comparisons will be offered between how health care is structured and how practices may affect patient health behavior, provider behavior, and the delivery of health services. Next, we will review two ways in which different organization of health care might result in differences in public health. This will involve an exploration of differences in prevention programs and in differences in doctor/patient interactions.

Health In Different Systems

Health Care is organized and delivered differently in countries around the world. Various countries have different policies about regulation, financing, and public involvement. We begin our discussion with the United States because the problems there are most extreme.

The American Health Care System

The American Health Care System is perhaps the most complex in the world. The United States represents only about 5% of the world's population. However, about 40% of all expenditures on health care worldwide are in the United States (World Bank, 1993). It is difficult to describe U.S. health care as a "system". In fact, U.S. health care is a patchwork of overlapping systems. Further, there are many holes within the patchwork. The U.S. population is about 260 million. The largest group of Americans is insured through private health insurance. Typically, this insurance is associated with employment, and benefits are offered to an employee and his/her spouse and dependents. About 10 to 15 million Americans purchase their own health insurance because they are self employed or unemployed. The elderly in American are covered by a completely different system known as Medicare. This system covers about 33 million people, most of whom are over the age of 65. However, Medicare also covers some specific problems such as end-stage renal disease.

Finally, a system known as Medicaid covers the blind, the disabled, those with supplemental security income, and families with dependent children. Medicaid is a joint effort of each U.S. state and the federal government. Rules for Medicaid eligibility vary from

state to state, although some basic standards are set at the federal level. Although 75% of Medicaid recipients are families with dependent children, these groups represent only a small portion of all Medicaid expenditures. The remainder of Americans are uninsured. The numbers of uninsured are difficult to determine, but recent estimates place them above 40 million.

The American health care system is largely a financial system. For the most part, the health care system organizes care and pays providers and hospitals for service. Within the last few years there has been a dramatic change in the organization and financing of American medicine. This trend began on the west coast and in certain pockets of the eastern U.S. such as Massachusetts. However, it is widely recognized that the trend will continue throughout the land. The new system uses "managed care". Managed care is a system of health care delivery in which health care is delivered through networks of providers and hospitals. The cardinal feature of managed care is that it creates a direct relationship between an insurer and a health care provider. Managed care has created considerable strain between health care providers and insurance companies. The insurance industry favors managed care because it allows them to control physicians. Physicians typically are opposed to managed care because it weakens their decision making capability.

Changing Reimbursement Systems

Contemporary medicine in the U.S. is in the middle of a paradigm shift. Under the old paradigm providers were reimbursed on the basis of their usual and customary fees. Under indemnity insurance, there were substantial incentives to offer high volume care. When faced with uncertainty, physicians ordered tests and performed procedures. The system grew excess capacity and costs escalated (Kaplan, 1993). Partially in response to uncontrollable costs, a new paradigm developed. The new movement started in about 1983 when the Medicare system introduced a prospective payment program. This approach paid hospitals a flat fee based on patient diagnosis. The prospective payment system created a different set of incentives. The old system provided an incentive to keep patients in the hospital longer. The new system reversed the incentive and hospitals began discharging patients earlier. In the first decade of the prospective payment system, the average length of stay was cut in half and admissions were reduced by 20% (Tabbush & Swanson, 1996).

Throughout the 1980s and early 1990s there was a substantial increase in the number of patients enrolled in managed care organizations. Enrollment in health maintenance organizations increased from 9 million in 1980 to about 34 million in 1990. The rate of increase has continued and current estimates place the number of managed care enrollees at about 50 million. Projections for year 2000 suggest that there will be about 100 million people enrolled in managed health care. Part of this growth will come from patients in Medicare and Medicaid being shifted into managed health care plans.

The latest development in reimbursement is the move toward capitated payment. Under capitation systems, providers enter into contractual agreements with insurance companies to provide care for a fixed annual fee. If the patient uses fewer services than expected, the provider may make profit. Conversely, if the patient uses more services than expected, the plan will lose money. Under the capitated agreements, the risk is shifted from the insurance company to the providers. Early evidence shows that providers have become very conservative under the capitation systems. Lengths of hospital stay, which had already been reduced sharply under the prospective payment system, continued to decline. For example, average length hospital stay declined from about five days in 1985 to 3.75 days in 1993 (Tabbush &

Swanson, 1996).

The move toward managed and capitated health care raises important concerns about patients with terminal or serious illnesses. Under the old paradigm, physicians and hospitals were rewarded for aggressively treating end of life illnesses. Under the new system, there is incentive to provide less care. The American health care market differs from virtually all others in the world for at least four different reasons. First, government involvement in the U.S. is different. The government is involved with several systems, such as Medicaid and Medicare. Further, it is involved in biomedical research, regulation of hospitals, regulation of pharmaceuticals, and so forth. However, the government has not taken responsibility for universal health insurance.

The second unique feature of the American system is the high degree of uncertainty about losing health insurance. In virtually no other developed country do citizens need to worry that a catastrophic illness will leave them bankrupt. A third issue in the American system is the imbalance of knowledge between physicians and patients. Perhaps more so than other countries, medical decisions in the U.S. are highly protected. Fourth, the American system is characterized by complex inter-dependencies among people. Since some people are uninsured, they may contract contagious illness that affect others. For example, the system's inability to cover health care for the poor increases everyone's probability of getting tuberculosis (Phelps, 1992).

It is constructive to consider health outcomes in two countries, the UK and the U.S. There were chosen because they represent extremes among developed countries in health care expenditures. In the United Kingdom, an estimated 6.2% of the gross domestic product is devoted to health care (Schieber & Poullier, 1992). In the U.S. more than 13% of the GDP is spent on health care and it is estimated this will be between 15% and 19% in the year 2000. Per capita spending in the UK (in US dollars-USD) is less than \$1000 USD, while in the U.S. per capita spending exceeds \$2600. The infant mortality rate in the UK is about 8.5 deaths per 1000 live births, while in the U.S. it is higher (9.8 deaths per 1000 births). In the UK the life expectancy for men is 72.9 years while in the U.S. it is 71.8 years. Life expectancy for women is about equivalent in the two countries (about 78.5 years). All in all, expenditures in the UK are less than half what they are in the U.S. Yet, outcomes appear to be slightly better in the UK than in the U.S.

In order to understand issues we consider two comparisons: Australia which has a public health orientation, and Japan which has a private orientation. First, each of these two systems will be briefly described.

The Australian Health Care System

Australia has universal health insurance that is funded by government. Australia has evolved a two-tiered system. Most people receive health care through public programs. All in-patient hospital services are covered by Australian Medicare. These services are all free of charge to the patient. For out-patient visits, the government rebates some or all of the costs of physician care. The government Medicare program is often augmented by private insurance. Private insurance is necessary in order to pay for the costs of private hospitalization. Physicians typically work on a fee-for-service basis. The majority of physicians operate on a private basis and most are general practitioners. Out-patient specialty care is rare and usually only occurs with a referral from a general practitioner.

The health debate is extraordinarily complex and talking rationally and sensibly about the health care system is very difficult, particularly as most of the community are aware that

the system consumes such a large portion of the countries economy. In 1992-93 Australia spent 8.5% of gross domestic product on health, representing over AUS\$33 billion or over \$1900 for every living Australian! Expenditure on health has been growing at around 8% for over a decade. These figures are not dissimilar from New Zealand and are indeed comparable with most other OECD countries when population and size of the economy are taken into account. And of course, while hospitals are merely only one part of the system, they are indeed, the most visible part of the health system.

The Japanese Health Care System

Japan is unique among countries in the world in a variety of ways. Japan has achieved a remarkable level of economic productivity and the socioeconomic benefits have translated into excellence in public health. Infant mortality in Japan is less than half of what it is in the United States, and Japan has the lowest infant mortality rate of all industrialized countries. The life expectancy is 75.6 years for Japanese males and 81.4 years for Japanese women, making life durations in Japan longer than any other country in the world (Ministry of Health and Welfare, 1990).

The population distribution of Japan provides a remarkable contrast to Australia. Geographically, Japan is about the size of the U.S. state of Montana. Further, about two-thirds of the land is not usually inhabitable. Within this very small area, there are about 122 million people. The great majority of the population live in densely populated cities. Japan has a high degree of ethnic homogeneity and relatively small differences in earned income. Japan has experienced relatively steady economic growth since the end of World War II.

In some respects, the Japanese health care system has some of the same free market components as does the American system. About 80% of hospitals and 90% of physician's offices are privately owned and operated. However, investor owned hospitals that operate for a profit are not allowed.

Another contrast with the American and Australian systems is that physicians are allowed to dispense pharmaceuticals. In other words, physicians both prescribe and sell medications. As a result, Japanese patients receive significantly more pharmaceutical products than do patients in any other country in the world.

Health care in Japan is financed by a variety of different organizations. However, each citizen in Japan uses one social insurance plan. These plans typically finance all aspects of their care including medications, long term care, and dental care. A uniform fee schedule defines how much the plans pay the providers.

Many observers will find it remarkable that Japan has been able to maintain low expenditures on health care. According to the Organization for Economic Cooperation and Development, Japan spends only about 7% of its gross domestic product on health care. However, it has been noted that is probably an under estimate. The 7% figure excludes normal child delivery, medical education, research expenditures, preventive health services, charges for private rooms, and several other factors (Health Affairs, 1991, pp. 93).

A second factor is the mix of cases seen in the Japanese system. In contrast to the American system where a high degree of the expense is associated with alcohol abuse, HIV disease, and other social problems, the Japanese system deals with relatively few of these issues. A third factor is defensive medicine. Malpractice lawsuits are relatively rare in Japan. Currently, Japan has about one-tenth as many lawyers as does the United States (Ministry of Health and Welfare, 1988). Whatever the cause, the Japanese system has been

able to produce substantial health benefits at a relatively low cost.

These differences in health systems stimulate different approaches to prevention and to doctor/patient interactions. The remainder of this chapter we explore these issues.

Prevention

One way health care systems differ is in their orientation toward prevention. An impressive amount of epidemiological evidence over the past 30 years has identified the association between a number of alterable lifestyle factors—such as cancer and cardiovascular disease. This began in the first half of the 1960s with the publication of three key research reports: the landmark Doll and Peto study which the relationship between doctors smoking habits and disease (Doll & Hill, 1964); the first reports emanating from the Framingham study which identified a number of risk factors for cardiovascular disease (Kannel & Gordon, 1968); and the first United States Surgeon Generals Report on Smoking and Health (1964). Indeed the (United States) Centers for Disease Control (1980) estimated that 50% of mortality from the 10 leading causes of death in the United States can be traced to lifestyle (Centers for Disease Control, 1980).

Despite knowledge of cause of disease, many health promotion innovations have failed because of the gap that is frequently left unfilled between the point where innovation-development ends and diffusion planning begins. The effectiveness of health education and promotion activity is largely determined by the planning process and this should incorporate the movement between the different phases or innovation-development and diffusion. While the innovation-development and diffusion phases are often seen as being conceptually quite different, the program planning, implementation and evaluation steps are in fact quite similar. The assumption has often been made that widespread adoption and uptake of programs occurs automatically. However, there is now ample evidence that even users initial attempts at implementation do not usually lead to sustained use of an effective program (Altman, 1995).

The uptake by other users beyond the research phase is usually poorer still. An improved understanding of how new methods, strategies, practices or innovations are spread, is critical for improving the practice of health promotion and for ensuring that this practice is based upon the best available evidence, such as is now currently being espoused as part of the international movement which forms the Cochrane Collaboration (Cochrane, 1972). An increased understanding of these steps will help health and other professionals who are involved in health promotion and education to do so in a more planned and proactive way. Such a focus is also entirely consistent with the current attention being given to health outcomes and health goals and targets in most developed countries (cf recent experience in the Czech Republic).

Promoting health and preventing disease

There are substantial barriers within the system and confronting health professionals that make the task of health promotion and disease prevention problematic. Nevertheless, it is important to bear in mind the conclusions reached by Green, Wilson and Lovato (1986) following their examination of the means by which health education, together with related organizational, economic and environmental supports and interventions, have resulted in improved health. They argued that changes in health-related behaviors such as smoking, diet, exercise and some safety practices, which have resulted, at least in part, from the

health promotion movement as indicated by changed practices of health professionals, increased public and private sector investment and so on, are more durable than first appears and that experimental studies present an overly negative view of the true state of affairs.

Green et al. emphasized a public health perspective in order to increase the reach of health psychology. The clinical paradigm which has been used in the past to develop efficacious intensive, practitioner-delivered lifestyle change interventions, needs to be integrated within a broader public health approach. This integrated approach involves consideration of whole spectrum of environmental factors which influence the development and changing of health behaviors. This social ecological view of health considers the lifestyle of individuals in the context of the dynamic interrelationships between individuals and their social and physical environment. Such a view emphasizes the linkages between the whole range of individually focused, small-group, organizational, and community-wide approaches. Stokols (1992) argues that multifaceted interventions that incorporate complementary behavioral and environmental components, spanning a variety of settings and at multiple levels, are more likely to be effective in promoting both personal and public health than more traditional approaches.

In the coming years, many of the lessons which have been derived from research into smoking cessation and dietary change, will undoubtedly also be applied to nationally and regionally coordinated attempts to influence changes in other health behaviors which are very prevalent in Western countries, such as a sedentary lifestyle, unsafe sexual practices, a lack of safety behaviors and a lack of sun protective behaviors.

Promoting health and the health care system

How to invest most efficiently and wisely in health and achieve the best balance between all the different components of the system is a question which begs informed community debate and discussion. So often though, the debate is hijacked by good and bad stories which do not actually have much to do with the larger picture and the system overall. The good stories about health are often those which involve the latest in medical science and technology which only benefit a few and the bad stories are often similarly, only based on the anecdotal accounts of a few.

The above problems notwithstanding, there have been tremendous advances and improvements in health which have taken place in countries like New Zealand and Australia during the twentieth century. They have seen tremendous declines in preventable mortality of over 30% in Australia since the 1960s, much of this due to a decline in deaths from heart disease. Interestingly, many of these improvements have not arisen from changes in the hospital system and acute health services, but rather, because the preventive and public health effort has become better organized and coordinated in developed countries.

In Australia there is considerable discussion about health care reform. In fact an agreement was signed by the Council of Australian Governments (COAG) in early 1995 to launch a major long term reform of health and community services, with a view to providing services which meet peoples needs better and which contain built-in incentives for the most effective use of funds. This Agreement was a recognition that the current division of responsibilities between different levels of government and the community, acute and supported care sectors cannot on their own deliver the efficiencies required to support an effective health system to meet the current and future demand for health care, without increasing the percentage of spending on health and community services from its current 8.5% of Gross Domestic Product. However, the COAG proposed reforms are based on the

needs of individual consumers, where individual need is characterized in terms of sickness or ill-health requiring curative interventions provided either by community-based clinical health professionals (called the general care stream), by hospitalized clinicians (called the acute care stream), and or by a coordinated care stream which is to consist of a mix of primarily non-acute, residential and home support care services for the frail aged and people with disabilities and chronic conditions.

While there is a general consensus about the need for reform of the way in which health services are to be delivered and funded, it is not clear at this stage the extent to which such an Agreement and proposals, are compatible with a preventive and population health perspective. Although it is too early to be certain, these proposals if not managed properly may represent a shift away from the strong Australian national health policy focus over the last decade on improving health and reducing inequalities in health status among population groups in line with the World Health Organizations global Strategy for Health for All by the year 2000.

In the late 1980s up until the present, there has been an important focus on a range of policy and funding initiatives addressing women, indigenous peoples and the aged, in addition to an emphasis on the prevention of chronic disease and disability. Australia also saw the setting of national goals and targets in the late 1980s under the aegis of Australia's National Better Health Program. An evaluation of this program clearly identified that the mainstream health services were not engaged in the achievement of the national goals and targets. The health system in Australia continues to be dominated by the process of providing clinical, diagnostics, and treatment services, with little reference to improvements in population health status as a consequence of these investments.

In response to the criticism and in order to develop the goals and targets strategy further, a more complex array of goals and targets were published in 1993, with the most recent focus being on the four key areas of cancer, cardiovascular disease, accidents and injuries, and mental health. Nevertheless, it is still not at all obvious that for all of these documents and the ensuing policy development, as well as other changes that have been occurring in Australian general practice, that the basic health care system has been impacted on to any significant degree. This point has been echoed recently by a prominent public health economists comment that various policy documents down the years have emphasized the concept of equity and some community notions of health. Yet what happens in practice is very much related to medicine and the health of the sick.

The agenda for efficiency is establish by the clinical fraternity. The COAG development could well turn out to be a further practical illustration of this. Although, following concern expressed by the public health community and others from around Australia about the failure of COAG and the discussions surrounding it to explore the inter-relationship between service provisions and population-based health as part of an overall approach to the planning and development of the health system, the Secretary to the Australian Commonwealths Department of Human Services and Health recently announced the intention to develop a national public health policy and the placing of COAG within a population health framework. Exactly what will constitute this population health framework is yet to be made clear, so it is still too early to tell if this latest initiative will have a more fundamental impact on the service delivery sector than all previous efforts.

In Queensland—a State with a population size similar to that of New Zealand—there are many policy statements underpinning the States governments assumed commitment to population-based health policy. However, in practice the role of population-based health in

the development of the States health system is unclear. In part, this can be attributed to the low profile and poor understanding of population health at a State level among health professionals and practitioners in the context of a health environment which is so dominated by hospital issues. More broadly, population health and how gains are achieved not only through the public health system, but through policy and legislation and the non-health sectors, including in particular, education and transport, are very poorly understood by the general community.

Fundamentally important in Australia is the fact that the organization and administration of government at three levels (local, State and national) is an impediment to achieving improved health outcomes for the whole population. There is no formal requirement of the various levels of government to achieve long-term health, so consequently the clearly identifiable linkages between inputs, outputs and health still remain quite poor in most instances. All these problems and barriers notwithstanding, the current attention being given to health outcomes by the health-care system (at both national and State level) offers an unprecedented opportunity to reorient the direction of health policy in Australian towards the achievement of improved public health (providing) that attention is focused on population health status as well as health outcomes for individuals improving population health outcomes requires that a total health system perspective is taken (and) that recognition is given to the fact that different types of intervention produce different types of health outcomes. It also offers an opportunity for population-based health to heighten its profile and to spell out its social and economic contribution to improving the health of the population, to social justice, to resource allocation and to improved efficiencies and effectiveness in the health and support care services. This has not yet been done adequately.

Clinical Population Based Health

Perhaps one good place to begin is with the vast tracts of public health insight which can inform clinical practice and the public health elements in the organization of community-based services that fit naturally and easily with a clinical approach to these problems. One example of this would be to examine the implications for population-based health of the trend towards early discharge of patients from hospital. Public health in Australia is well placed to take up the challenge to improve the health status of the population from within the health system and to assist with the reorientation of the health system. The Public Health Association of Australia which brings together professionals from across the health services sector as well as from academia, has been a very keen advocate of such a fundamental shift. Moreover, there have significant gains made in the development of a multi-disciplinary public health workforce over the past ten years. In this regard the Commonwealth Department of Human Services and Health's Public Health Research and Education Program which funds two national and eight State-based university public health centers to provide a range of public health education and training, has been a particularly important development.

Population-based health is merely one side of the coin, the other being individual-based care services, in aiming for health as per the World Health Organization definition as a state of complete physical, mental and emotional health and well-being and not merely the absence of disease or infirmity. Public health should not be seen to be simply a servant of clinical care. If this is the price of integration, it is too high to pay.

New Zealand is a long way down its chosen road in reorganizing its health care sector with a view to maximizing its efficiency and effectiveness in order to meet the various challenges that will confront it over the coming decades. In contrast, Australia has only just

begun its journey down a similar path. It is crucial though that in both countries serious attention is given to the population health challenges because it is from success on this front that the real gains can be made in the longer term with respect to the burden of sickness and ill-health on individuals, the health of the population overall, and most importantly, the health of disadvantaged populations and subgroups. Failure to do so will only increase the pressure on acute and hospital-based health services.

The lesson is already there to be learned. Improvements in the health status of the population as measured by health indicators such as life expectancy and health status, owe less to improvements in delivery of health services to individuals, than to improvements in social, environment and economic conditions and more recently, improvements in health behaviors such as smoking.

Psychological factors may also be important in the delivery of health care. Cross cultural studies suggest that cultures are characterized by different dominant personality traits. In the next section we consider the role of personality in the doctor patient relationship and provider-patient interactions may be different in different health care systems.

Provider-Patient Interaction in Different systems

Personality studies in health-care systems have been slow to develop, despite the fact that health-care professionals face patients' personality dilemmas everyday in their practices. This meeting provided the opportunity to examine these dilemmas from a cross-cultural perspective. Urgent issues which can be identified in the care of patients with cancer and their families include: truth-telling, never-telling, consideration of specific conditions of the patients and the disease and otherwise about diagnosis, prognosis, mode of curative or palliative treatment, etc., and patients' and their families' preferences and participation as well as physicians' judgments and expertise in medical decision making, in divergent sociocultural lifestyle contexts (Holland, 1992; Holland, Lederberg & O'Hare, 1993; Ellis & Leventhal, 1993; Grassi, Rosti, Lasalvia & Marangolo, 1993; Andrykowski, Brady & Hunt, 1993; Goldberg & Cullen, 1985; Paraskevaidis, Kitchener & Walker, 1993; Ross, Stockdale & Jacobs, 1978; Watts, 1993; Watson, Greer, Young, Inayat, Burgess & Robertson, 1988). Clarification of these issues may lead to better health-related quality of life (QOL), immunocompetence, biomedical treatment mode effectiveness, survival, etc., depending on health-care professionals' as well as patients' and their families' individuality, in terms of personality traits (Greer, 1983; Pettingale, Watson & Greer, 1984; Eysenck, 1989, 1994a, 1994b; Greer, Morris, Pettingale & Haybittle, 1990; Temoshok & Dreher, 1992; Watson, Law, Maguire, Robertson, Greer, Bliss & Ibbotson, 1992; Daruna, 1996).

Table 1 summarizes evidence and hypotheses related to these issues. As compared with Europeans or Americans, Japanese are generally introverted, emotional, softminded or defensive and characterized by intolerable type personality (intolerant of negative stimuli or emotions) resulting in relatively poor quality of life (as shown in Tables 2 and 3), which could be a potential behavioral pathogen with regard to psychosocial adjustment after cancer diagnosis (Authors of the literature are shown in Table 1, and listed in the *References*). These emotionality and defensiveness or rationality/emotional defensiveness (R/ED), as well as stimulus sensitivity or arousability, are linked with proneness to cancer as opposed to resistance away from immunosuppression. These personality factors, specific to Europeans, Americans (British, Germans, Canadians, etc.) or Japanese, may be linked with differential patterns of responses with regard to information needs, decision making prefer-

Table 1. Evidence (results of European, American and Japanese studies) and hypotheses for the relationships among personality traits, cultural specificity, information needs, decision making preferences, post-diagnosis change, and psychosocial adjustment/maladjustment in cancer patients.

(E = Extraversion, N = Neuroticism, P = Psychoticism, L = social desirability)

Evidence	Hypotheses
<i>Personality traits, Cultural specificity</i>	
E+, N-, P+, L- = European, American (optimistic/insensitive, stable, resistant, expressive/assertive, stimulus-seeking)	E-, N+, P-, L+ = Japanese (pessimistic/sensitive, worrying, susceptible, suppressive/defensive, stimulus-avoiding)
Eysenck and Eysenck (1982) Vernon (1982) Lynn and Martin (1995)	
<i>Tolerability/Tolerance, Quality of life (QOL)</i>	
E+, N-, P+, = Tolerable, Tolerant (better quality of life = behavioral immunogen)	E-, N+, P-, = Intolerable/Intolerant (poor quality of life = behavioral pathogen)
Eysenck and Eysenck (1985) Matarazzo (1993) Yamaoka, Hayashi, F., Hayashi, C., Shigehisa, and Watanabe (1996)	
<i>Cancer-resistance, Cancer-proneness</i>	
E+, N+, (Type A: anger, hostility, aggression)	N-, L+ (Type C: suppression of emotion. Rationality/emotional defensiveness (R/ED))
E+, N- (Type B: personal autonomy, optimism) = cancer-resistant	E-, N+ (Dysthymic: pessimism, external locus of control) = cancer-prone
Eysenck (1994a, 1994b) Temoshok and Dreher (1992) Grassi, Rosti, Lasalvia and Malongolo (1993) Friedman and Rosenman (1974) Spielberger (1993) Shigehisa (1995)	
<i>Information needs, Information preferences</i>	
Truth-telling (fully, always)	Never-telling (whatsoever)
Depending on: probability of cure, patients' personality and/or tolerance, age, gender, real intention-followed by curative and/or palliative therapy, etc.	
Watts (1993) Ellis and Leventhal (1993) Paraskevaidis, Kitchener and Walker (1993) Shigehisa, Hayashi, Ogoshi, Hayashi and Yamaoka (1996)	

(continued)

Decision making preferences

Patients make their own decisions, with physicians' help. Physicians make decisions, in response to patients' real intentions, wishes, etc.

(about diagnosis, treatment mode, curative and/or palliative, prognosis, etc.)

Ellis and Leventhal (1993)

Shigehisa, Hayashi, Ogoshi, Hayashi and Yamaoka (1996)

Post-diagnosis change

Positive psychosocial adjustment: (change for the better) Improvements in: Negative psychosocial adjustment: (change for the worse) Deterioration of:

life outlook, interpersonal relationships, etc.

Grossarth-Maticek and Eysenck (1995)

Grassi, Rosti, Lasalvia and Malangolo (1993)

Andrykowski, Brady and Hunt (1993)

Fighting spirit, anger, denial optimism. Stoic acceptance, desperation, hopelessness.

Eysenck (1994a, 1994b)

Greer, Morey, Barack, Watson and Robertson (1992)

Pettingale, Watson and Greer (1984)

Levy, Herberman, Maluish, Schlien and Lippman (1985)

Shigehisa, Hayashi, Ogoshi, Hayashi and Yamaoka (1996)

Self-regulation, hardiness, self-efficacy, autonomy.

Emotional dependence, neuroticism (moodiness, irritability, depression, anxiety), helplessness.

Grossarth-Maticek and Eysenck (1995)

Kobasa (1979)

Bandura (1977)

Seligman (1975)

Perceives adverse information (truth) about cancer as:

Welcome motivator to fight. Ability to: Stressful, threatening, etc. Inability to:
actively regulate ones own life, disease, etc.

Grossarth-Maticek and Eysenck (1995)

Watts (1993)

Shigehisa, Hayashi, Ogoshi, Hayashi and Yamaoka (1996)

Immunocompetence
(host-resistance improvement)

Immunosuppression
(host-resistance deterioration)

Eysenck (1994a, 1994b)

Levy, Herberman, Maluish, Schlien and Lippman (1985)

Fawzy, Kemeney, Fawzy, Elashoff, Morton, Cousins and Fahey (1990)

Daruna (1996)

Ader, Felten and Cohen (1991)

Information (bad news) about diagnosis, treatment, prognosis, etc., result in:

Benedicial therapeutic outcome.

Detrimental or aggravating consequences.

Greer, Morey, Barack, Watson and Robertson (1992)

Pettingale, Watson and Greer (1984)

Andrykowski, Brady and Hunt (1993)

ences, post-diagnosis change, psychosocial adjustment, etc., in patients with cancer. Hence these factors of patients, their families and health-care professionals involved in their care may predict beneficial or detrimental outcomes (such as treatment mode effectiveness, better prognosis or adjustment, etc.), of the health-care professionals' ways of communicating and interacting with patients and their families.

What is needed now is a better world wide system of the individualized ways of giving painful information (truth about cancer diagnosis and prognosis) to each patient and supporting him or her emotionally so that she or he can participate more effectively in the treatment decisions, implementation, etc., so as to lead better personal adjustment hence improved quality of life, immunocompetence and longer survival. Emotional reactions to such information and resulting immunocompetence or suppression are primarily modulated by personality factors, basic traits of which include: extraversion or E (stimulus sensitivity, arousability, optimism), neuroticism or N (emotional lability, stability), psychoticism or P

Table 2. Correlations (x100) between the Eysenck Personality Questionnaire scales and quality of life (QOL-20) @ scores (Spearman)

Male (n = 97)				
QOL/	E	N	P	L
So P	33***	-38***	23***	08
N	10	-37***	40***	-03
Ps P	26*	-12	13	20*
N	17	-13	24*	06
T P	32**	-35**	20	15
N	10	-34**	37***	00
Female (n = 111)				
So P	15	-04	12	-00
N	12	-15	12	14
Ps P	28**	-19*	26**	07
N	21*	-09	16	18
T P	23*	-11	18	03
N	14	-15	14	19*

So = Somatic, Ps = Psychosocial, P = Positive items, N = negative items, T = So and Ps combined. *P<.05, **P<.01, ***P<.001.

@Japanese standardized health-related Quality of Life Questionnaire, comprised factor-analytically derived 20 items (Yamaoka, Hayashi, Hayashi, Ogoshi, *et al.*, 1994; Yamaoka, Hayashi, Hayashi, Shigehisa and Watanabe, 1996; Shigehisa, Ikeda and Koike, 1995), factorially similar to the Rotterdam Symptom Checklist (Watson, Law, Maguire, Robertson, Greer, Bliss and Ibbotson, 1992).

(toughmindedness, tolerance, susceptibility), social desirability or L (dissimulation, defensiveness), etc. (Eysenck, 1989, 1994a, 1994b; Greer et al., 1990; Kreitler & kreitler, 1990; Seligman, 1975; Temoshok & Dreher, 1992; Shigehisa, 1995; Daruna, 1996; Yamaoka, Hayashi, Hayashi, Shigehisa & Watanabe, 1996), which also being sensitive to the socio-cultural context (Eysenck & Eysenck, 1982; Holland et al., 1993; Lynn & Martin, 1995; Shigehisa, 1995). Hence the culture-fair system for individualized health-care to support each health-preserver emotionally with his or her cooperation and satisfaction (so that biomedical treatment becomes more accurate and cost effective) depends on basic understanding of such personality factors in a cross-cultural perspective.

European and American studies

The present paper emphasizes the position that the system under which health-care professionals are able to make their own judgments, in response to patients' preferences (real intentions, wishes, satisfaction,), can lead to better curative or palliative treatment mode effectiveness, survival or quality of life, with minimum detrimental physical side

Table 3. Quality of life (QOL-20) scores in three groups of subjects (parents of university students), differing in personality type. @

Male				
QOL/	Tol (n = 10)	Int (n = 13)	Other (n = 66)	X ²
So P	8.5(3,10)	2(1,5)	5.5(4,8)	12.47**
N	0(0,0)	-2(-5,-1)	-0.5(-2,0)	8.58*
Ps P	3.5(3,5)	2(2,3)	3(2,4)	4.25
N	0(0,0)	0(-1,0)	0(0,0)	4.87
T P	11.5(6,13)	5(4,7)	9(7,11)	12.67**
N	0(-1,0)	-2(-6,-1)	-0.5(-2,0)	7.66*

Tol = Tolerable/Tolerant type (E+, N-, P+), Int = Intolerable/Intolerant type (E-, N+, P-), by median split.

Female				
	(n = 21)	(n = 20)	(n = 64)	X ²
So P	4(3,7)	4(3,6)	6(4,8)	4.94
N	0(-2,0)	-1(-3.5,0)	0(-2,0)	2.93
Ps P	4(3,5)	3(1.3,5)	3(2.5,4)	11.61**
N	0(0,0)	0(-0.5,0)	0(0,0)	3.56
T P	9(7,12)	7(5.5,9.5)	9(7,12)	6.54*
N	0(-2,0)	-1(-4.5,-0.5)	-0.5(-2.0)	3.39

Kruskal Wallis *P < .05 **P < .01

@Yamaoka, Hayashi, Hayashi, Shigehisa and Watanabe (1996)

effects of medical treatment or diagnosis, despite no extra financial costs are required. The physicians' judgments leading to such favorable prognoses can be made more accurate, cost effective and safe by adding psychosocial means (by having a good command of patients' personality and its biological correlates) than traditional biomedical means alone which have always been accompanied by greater diagnostic and/or therapeutic side effects or complications and financial costs (Eysenck, 1989, 1994a; Kaplan, 1995).

Since ways of giving painful information and supporting emotionally may differentially affect patients' prognosis, survival, etc., as a function of these basic personality traits, in terms of interpersonal reactions, coping with a set of negative emotions, psychosocial maladjustment, etc. (Levy, Herberman, Maluish, Schlien, & Lippman, 1985; Greer et al., 1990; Holland et al., 1993; Watts, 1993; Grassi et al., 1993; Paraskevaidis et al., 1993; Andrykowski et al., 1993; Eysenck, 1994a, 1994b; Grossarth-Maticek & Eysenck, 1995), which are linked with a variety of deviations in immune function (Levy et al., 1985; Fawzy, Kemeny, Fawzy, Elashoff, Morton, Cousins, & Fahey, 1990; Ader, Felten, & Cohen, 1991; Eysenck, 1994a, 1994b; Daruna, 1996); it may be possible to enhance traditional biomedical treatment effectiveness and reduce side effects by adding psychosocial means under the health-care system which incorporates intuitive guidelines for these personality factors.

In recent years, psychological consequences of cancer diagnosis, treatment and prognosis have been focus of attention in many American and European (British, German, Italian, etc.) studies emphasizing the importance of determinants of positive or negative adjustment to these consequences (as noted above, listed in Table 1; and also Ross et al., 1987; Goldberg & Cullen, 1985; Derogatis, 1986; Watson et al., 1988; Gritz et al., 1990). While descriptions of such patients' variables have appeared in a number of these Western research reports, few studies have focused exclusively upon basic personality traits (as discussed above) as potential determinants of these consequences.

Japanese studies

In a recent study (Shigehisa, Hayashi, Ogoshi, Hayashi, & Yamaoka, 1996), 284 university students, males and females, whose ages ranged from 18 to 24 yr (simulating cancer patients, in a realistic situation) and 987 physicians (oncologists, cancer specialists, non-specialists, general practitioners, etc.) responded to the "Ways of Informing Questionnaire" (WIQ), the "Eysenck Personality Questionnaire" (EPQ) (Eysenck & Eysenck, 1975), etc. The personality related Ways of Informing Questionnaire items and results are shown in Tables 4, 5, 6 and 7, in terms of the Eysenck Personality Questionnaire scale scores of patients and physicians in each response (preference, reaction or judgment) category. Differences among the responses on each measure of the Eysenck Personality Questionnaire scales were evaluated in analyses of variance. The resulting F-tests for each scale and differences between each of these responses evaluated with the t-tests are also shown in Tables 6 and 7.

Significant main effects were found, in both patients and physicians, for the Eysenck Personality Questionnaire E (extraversion-introversion), N (neuroticism/emotionality), P (psychoticism/toughmindedness), L (lie, social desirability) scales, and for the "L/N" which signified "low N/high L" or suppression of emotion (emotional defensiveness), one of the active components of the cancer-prone Type C personality. Simulated female patients who prefer truth-telling about cancer diagnosis had significantly higher E scores than those who prefer never-telling, when probability of cure is above 90%; whereas

Table 4. Ways of Informing Questionnaire for patients (WIQ-pts) items (excerpt) .@

-
- Q11 Suppose you contracted cancer, do you prefer to be informed about it?
(1) Prefer to be informed always.
(2) It depends on probability of cure.
(3) Never prefer to be informed.
- Q11-A Suppose probability of cure of your cancer is about 99%, do you prefer to be informed?
(1) Yes
(2) No
- Q11-I Suppose probability of cure of your cancer is above 90%, do you prefer to be informed?
(1) Yes
(2) No
- Q11-E Suppose probability of cure of your cancer is 40 - 60%, do you prefer to be informed?
(1) Yes
(2) No
- Q11-O Suppose probability of cure of your cancer is 20 - 30%, do you prefer to be informed?
(1) Yes
(2) No
- Q12 Suppose you are informed about diagnosis of your cancer is someone, who do you prefer?
(1) Physicians I can trust.
(2) Families I can depend on.
(3) someone else.
- Q13 Suppose you were informed that probability of cure of your cancer is below 50%, what are your reactions or consequences?
(1) I worry through the treatment, as there is every probability that I am cured of cancer.
(2) I am very much upset and fear that I may not be cured, and feel a great regret at having known the truth.
(3) I resign myself to my fate that I may not be cured, and try to make rest of my life meaningful.
(4) I give up hope of recovery as fate has decided otherwise, and lose my energy to live.
-

@Shigehisa, Hayashi, Ogoshi, Hayashi and Yamaoka (1996)

Table 5. Ways of Informing Questionnaire for physicians (WIQ-phs) items (excerpt). @

<u>Q1</u>	In your judgment, what is the best way of communicating cancer diagnosis to your patient? (1) Truth-telling, always. (2) Truth-telling, if circumstances allow. (3) Must be cautious about truth-telling. (4) Never-telling.
<u>Q2-KA</u>	Suppose probability of cure of your patient is about 10%, do you judge to tell the truth? (1) Yes (2) No
<u>Q2-KI</u>	Suppose probability of cure of your patient is below 1%, do you judge to tell the truth? (1) Yes (2) No
<u>Q3</u>	Suppose your patient wishes to know the truth about his or her cancer, but the family prefers not to tell the truth to the patient, what is your judgment?
<u>Q3-A</u>	When probability of cure is above 99%: (1) Comply with patient's wish. (2) Comply with family's preference. (3) Take into consideration both.
<u>Q3-I</u>	When probability of cure is 40 -60%: (1) Comply with patient's wish. (2) Comply with family's preference. (3) Take into consideration both.

Table 6. Means and standard deviations (SD) of the Eysenck Personality Questionnaire (EPQ) scales for simulated cancer patients (university students) who preferred specific ways of informing (or identified specific post-diagnosis changes), on the Ways of Informing Questionnaire for patients (WIQ-pts), and F and t values for differences between the preferences (or changes).

EPQ	WIQ	n	Mean	SD	F	t	df	Gender
<u>Q11</u>								
	(1)	90	13.79	1.98		0.43	1 - 2	
L	(2)	82	13.67	1.62	2.99*	2.25*	1 - 3	2/180
	(3)	11	15.09	1.56		2.44*	2 - 3	F
<u>Q11-A (above 99%)</u>								
E	(1)	147	19.42	2.95	5.71*	2.39*		1/181
	(2)	36	18.11	2.86				F
<u>Q11-I (about 90%)</u>								
E	(1)	149	19.39	2.95	4.65*	2.16*		1/181
	(2)	34	18.18	2.93				F
<u>Q11-E (40 - 60%)</u>								
E	(1)	78	18.89	3.08	5.04*	2.24*		1/90
	(2)	14	16.86	3.09				M
<u>Q11-O (20 - 30%)</u>								
E	(1)	68	19.03	2.97	5.56*	2.36*		1/90
	(2)	24	17.29	3.34				M
<u>Q12</u>								
	(1)	129	12.99	2.00		0.59		
P	(2)	46	12.78	2.80	1.94	1.93*		2/179
	(3)	7	11.43	1.76		1.60		F
<u>Q13 (below 50%)</u>								
	(1)	28	19.96	2.71		1.33	1 - 2	
E	(2)	42	19.02	2.90	2.43	1.32	1 - 3	3/171
	(3)	99	19.14	2.95		2.65**	1 - 4	F
	(4)	6	16.50	1.98		0.22	2 - 3	
						1.99*	2 - 4	
						2.16*	3 - 4	
	(1)	18	17.94	2.32		0.89		
E	(2)	13	16.92	3.52	2.25	1.34		3/86
	(3)	56	19.09	3.20		1.22		M
	(4)	3	20.33	2.63		2.24*		
						1.69		
						0.67		

(continued)

	(1)	28	18.43	2.56		1.27		
N	(2)	41	19.37	3.24	1.77	0.41		
	(3)	99	18.16	2.92		0.79	3/170	F
	(4)	6	19.50	3.78		2.16*		
						0.10		
						1.06		
	(1)	28	14.29	1.53		2.12*		
L	(2)	42	13.36	2.09	3.10*	0.88		
	(3)	99	13.95	1.73		2.42*	3/171	F
	(4)	6	12.33	1.11		1.79		
						1.31		
						2.14*		
	(1)	28	0.79	0.16		2.32*		
L/N	(2)	42	0.69	0.22	3.80**	0.15		
	(3)	99	0.79	0.16		1.70	3/171	F
	(4)	6	0.66	0.15		2.90**		
						0.46		
						1.75		

M = Male, F = Female; E = Extraversion, N = Neuroticism, P = Psychoticism, L = Social desirability, L/N = Suppression of emotion (Type C).

*P < .05, **P < .01.

Table 7. Means and standard deviations (SD) of the Eysenck Personality Questionnaire (EPQ) scales for physicians who judged specific ways of informing as desirable, on the Ways of Informing Questionnaire for physicians (WIQ-phs), and F and t values for differences between the judgments

EPQ	WIQ	n	Mean	SD	F	t	df	Gender Age Speciality	
<u>Q1</u>									
E	(1)	67	15.08	6.37	1.59	1.85	1 - 2	3/976	T
	(2)	562	16.37	6.34		2.17*	1 - 3		
	(3)	335	16.64	5.20		0.12	1 - 4		
	(4)	16	16.00	6.34		0.74	2 - 3		
						0.27	2 - 4		
						0.46	3 - 4		
P	(1)	67	10.63	4.94	3.93**	2.98**	3/976	T	
	(2)	562	12.20	4.06		3.22***			
	(3)	335	12.39	3.82		0.33			
	(4)	16	11.00	5.56		0.68			
						1.56			
						1.33			
N	(1)	42	18.79	2.89	1.91	1.13	3/688	Spe	
	(2)	401	18.25	2.74		0.67			
	(3)	239	18.46	3.06		1.39			
	(4)	10	20.20	3.95		0.87			
						2.10*			
						1.86			
L/N	(1)	13	0.79	0.13	2.03	1.16	3/169	Non	
	(2)	96	0.85	0.19		0.14			
	(3)	61	0.78	0.19		0.01			
	(4)	3	0.79	0.13		2.36*			
						0.57			
						0.09			
<u>Q2-KA (about 10%)</u>									
N	(1)	7	15.00	2.62	5.54*	2.35*	1/98	Non	
	(2)	93	17.77	3.00					
L/N	(1)	7	1.02	0.20	6.89**	2.62**	1/93	Non	
	(2)	88	0.82	0.19					

(continued)

<u>Q2-KI (below 1%)</u>								
L	(1)	29	13.90	1.73	3.81*	1.95*	1/469	M
	(2)	442	14.55	1.74				
<u>Q3-A (above 99%)</u>								
L	(1)	11	13.18	2.25		2.82**		
	(2)	2	17.50	1.50	4.11*	0.15	2/16	F
	(3)	6	13.33	0.75		2.56*		
L/N	(1)	10	0.72	0.17		3.46**		
	(2)	2	1.14	0.09	6.59**	0.19	2/15	F
	(3)	6	0.70	0.11		3.41**		
L	(1)	295	14.23	1.84		0.41		
	(2)	53	14.34	1.69	2.55	2.25*	2/543	30s
	(3)	197	14.59	1.56		0.95		
L/N	(1)	39	0.82	0.15		2.20*		
	(2)	3	1.02	0.03	2.95	1.31	2/53	50s
	(3)	14	0.88	0.16		1.43		
N	(1)	12	18.58	3.84		2.53*		
	(2)	2	25.5	0.50	3.84*	0.69	2/14	60s
	(3)	3	17.00	0.82		2.60*		
<u>Q3-I (40 - 60%)</u>								
E	(1)	7	18.71	4.27		2.07*		
	(2)	2	8.50	8.50	2.17	1.00	2/20	F
	(3)	14	15.86	5.89		1.58		
L	(1)	7	12.86	2.64		2.95**		
	(2)	2	17.50	1.50	4.43*	0.66	2/16	F
	(3)	10	13.50	0.92		2.63*		
L/N	(1)	6	0.71	0.19		3.35**		
	(2)	2	1.14	0.09	6.56**	0.07	2/15	F
	(3)	10	0.71	0.12		3.49**		
N	(1)	188	18.56	2.83		0.62		
	(2)	141	18.76	2.92	2.98*	0.62	2/671	Spe
	(3)	345	18.12	2.90		2.22*		

E = Extraversion, N = Neuroticism, P = Psychoticism, L = Social desirability.

T = Total, M = Male, F = Female.

Spe = Cancer-specialists, Non = Non-specialists.

*P < .05, **P < .01, ***P < .001.

simulated male patients who prefer truth-telling had higher E scores, when the probability of cure is relatively much lower, i.e., in the range of 60-20%. These results indicate an important gender difference. While, in general, female patients who prefer never-telling had higher L scores than those who prefer truth-telling and also the probability of cure-based physicians' judgments. On the other hand, P score was found to be greater in females who prefer truth-telling directly from physicians than those who prefer truth-telling by someone else, not physicians or families.

Both male and female patients who respond to adverse information such as truth-telling, when the probability of cure is below 50%, with positive psychosocial adjustment (fighting spirit, trying to do something better or meaningful, etc.) showed higher E scores than those who responded with negative psychosocial adjustment (upset, fear, regret, inertia, etc.). On the contrary, females who responded with positive psychosocial adjustment showed lower N scores, but higher L scores and higher L/N scores, than those who responded with negative adjustment. These results suggest that, when the probability of cure is relatively low, defensive stable extraverted stimulus seeking patients (i.e., tolerant type) prefer truth-telling, whereas softminded emotional introverts with higher sensory sensitivity or arousal hence stimulus avoiding (i.e., intolerant type) prefer never-telling. The results also suggest that patients characterized by suppression of emotion (cancer-prone Type C) or rationality/emotional defensiveness (R/ED), in terms of low N/high L, exert "fighting spirit" against their cancer if they are extraverted, which do not necessarily agree with British or American studies (Greer, Morey, Barack, Watson, & Robertson, 1992; Temoshok & Dreher, 1992; Eysenck, 1994a); although such Japanese patients (extraverted suppressors) may respond to the threat posed by the cancer diagnosis so as to keep anxiety (negative emotion) at a tolerable level, consistent with Israeli studies (Kreitler, Chaitchik, & Kreitler, 1993).

Physicians, males and females, who judge truth-telling as desirable generally showed lower scores on the E and also P scales than those who judge never-telling as desirable. Female physicians who judge truth-telling as desirable, when the probability of cure is above 99%, had lower L and also L/N scores than those who make opposite judgment. These results indicate a gender difference. However, female physicians who make similar judgment (truth-telling as desirable), when the probability of cure is in the range of 40-60%, were higher E scorers than those who judge otherwise. On the other hand, physicians in age 60s who judge truth-telling as appropriate, when the probability of cure is above 99%, typically showed lower N scores; those physicians in age 30s who judge truth-telling as desirable showed lower L scores; and those in age 50s who do the same judgment showed lower L/N scores; than those in the same age range who judge never-telling as desirable. While cancer specialists who judge truth-telling as desirable, if circumstances allow, had lower N scores than those who judge never-telling as appropriate; non-cancer specialists who judge truth-telling as desirable, when the probability of cure is about 10%, showed higher L/N scores than those who judge otherwise.

These results clearly indicate that personality characteristics do not match between patients and physicians (in fact they are opposite), except N scale, with regard to information needs or preferences and information desirability judgments. In other words, if their personality characteristics are similar (matched between a patient and a physician), what the physician thinks better or desirable for the patient may not be the same as the one that patient thinks better or desirable for him or her-self. Such a discrepancy may lead the patient to have a distrust of physicians.

Under the traditional Japanese health-care system, it has always been assumed that all the physicians including oncologists can be trusted (relied upon) equally to make fair and accurate judgments (diagnostic, therapeutic, prognostic, etc.) on behalf of their patients and their families. However, as shown in Tables 6 and 7, it is clear that there are reasons to question this important assumption, in that many physicians are not necessarily the (stable, consistent) ultimate advocates for patients or their families: in fact many of these physicians' (cancer-specialists or any other) judgments can be highly variable, in that they disagree with their peers who make judgments based on the same disease condition (such as probability of cure or survival), depending on their gender, age, or speciality (whether they are cancer-specialists or nonspecialists) as well as their personality characteristics.

In general, these Japanese results suggest that, even in demographically at homogeneous patient population (such as university students, of both genders, with similar learning or professional interests, whose ages ranged from 18 to 24 yr), there is substantial variation in the rates at which different biomedical procedures are applied to the same patients (i.e., the same disease condition) according to the different physicians, in terms of personality characteristics, etc. In other words, a patient with exactly the same disease condition (or stage of cancer) can expect very different biomedical treatment depending on where he or she enters health-care (Kaplan, 1995).

Each health-care professional needs to realize his or her own personality as well as individual patient, so that ways of communicating with patients can be adjusted to improve their satisfaction, quality of life, etc., and promote fighting spirit against cancer, hence immunocompetence and survival.

From these results (Tables 6 and 7), consistent in part with European and American evidence or hypotheses (Table 1), it may be stated that:

- (1) Patients with defensive Japanese type personality (L+) generally prefer physicians' judgments of withdrawing painful information.
- (2) Under the specific conditions of the disease, such as probability of cure or survival, this relationship is reversed or otherwise in that patients with defensive Western type personality (E+, L+) prefer physicians' judgments of giving such information (the truth about cancer diagnosis, prognosis, etc.) frankly.
- (3) Such a reversal may be due to the fact that cancer-prone defensive Western type personality (L+, E+, N-, L/N+) is linked with positive psychosocial adjustment to having cancer, leading to greater tolerance of such adverse circumstances hence better healthrelated Quality of life, which may be associated with immunoenhancement.
- (4) It is possible that patients with such a (defensive) tolerant personality (E+, N-, P+, (L+)) perceives adverse information as welcome motivator to fight.
- (5) Another type of Western type personality (N-, P+), or tolerant type, may favor to receive such a painful information direct from physicians, as opposed to Japanese type (N+, P-), or intolerant type, which may favor to receive it from families or someone other than physicians.
- (6) These personality correlates of patients' preferences for medical information, patients' reactions to such information, or patients' participation in decision making could be differentiated by gender, sociocultural lifestyle differences, etc.
- (7) Physicians, males and females, whose personality is characterized by Japanese type of introversion and softmindedness (E-, P-), may not be able to conceal adverse informa-

tion (truth about the diagnosis of cancer, treatment side effects, prognosis, survival, etc.) from the patients.

- (8) When there is no urgent danger about cancer (or probability of cure is above 99%), female physicians characterized by Western type non-defensive or non-suppressive personality, more like Type A than C, (L-, L/N-) may favor to disclose frankly all about diagnosis or prognosis.
- (9) When the probability of cure goes down to 40 - 60 X, female physicians of tolerant type (E+) favor to give adverse information direct to the patients without hiding anything.
- (10) Non-defensive, non-suppressive or stable (L-, L/N-, N-) physicians may favor informing the truth about cancer, if they are 30s, 50s, or 60s of age.
- (11) Emotionally stable (N-) physicians are more likely to disclose results of diagnosis, depending on the patients' circumstances, if they are cancer specialists.
- (12) Emotionally suppressive (L/N+) physicians, who are not cancer specialists, are more likely to communicate the truth about cancer to the patients, if the probability of his or her survival is hopeless or about 10%.

Summary of Personality Studies

From these evidence, Japanese results (Tables 6 and 7), and European and American hypotheses- (Table 1), it is possible that "personality-based" physician-patient communication (physician's judgment in response to each patient's preference) promote patients' positive psychosocial adjustment and quality of life resulting in enhanced immunocompetence; in other words their cooperative treatment decisions help patient satisfaction, prognosis and survival as well as each biomedical treatment mode effectiveness, in relation to gender, age, etc., with least possible side effects and reduction in the cost of the national health service. Such individualized medical decisions, treatment and health care, adjusted to each patient's need, may lead to more accurate and effective treatment as well as patients' relief and remedy.

It may be that in order to comply with patients' personally autonomous preferences or expectation for physicians' support and care, as well as to increase biomedical treatment mode effectiveness (patients' quality of life and survival); health-care professionals need to understand patients' and their own personal characteristics, in terms of basic personality traits, relevant to such patients' autonomy or expectation for supportive care, as well as to make the patients understand and consent to physicians' scientific judgments, biomedical information or expertise as well as paternalistic (professional) intentions, through mutual trust (more specifically, emotional interdependence and acceptance with trust, prototype of which is similar to parent-child relationship in the family). Only through such physicians' comprehension of personality problems, physicians' objective judgments and scientific expertise, as well as paternalistic intentions and emotional support, can be implemented to attain desirable treatment effectiveness, in response to the patients' autonomy or preferences.

What is needed now is individual patient adjusted care or treatment in terms of personality, and better education system for health-care professionals about how to comprehend patients' and their families' and their own personality problems, so that they can judge accurately and give appropriate information that patient really need, so as to support and care patients emotionally, thereby patients can participate actively in the treatment/health-care decisions to achieve mastery and control over their own lives. These guidelines place the patient at the center of the decision-making processes in medical care. Such an orientation can be applied to all health-care systems.

Conclusions

In this paper we have discussed a variety of different topics. First, we explore differences between health care systems from three countries around the Pacific Rim. Then, we examined public policy relevant to health promotion and disease prevention. Finally, the role of personality traits in medical decision making was discussed.

All the issues relate to use and selection of medical services. Countries around the world have remarkably different rates for the use of different health care services. In Australia and in many European countries, there has been a stronger emphasis on preventive care. Japan and the United States are examples of countries that have emphasized curative as opposed to preventive maneuvers.

International variation in the use of medical services depends upon a variety of factors. These include economic incentives and patient/physician communication. Some evidence suggests that medical care costs are the highest when there is poor communication between patient and physician. However, the role of patient/physician communication in determining patient outcomes is still poorly understood. We encourage continuing investigation of these issues.

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